Practical learning is central to transforming the life chances of young people and adults and to the prosperity of the nation. Yet the government recognises that there are some deep-seated and long-standing weaknesses in our nation’s skills.

This collection of essays bring together some of the foremost thinkers in this field to look at the evidence and the challenges facing policymakers. Writing on topics including which skills matter, why do governments treat Further Education students like children and does the education system teach the right skills, the contributors address the issues central to raising skills for young people and adults to world standards.

Kindly supported by

Practice Makes Perfect: The Importance of Practical Learning
Edited by Dermot Kehoe

£10.00
ISBN 1-904899-52-8
The Social Market Foundation
The Foundation’s main activity is to commission and publish original papers by independent academic and other experts on key topics in the economic and social fields, with a view to stimulating public discussion on the performance of markets and the social framework within which they operate. The Foundation is a registered charity and a company limited by guarantee. It is independent of any political party or group and is financed by the sale of publications and by voluntary donations from individuals, organisations and companies. The views expressed in publications are those of the authors and do not represent a corporate opinion of the Foundation.

Chairman
David Lipsey (Lord Lipsey of Tooting Bec)

Members of the Board
Viscount Chandos
Gavyn Davies
David Edmonds
Martin Ivens
Brian Pomeroy
Shriti Vadera

Director
Ann Rossiter
Contents

About the authors 4

Foreword – Bill Rammell MP 10

Introduction – Andy Powell and Maurice Biriotti 12

1. Which skills matter? – Pedro Carneiro, Claire Crawford and Alissa Goodman 22

2. Does the education system teach the right skills? – John Weston 39

3. Extra-curricular and extended school programmes and positive youth development – Jacquelynne S Eccles and Janice L Templeton 52

4. Learning to become one of us – Ruth Silver and Wendy Forrest 66

5. Putting the practical back into the academic and vocational – Richard Pring 80

6. Employer-provided vocational training: what are the returns to NVQ level 2 and the potential effects of ‘train to gain’? – Lorraine Dearden, Alissa Goodman, Barbara Sianesi and Helen Simpson 88

7. Why do governments treat further education students like children? – Alison Wolf 99
About the authors

The Editor
Dermot Kehoe is a Senior Associate Fellow at the Social Market Foundation. He was previously at the BBC for eight years working in public policy, strategy and communications. He worked on a number of priorities for the Corporation, most recently the renewal of the BBC’s Royal Charter. Dermot was previously a director at the Fabian Society specialising in constitutional reform and modernising government.

Bill Rammell MP
Bill Rammell was first elected to the Commons in 1997, and sat on both the European Legislation and Scrutiny committees. He joined the government in 2001 as Parliamentary Private Secretary to Tessa Jowell, before moving on to the Whips Office. In the October 2002 reshuffle he was promoted to Parliamentary Under-Secretary of State at the Foreign Office. His current responsibilities as Minister of State for Lifelong Learning, Further and Higher Education include adult skills and ensuring the overall coherence of all post-19 policy.

Andy Powell and Maurice Biriotti
Andy Powell and Maurice Biriotti have been working together on Edge since the foundation was established three years ago, both drawing on different experiences in education, business and the public sector. They have significant experience of research with young people and involving learners in the development of new solutions for education.
Dr Pedro Carneiro
On completing his PhD in economics at the University of Chicago in 2003, Dr Pedro Carneiro became a lecturer in economics at University College London. He is currently a research associate at the Institute for Fiscal Studies in London and a research fellow at the Centre for Microdata Methods and Practice, the Centre for Research and Analysis of Migration and also at IZA (the Institute for the Study of Labour) in Bonn.

Claire Crawford
Claire Crawford is Research Economist at the Institute for Fiscal Studies (IFS), which she joined in 2004. She has a first in economics from Lancaster University and an MSc in economics from University College London. She is a research economist in the education, employment and evaluation research sector. Her current work examines the effect on educational outcomes of the age at which children start school. She is also working on aspects of the UK benefits system.

Alissa Goodman
Alissa Goodman is Programme Director for the education, employment and evaluation research sector at the Institute for Fiscal Studies. She has worked at the IFS since 1993 and has been the Editor of *Fiscal Studies*. She has a first-class degree in politics, philosophy and economics from Balliol College, Oxford and an MSc in economics from Birkbeck College, London. Her research areas cover a range of issues in addition to education, training and labour market policies, including inequality and poverty and intergenerational income mobility. She has worked extensively on assessing proposed reforms to higher education funding in Britain, and on evaluating the effectiveness of education and labour market policies.

John Weston CBE
John Weston had a notable career in industry before taking on the Chairmanship of the University for Industry. He started his career at the British Aircraft Corporation in 1970 as an apprentice. He held a range of senior management appointments over his 32 years in the aerospace and defence business, covering
electronics, software, aircraft, guided weapons, heavy engineering, service provision and construction. In 1992 he became Chairman of the British Aerospace Defence business and in 1998 became Chief Executive of British Aerospace. He was appointed non-executive Chairman for Spirent in 2002.

John was awarded the CBE in 1993, is a member of the President’s Committee of the CBI, Chairman of the European Group of the CBI and a lifetime Vice-President of the Royal United Services Institute. He is also a fellow of the Royal Academy of Engineering, the Royal Aeronautical Society, the Royal Society for Science, Arts and Commerce, a companion of the Institute of Management and a freeman of the City of London.

**Dr Jacquelynne Eccles**
Dr Jacquelynne Eccles is Wilbert McKeachie Collegiate Professor of psychology, women’s studies and education and a research scientist at the Institute for Social Research at the University of Michigan. She received her PhD from University of California, Los Angeles (UCLA) in 1974 and has served on the faculty at Smith College, the University of Colorado, and the University of Michigan. She is chair of the MacArthur Foundation Network on successful pathways through middle adolescence and was President of the Society for Research on Adolescence. She was also Program Chair and President for division 35 of the American Psychological Association (APA), a member of the division of behavioral and social sciences and education committee of the National Academy of Science (NAS) and chair of the NAS committee on after-school programs for youth.

**Janice L Templeton**
Graduate student at the University of Michigan, her research interests focus on positive youth development and spiritual development from a lifespan perspective.
Ruth Silver CBE
Principal of Lewisham College and Visiting Professor of educational development in the Faculty of Arts and Human Sciences, London Southbank University, Ruth Silver is an experienced senior manager in further education. She holds a number of national posts linked to learning in further education, has written extensively on educational matters, and is committed to inclusiveness, particularly in the inner city. She holds several advisory posts, including membership of the Downing Street Women and Work Commission and the Council for Industry and Higher Education. She is on the Council of the Higher Education Policy Unit and is an adviser on further education to the Education Select Committee in the House of Commons.

Ruth is a visiting scholar at the Centre for Women Leaders at Lucy Cavendish College Cambridge and was awarded a CBE in the 1998 New Year’s peoples’ honours for services to further education.

Wendy Forrest
Wendy Forrest is an independent consultant. She works across a range of learning, leadership and quality issues in the learning and skills sector. She has worked in inner London colleges for over twenty years and began by teaching communication skills to bricklayers and lift engineers, moving on to become a curriculum and senior manager before taking on the role of Vice-Principal at Lewisham College.

Wendy has published in several areas of professional guidance and practice research. A long association with Lewisham College has enabled her to take part in many of the educational projects with which it is involved.

Richard Pring
Richard Pring retired as Director of Oxford University Department of Education Studies (OUDES) in 2003. He continues to work in the department as lead director of the Nuffield Review of 14-19 Education and Training in England and Wales, teaching the philosophy component of the research training, and supervising research students. He is Emeritus Fellow of Green College and taught in London comprehensive
schools, Goldsmiths College, University of London Institute of Education and the University of Exeter, where he was Professor of education and Dean of the faculty. He travels twice a year to Karachi to help develop and teach on the new PhD programme at the Institute of Education, Aga Khan University, with which OUDES is an academic partner.

**Professor Lorraine Dearden**
Director of the Centre for Early Years and Education Research at the Institute for Fiscal Studies and Professor of Economics and Social Statistics at the Institute of Education, University of London. Professor Dearden is also Deputy Director of the Department for Employment and Skills (DfES)-sponsored Centre for the Economics of Education and is on a Department for Work and Pensions-sponsored project looking at ethnic parity in Jobcentre Plus programmes. She is currently working on: the evaluation of the neighbourhood nursery initiative and a scoping study for the future evaluation of children’s centres for the DfES; higher education funding policy for the Nuffield Foundation; and a project looking at when children should start school, for the Esmée Fairbairn Foundation and DfES. She is an elected member of the Royal Economic Society’s Committee for Women in Economics and a member of the Sector Skills Development Agency expert advisory panel on skills for business. She has a PhD in economics from University College London.

**Dr Barbara Sianesi**
Dr Barbara Sianesi is a senior research economist at the Institute of Fiscal Studies in the education, employment and evaluation research sector. She joined IFS as a PhD scholar in 1998. Her current research focuses on evaluation methods, applied in particular to labour market programmes and policies as well as to educational investments.
Helen Simpson

Helen Simpson is the Institute of Fiscal Studies’ Programme Director of the productivity and innovation research sector. She joined the IFS in 1998, having worked at the Department of Trade and Industry. Her research interests include productivity and foreign direct investment, and the location decisions of firms. Her work also covers tax incentives for research and development, and tax policy for small firms. She was an editor of the IFS Green Budget from 2001 to 2003 and an editor of *Fiscal Studies* from 2003 to 2005.

Professor Alison Wolf

Alison Wolf is Sir Roy Griffiths Professor of Public Sector Management at King’s College London. She joined King’s College in 2003 from the Institute of Education at London University, where she worked for twenty years. She is Chair of the Undergraduate Examination Board and is the King’s College London external representative on the quality management group of the National Research and Development Centre for Adult Literacy and Numeracy.

She moved to the UK in 1983 from Washington DC, where she had been a consultant at the Urban Institute, a research associate at the National Institute of Education, and a lecturer at George Washington University. She is a member of the Strategic Skills Commission and the Council for the United Nations University.
Foreword

‘In the 21st Century, our natural resource is our people – and their potential is both untapped and vast. Skills will unlock that potential. The prize for our country will be enormous – higher productivity, the creation of wealth and social justice.’
Leitch Review of Skills, 2006

The problems of relatively low skills and inequality of opportunity have developed over a long period of time. Future global change – characterised by intensified global competition and accelerating technological development – will make the realisation of a highly skilled workforce an even more important foundation of economic prosperity and social justice.

The increasing openness of the global economy means we need to ensure that everyone is able to improve and update their skills. The UK cannot compete on the basis of a low-skill economy and must instead build on its strengths. The UK’s future success and prosperity will depend upon it being well placed to succeed in high-skill, high value-added service and manufacturing industries. This in turn will depend upon the UK having a sufficiently highly skilled workforce.

No Government has ever invested so much in the development of basic literacy, language and numeracy skills. Since 2001, we have committed up to £3 billion from adult learning funds to support year on year increases in learners through the Skills for Life Strategy.

We have invested heavily in a more professionalised teaching workforce and in improving the standards and quality of learning – and it’s not just the Government who are investing. Learning providers and employers are committing time and energy to improving skills.
However, there is still more that we need to do. We know we need more people with better skills – and we need them more urgently than we ever have before. The recent report from Lord Leitch on the UK skills challenge, quoted above, has set out the stretch and ambition that will be required if we are to deliver the level of skills that the economy demands.

And we have to do it in a way that means we really engage those hardest to reach learners who up until now have not benefited from learning opportunities as they should.

This collection of essays from the Social Market Foundation looks at the specific issue of practical learning. Raising the status of practical and vocational learning is vital from both economic and social perspectives. Britain has much to lose in the years to come if the low status of practical learning endures. These essays form useful contribution to the debate on how we meet the UK Skills challenge.

Bill Rammell MP
Minister of State for Lifelong Learning,
Further and Higher Education
Department for Education and Skills
Introduction

What’s wrong with this picture? Reflections on the economic impact of Britain’s tendency to denigrate practical learning

Andy Powell and Maurice Biriotti*

A new senior executive working for a major retail company decided to visit a range of stores to get to know the business better. When she got to one of the very biggest stores outside Glasgow, she discovered a young man of only 27 responsible for the large multi-million pound branch. This young man told her that he had left school when he was sixteen and joined the business as a shelf-stacker and van driver, and then worked his way up. He’d been hugely successful, learning sales skills and winning store manager of the year award, which enabled him to take his then fiancé to Las Vegas for a dream holiday. But that, he said, hadn’t been the achievement that meant most to him. He produced a photograph from his wallet and showed it to the visitor. The picture showed him against a cloistered square at an Oxford college where he had been for a short course. The young man said that he kept this photograph with him because it had made his mother so proud that her son had been to an Oxford University college.

What does it say about the perceived value of practical achievement that the mother in the story shows more pride in her son’s brief brush with academic life than in his extraordinary practical achievement in the workplace? And what do we infer from the fact that her reaction is so familiar to us, and so evocative of British culture? It is not news to anyone that Britain finds it challenging to perceive practical routes to success in the
same light as academic ones; this is ingrained in British social attitudes. As the Nuffield Review of Skills has identified: ‘The antithesis between ‘academic studies’ and ‘practical learning’… is deeply embedded in our culture… the division is made between the academic (the world of abstractions and the transmission of knowledge) and the so-called vocational and practical.’

As far as social policy is concerned, the case for addressing this has been made endlessly and there is a great deal of consensus. Even if things have not changed enough over many decades in this regard, most commentators, policymakers and educators agree that Britain should raise the status of vocational learning because it is the right thing to do. But the question this essay addresses is somewhat different: should we care about raising the status of practical learning if we look at the question from an economic perspective, rather than a social or political one? What has Britain got to lose in the years to come if the low status of practical learning endures? We will argue that, from an economic perspective, the picture does matter. In fact, if we do not change the status of practical learning at home, it may well cost Britain our status in the global economy.

The big question: Britain’s global competitiveness

The forecast data for the global economy does not make cheerful reading for Britain’s competitive future in the next twenty years or so. There is a great deal to be anxious about. Economic advantages that we have enjoyed for some years are under threat from a competitive context that is getting more intense by the year. The projected profiles of where global economic strengths will lie and how demographic trends will play out make sobering reading. Rapidly developing economies are producing increasing numbers of skilled employees, developing businesses and infrastructure to rival those in the developed world, and there is no shortage of innovation and ingenuity abroad.

The sheer numbers of skilled workers now emerging and projected to emerge from countries such as Brazil, China and India is staggering. China and India each educate over two million graduates per annum compared with around 250,000 in the UK. By 2015, the numbers look set to be more remarkable still.
Where does this leave Britain? Clearly we need to respond. The response so far has been to increase the levels of people benefiting from a university education. And there is nothing wrong with that in itself. Undoubtedly, Britain has a rich tradition of academic excellence and no shortage of great universities. This is a national asset that needs to be treasured – not only in pursuit of the sciences but also the humanities that feed our creative industries and that ensure many graduates are capable of abstract thought, engagement, persuasion and communication. Our economy will benefit greatly from excellence in science, technology and creativity, both in the production of research and innovation and in the increase in graduates. But even with the increases that are projected, these benefits will still apply only to a small proportion of the workforce.

We ignore the practical dimension at our peril. As more and more businesses and organisations are outsourcing key functions to countries where the labour is cheaper, such as China, it is tempting to conclude that our focus should be on building academic ability rather than practical ability. But there are reasons why this is erroneous. For one thing, we cannot always predict the skills we will need.

At a recent meeting a leading executive imparted a pertinent insight into the UK-based manufacturing company he chairs. He explained that his company is now manufacturing in China, where their products can be constructed so much cheaper. But that does not mean that practical skills are not needed from the company’s UK workforce. It is currently retraining staff in the delivery and installation of pre-manufactured products with a need for new practical skills emerging from the exercise. These practical skills have become vital to the business and they could not be bought in from abroad. This story is likely to be repeated in countless other firms finding new practical needs for Britain’s workforce when today’s needs have been redistributed in the global skills marketplace.

We may not be able to predict Britain’s skill requirements with any great degree of accuracy, but we can be sure that practical abilities are still going to be vital to the employment of the majority of the workforce and the sustained growth of our economy. Many of our future economic requirements will relate to practical capabilities that are broadly transferable, rather
than subject to specific skill requirements. These abilities will not necessarily be built through advanced training courses, but they will demand that we have a labour force that is equipped to acquire new skills through ‘learning by doing’, and are able to adapt confidently to meet rapidly evolving economic needs. If we fail to embrace this challenge, we foresee three major ways in which Britain’s economy will lose out:

- by wasting talent we can ill afford to lose;
- by failing to maximise our entrepreneurial potential;
- and by creating a culture of mediocrity in a world where only excellence will do.

In each case, the threat is real, and its effects may come sooner than we think.

Wasted talent

The young man in the vignette that began this essay managed to succeed despite finding no outlet for his talents in the educational system. He did so, no doubt, through a combination of hard work and opportunity. Others are not so lucky. Every year, thousands of young people in Britain are given an unpalatable message by the academic system we are so wedded to: they are failures. Many of them do not recover from that message.

If you succeed academically in Britain, the path to success can look very rosy. The academic route is well resourced, clearly laid out and held in high regard. If you get a degree, generally learners, parents and employers understand what that means. On the other hand, students who do not make the grade for university admission end up on courses that may be very good, but are consistently underfunded and starved of resources. They have to contend with a bewildering menu of vocational training courses and qualifications. There are constant changes in the system and in the nature of the qualifications themselves. Learners are no less confused than the poor employers who have to makes sense of this as compared to the ‘gold standard’ of academic laurels. And the status of completing such a course of study is scarcely assured. As Alison Wolf aptly sums it up: ‘Vocational education [is] a great idea for other people’s children.’

Of course there are many examples of excellent practical education in Britain, and indeed of universities that have risen to the challenge of giving appropriate space to practical endeavours. But the fact remains that, in general, we have systematically downgraded practical and vocational learning. In the process, we have sometimes, ironically, ended up with an ‘academic drift’ in these courses. To compete with the gold standard, some practical courses have taken on more and more book-based theoretical components, and their assessment regimes have confounded the practical talents of students. So the students who signed up for the course to find ways of nurturing talents other than the academic norm find themselves faced with precisely those academic challenges they knew they had no aptitude for in the first place.

How does this affect the experience of the young learners who will join the ranks of our future workforce? All too often, we end up defeating the learners who take practical options rather than inspiring them. We systematically stifle talent and verve. One young woman from the Edge learner forum illustrated this point in an essay she wrote for Edge about her experiences in college:

‘I am so tired of hearing that we just need to know it for the exam. Teenagers especially, need reason and purpose and if anything curiosity should be encouraged, not condemned. Motivation must be a key factor in learning and it is simple not reinforced enough in schools.

‘Creativity and passion in the subject is what we should encourage, rather than this wooden framework. We should be encouraging young people to speak their minds and yet in order to succeed we’re thrown into an institution, which intends to drain that.’

As if that were not enough, there is then the problem of the way non-academic learners have to make choices. To select an academic pathway at eighteen is to have the luxury to delay decisions about employment legitimately. History undergraduates routinely put off even considering what to do with their lives until after the post-finals champagne has all been drunk. But those young people who are not well suited to the academic route are asked to select a vocational pathway immediately.
This has two negative effects. The first is that, having to make a choice before one is ready too simply increases the likelihood of disenchantment and disengagement. And the second is that we do not necessarily know what practical skills we will need in the future, rendering the enforced decision redundant in many cases. Where is the ‘practical’ equivalent of the broad, liberal route we have so carefully fostered in the academic arena? Learners need it and so does our economy.

Going forward, there is a big risk that these problems may be exacerbated through the new 14-19 programme currently being developed as we go to press. The new diploma initiative to develop specialised diplomas runs the risk of meeting a similar fate. The Nuffield Review of Skills has included the following warning about these new diplomas:

‘The wider context of the 14-19 reform process (e.g. the fact that specialised diplomas will co-exist with GCSEs and A levels; that they do not embrace apprenticeships; continued employer voluntarism; lack of vocational capacity in schools and the pace of reform) casts doubts over the ability of these new awards to fulfil the ambitious aims that the DfES has for them… The wider contextual factors highlighted above may push the specialised diplomas towards becoming more general rather than vocational awards, principally because of the continued distinction being made between their role and the role of apprenticeships and the need to create “parity of esteem” with relatively unreformed general qualifications. If this happens, we will once again be witnessing the process of “academic drift” that occurred with both GNVQs and advanced vocational certificates of education (AVCEs).’

What the authors of the Nuffield Report could have gone on to say is that, if that happens, we will also see a perpetuation of the attitudes that send so many of our practical learners into a cycle of frustration, despair and ultimately wasted opportunity. Let us be under no illusion – insisting on academic excellence is essential, but sacrificing the potential of thousands of talented people at the altar of a single way of perceiving educational achievement is something we can ill afford to do. We need to ask ourselves: would our fiercest competitors be so careless?
Squandering entrepreneurial potential
It is almost a truism to assert that entrepreneurial activity is essential to ensuring our sustained competitiveness. Britain has many entrepreneurs and a fine tradition of innovation and enterprise. But the competition in this arena is getting fierce. A quick look at some of the fastest growing companies and at the sheer numbers of new ventures coming from rapidly developing economies should be enough to safeguard against complacency. For one thing, we still have an enterprise record that lags behind some of the world’s major economic powers. For example, UK business creation as a whole is still only half that of the United States. Our strong record in academic research is not matched by our record in business innovation. This is a situation we urgently need to tackle.

One could argue that this is a theme that has little to do with education and practical learning. Indeed the evidence shows that great enterprise is often unconnected to academic excellence or to qualifications of any sort. But that is missing the point. The question is not whether our education system has helped or stood in the way of entrepreneurs, but what we can do to find more entrepreneurial talent and support it better.

Edge recently talked to a number of successful British entrepreneurs who have not enjoyed traditional academic success. Many of them described having achieved their status and position in spite of their education, rather than as a result of it: they had followed an entirely self-directed practical path to success. They upheld the values of confidence, practical savvy and developing the right attitudes and aptitudes.

But there is an important corrective to the ‘self-made’ theme: although these individuals did not attribute their success to their schooling, they universally said that they would have welcomed more practical training, greater recognition of their talents, more nurturing and support, and a teaching style that was more in keeping with their practical aptitudes. They had managed to overcome the deficiencies in the system, the lack of practical opportunities for learning and the grinding discouragement of being branded a failure. But they felt sure other budding innovators had not been so fortunate. If our education system does not start fostering more practical ways of learning and working, then we can hope to produce such talented entre-

3 Long-term Global Economic Challenges and Opportunities for the UK (HM Treasury, 2004).
preneurs only by accident, not by design.

Britain’s history suggests we ought to do better in this regard. After all, the pioneers of the industrial revolution were non-conformists who could not rise to high office in a traditional establishment and who learned practical skills in engineering and manufacturing to achieve wealth and status. For example, the great railway engineers George Stephenson and Isambard Kingdom Brunel astounded contemporaries with their technical achievements and set new standards in civil engineering. Historically many of the greatest contributors to our economic success have found a route to success through passion, determination, enterprise, creativity and know-how, rather than academic prowess. It is essential that we nurture such attributes and do not stifle them through forcing everyone to spend longer and longer in the classroom.

This is a pressing issue. Technology is changing, business is transforming, brands are reinventing themselves, and the media are undergoing irrevocable changes. We need to think hard about how to nurture the new practical skills that will characterise the generation of people who will forge the next great commercial developments. History ensured that Britain was at the forefront of the nineteenth century industrial revolution: destiny offers no guarantee of a leading role in the revolutions of the century to come.

The perils of mediocrity
Succeeding in a competitive environment is about insisting on excellence. Instead of a culture of excellence in practical learning that would give us real competitive advantage, we are perpetuating a culture where practical learning is second best. Practical achievement is downgraded.

The current cultural obsession with academic success, celebrated in the media, all too often pandered to by employers, cherished by mums and dads, seems to drive towards excellence. But in our experience it may have the opposite effect and, at the very least, is having several negative effects. The primary disadvantage is that many people who take a practical route are doing so in the context of already being branded ‘a failure’. Under such circumstances, it is hardly surprising that in dozens of interviews we have conducted, what emerges is that they are
merely ‘surviving’ and by no means stretching towards genuine world-class excellence.

At the same time, too many people who are not suited to excellence in academic courses are forced into that route in order to gain entry into the labour market, but they necessarily do so as underachievers rather than high flyers. Again, we have interviewed dozens of people who have spoken of abandoning a practical passion in favour of a ‘safe’ academic option. This is even problematic for academic courses themselves. Instead of celebrating the increases in numbers taking academic courses, many academics warn of the dilution of excellence. Excellence is not a numbers game.

There is a model that can potentially be adopted to take us out of the impasse: the professions. ‘Vocational’ in the true sense, education of the professions, has managed to combine practical usefulness with high status and prestige, and no shortage of excellence in areas such as law, medicine and accountancy.

The professions were established by early practitioners as an institutional form of control. By setting self-regulated high standards of conduct and quality, including strict entrance requirements comprising both knowledge and practice, early practitioners were able to raise their own status and income at the same time as protecting the public from malpractice in important areas of work and life.

Admittedly, these professions have a strong component of book-based learning at their core, and that has made them easier to reconcile with our culture’s preference for academic achievement. But the challenge is to extend this to a wider range of occupations, and ensure a clear progression path for those pursuing a practical learning route. For most professions it is extremely difficult to gain entrance except by following a largely academic route first, before then learning the application of theory. Is there any reason why we should not find new ways of replicating the professional model without insisting on academic learning in certain subjects? Could we not insist, for instance, on drawing a very clear route from an apprenticeship to professional status? We could. And we must if we are to refuse to perpetuate the corrosive economic consequences of settling for mediocrity.
What is to be done?
We are facing severe competitive threats and our single-minded obsession with the superiority of academic learning is leaving us exposed. It is allowing us to waste talent just as the new powerhouses of the global economy are seeing an explosion in the population that is ready for business. It is failing to nurture our entrepreneurial potential at a time when we need it most. And it is encouraging a culture of mediocrity just at the moment when only excellence will do. The question is: what can be done about it?

The first thing we have to do is stop thinking that adjusting the question of ‘parity of esteem’ between the practical and the academic is merely a matter of salving our social conscience. It is a matter of economic survival. And it requires little short of a paradigm shift in attitudes to make it happen.

Paradigm shifts do not come about by intellectual decree, nor do they come about by sustained complaint. As we indicated at the beginning of this paper, the consensus about the need to do something about this issue is overwhelming. But where is the action? It is perhaps peculiarly British that we tend to moan about things without speaking up or taking action. Parents moan about schools and teachers; businesses and employers perennially lament the lack of young people with the necessary skills and attributes for work, even among some of the brightest graduates. Moaning won’t do. As uncomfortably un-British as it may seem, we all need to start demanding change – parents, employers, teachers, the media. But most importantly, young people themselves have to be mobilised to demand better. Our economy needs it. They deserve it. And if we do not address these issues soon, the consequences for us and for them will not be purely academic.
1. Which Skills Matter?\textsuperscript{5}

\textit{Pedro Carneiro, Claire Crawford, and Alissa Goodman}

\textbf{Executive summary}

Each of us is endowed with a unique set of skills that we use in all aspects of our everyday life. Nevertheless, when describing the determinants of socioeconomic outcomes – or even the learning process – we often have a very simplified view of skill.

Non-cognitive skills, such as interpersonal skills and self-confidence, are potentially as important as cognitive skills for labour market success, and for many other aspects of life.

In this paper, we analyse the determinants and consequences of cognitive skills and one aspect of non-cognitive skills – namely social adjustment – at ages seven and eleven, using data for Great Britain, from the national child development survey (NCDS). We document the importance of these skills for schooling attainment, labour market outcomes and social behaviours at various ages, and analyse the role of families in the formation of these skills.

We find that social skills are important for a host of outcomes, including schooling, social outcomes such as teenage motherhood and involvement in crime, and also for labour market outcomes. We also find that the early home environment is very important for determining social skills, while social skills also appear to be more malleable than cognitive skills between the ages of seven and eleven, suggesting an important role for policy.

Our work contributes to a growing body of research that documents the role of non-cognitive skills in an individual’s life, all indicating that a uni-dimensional vision of skill is wrong and likely to mislead both research and policy.

\textsuperscript{5} We are grateful to the Department for Education and Skills for funding for this work through the Centre for the Economics of Education. We are also grateful to the Economic and Social Research Council for supporting much of the data preparation and groundwork behind this project, through the Centre for the Microeconomic Analysis of Public Policy at IFS, and to the Leverhulme Centre for Microdata Methods and Practice at the Institute for Fiscal Studies.
Our work is consistent with a growing body of evidence showing that skills formed relatively early in the life cycle have long-lasting and substantial effects on a variety of important outcomes. It is possible that early human capital interventions, designed to take into account both the multidimensional nature of skills and the dynamic nature of skill formation, can be among the most effective set of policy instruments to combat early school leaving, unemployment, teenage pregnancy, illegal behaviour and many other behaviours and outcomes.

Introduction
If we were asked to name the skills that we thought were valuable, we would find ourselves enumerating a never-ending list of attributes. Nevertheless, when describing the determinants of socioeconomic outcomes – or even the learning process – we often have a very simplified view of skill. Our failure to take into account the fact that skill is intrinsically a multidimensional object is not only nonsensical, but also misguides both our research and the design of social policy.

Suppose we had the following simple view of schools. Schools provide students with academic (or vocational) skills that are useful in the labour market. Successful students are expected to become successful workers. Good students are those who learn the skills taught by schools, achieving high grades in their exams – our measure of school success – and completing degrees. This view of schools is not wrong, but it is incomplete, and it is this vision of schools that is implicit in much research and policymaking. In reality, many other types of skills are also important in the labour market, and although school success (as measured by academic test results, which capture cognitive skills) are correlated with good labour market outcomes, they explain very little of the variance in labour market outcomes in Great Britain. Furthermore, schools do much more than improve an individual’s knowledge; they also mould their personality. Non-cognitive skills, such as interpersonal skills and self-confidence, are likely to be as important as cognitive skills for labour market success, and for many other aspects of life.

Take the following example from the research of Heckman, Hsee and Rubinstein, which studied the general education development (GED) programme in the US. The GED is a

degree equivalent to high school diploma for individuals who do not have an official high school diploma. This programme seems to be successful in that GED recipients have similar levels of cognitive abilities to regular high school graduates (both have higher levels of cognitive abilities than high school dropouts). However, GED recipients receive lower wages in the labour market than regular high school graduates. Furthermore, when we compare high school graduates, GED recipients and high school dropouts with similar levels of cognitive skills, GED recipients receive the lowest wages in the labour market.

Heckman, Hsee and Rubinstein investigate this puzzling fact, and suggest that the reason GED recipients perform so poorly in the labour market is because they lack non-cognitive skills. In fact, they found that the average GED was more likely to engage in different types of illegal behaviour, to be quarrelsome in school and at work, and to have more trouble in holding stable employment than the average high school dropout or high school graduate.  

There are also several other papers that document the importance of non-cognitive skills, not only for labour market outcomes, but also for schooling attainment and engagement in risky behaviour.  

The importance of understanding what skills matter is rendered even more important if, as argued in Carneiro and Heckman, non-cognitive skills are likely to be more malleable than cognitive skills. For example, while IQ is believed to be relatively stable by age eight, other aspects of personality may be more open to change at later ages. Carneiro and Heckman report that the main outcome of mentoring programmes targeted towards adolescents was not an increase in their cognitive ability, but a substantial change in their social behaviours.  

Although schools are assessed by the performance of their students in cognitive tests and this forms the basis of education policy, schools are also likely to substantially alter students’ social skills. These two roles of schools cannot be separated and one cannot be seen as more important than the other, something that receives scant attention in the literature.

Finally, both cognitive and non-cognitive skills are formed over the life-cycle, as a result of home, neighbourhood and school environments and of family investments. Carneiro and
Practice Makes Perfect: The Importance of Practical Learning

Heckman document that gaps in cognitive and non-cognitive skills between children of different socioeconomic groups emerge early (as early as age four, and probably even earlier) and persist (if anything, gaps in cognitive ability expand over time). Given the cumulative nature of the process of skill formation, early cognitive and non-cognitive skills are therefore likely to influence future learning and the development of social abilities.\(^\text{11}\)

In this paper, we analyse the determinants and consequences of cognitive skills and one aspect of non-cognitive skills – namely social adjustment – at ages seven and 11 using data for Great Britain from the National Child Development Survey (NCDS).\(^\text{12}\) We document the importance of these skills for schooling attainment, labour market outcomes and social behaviours at various ages, and analyse the role of families in the formation of these skills. We find that social skills are very important for a host of outcomes, including schooling, social outcomes such as teenage motherhood and involvement in crime, and also for labour market outcomes. We also find that the early home environment is very important for determining social skills, and that social skills also appear to be more malleable than cognitive skills. Box 1 describes the social and cognitive skills measures used.

Box 1 – Measures of cognitive and social skills

Cognitive skills

Age seven
We use an average of standardised test results in maths, reading, copying and drawing as our measure of cognitive skills at age seven.

The Southgate Group reading test was used. In this test, the child is given a choice of five words. On 16 (of 30) occasions, the child was given a picture of an object and had to ring the word describing it. On the other 14 occasions, the teacher read out a word and the child had to circle the correct one. One mark was awarded for each correct answer, giving a score between 0 and 30.

The arithmetic test comprised ten questions, which the
teacher could read to the child. They were awarded one mark for each correct answer, giving a score between 0 and ten. In the copying test, the child was given six shapes and asked to copy each of them twice. They were awarded one mark for each correct attempt, giving an overall score between 0 and 12. For the drawing test, the child was asked to draw a picture of a man, which was then awarded a mark out of 100 according to the features that were included.

Age 11
We use an average of standardised test results in maths, reading, copying and general ability as our measure of cognitive skills at age 11.

The arithmetic test comprised a wide variety of questions, of varying degrees of difficulty. One mark was awarded for each correct answer, giving a total score between 0 and 40. The reading comprehension exercise required the child to pick the correct word to complete a sentence (from a choice of five). One mark was awarded for each correctly completed sentence, giving a total score between 0 and 35.

The copying test was identical to the one carried out at age seven.

The general ability test required the child to recognise patterns in either words or pictures and select the next word/picture in the sequence. Each correct answer was rewarded with a mark, giving intermediate verbal and non-verbal scores (between 0 and 40), and a total score (between 0 and 80).

Social skills
Our measure of social skills is in fact a measure of social maladjustment. The Bristol Social Adjustment Guide was used to measure social maladjustment at ages seven and 11 in the NCDS. Teachers were given a series of phrases and asked to underline those that they thought applied to the child. The phrases were grouped into 11 different behavioural ‘syndromes’: unforthcomingness, withdrawal, depression, anxiety for acceptance by adults, hostility towards adults, ‘writing off’ of adults and adult standards, anxiety for acceptance by children, hostility towards children, restlessness, inconsequential behaviour, and miscellaneous. Each category contained a differ-
ent number of phrases, with one point allocated to each phrase underlined by the teacher. These scores were combined to generate a total ‘social maladjustment’ score, which we standardised and used as our measure of social skills.

The distribution of these measures of cognitive and social skills is shown in the Appendix, Figure A1. The home environment and skill formation

The NCDS allows us to look at the aspects of the early home environment that matter for cognitive and social development at ages seven and 11. Table 1 presents some results from a simple OLS regression model. Remember that, since we are measuring social maladjustment, negative coefficients on the social skills regressions mean that those factors are good for social skills. These results show that family background is extremely important for skill development. We can see that by age seven gaps in cognitive and social abilities have emerged according to socioeconomic group (captured here by the father’s social class): children from professional and managerial social classes have higher cognitive test scores, and exhibit marginally lower social maladjustment by age seven (conditional on the other factors controlled for in our model).\footnote{A list of the other factors included in our regression models can be found in the notes to Table 1.}

In addition, while the number of years of formal education of the parents is associated more with cognitive skill development than with social skill development, other aspects of parental education – such as how much the parents (particularly the father) reads, and the interest taken by both parents in the child’s education – appear to be important for both types of skill development. For example, if the child’s mother had undertaken an additional year of education, conditional on other background factors, this would be associated with an increase of 3.3% of a standard deviation in cognitive skills at age seven.

Serious difficulties within the family – such as alcoholism, mental health issues, divorce, and so on – observed by the health visitor at age seven were also particularly important in explaining social maladjustment (as well as lower cognitive test scores) at ages seven and 11.

Table 1 also shows that the child’s own very early developmental outcomes (including whether or not they could walk alone by age 1.5, whether they could speak by age two and
whether they wet themselves by day beyond age three), and poor health at birth and during early childhood, are very important for explaining social maladjustment and cognitive development at age seven, but only cognitive skills at age 11. Of course, these early developmental outcomes are themselves strongly influenced by the family environment from a very early stage.

It is also worth noting that girls from this cohort performed considerably better than boys in terms of social adjustment and cognitive test scores at age seven, while at age 11 they still exhibited fewer signs of social maladjustment, but did not perform as well as boys in the cognitive tests. However, much remains unexplained: the R-squared statistic on the social skills equation is fairly low, at 0.14 (for the age seven regression), indicating that the observable characteristics do not explain measured social skills as well as they explain variation in measured cognitive skills (with an R-squared statistic of 0.21).

The results in Table 1 also confirm the notion that ‘skills beget skills’: both cognition and social maladjustment at age seven are important factors in explaining social and cognitive performance at age 11. Such linkages highlight the need for further research to develop a fuller picture of the inter-relationships between different types of skill formation throughout childhood.

Table 1 also provides some suggestive evidence that, on average at least, social skills may be more malleable than cognitive skills between the ages of seven and 11. The regressions reveal a stronger correlation (conditional on other background factors) between cognitive skills over time than between social skills over time.\(^\text{14}\)
### Table 1: The home environment and skill formation

<table>
<thead>
<tr>
<th></th>
<th>Age 7</th>
<th></th>
<th>Age 11</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social adjustment</td>
<td>Cognitive skills</td>
<td>Social adjustment</td>
<td>Cognitive skills</td>
</tr>
<tr>
<td>Female</td>
<td>-0.295</td>
<td>0.039</td>
<td>-0.207</td>
<td>-0.037</td>
</tr>
<tr>
<td></td>
<td>[0.017]**</td>
<td>[0.012]**</td>
<td>[0.017]**</td>
<td>[0.010]**</td>
</tr>
<tr>
<td>Father’s years of education</td>
<td>-0.005</td>
<td>0.022</td>
<td>0.002</td>
<td>0.023</td>
</tr>
<tr>
<td></td>
<td>[0.007]</td>
<td>[0.005]**</td>
<td>[0.007]</td>
<td>[0.004]**</td>
</tr>
<tr>
<td>Mother’s years of education</td>
<td>-0.001</td>
<td>0.033</td>
<td>-0.011</td>
<td>0.031</td>
</tr>
<tr>
<td></td>
<td>[0.008]</td>
<td>[0.006]**</td>
<td>[0.008]</td>
<td>[0.005]**</td>
</tr>
<tr>
<td>Father’s social class (I/II)</td>
<td>-0.049</td>
<td>0.108</td>
<td>-0.026</td>
<td>0.144</td>
</tr>
<tr>
<td></td>
<td>[0.025]*</td>
<td>[0.018]**</td>
<td>[0.026]</td>
<td>[0.015]**</td>
</tr>
<tr>
<td>Any serious difficulties in the family</td>
<td>0.169</td>
<td>-0.151</td>
<td>0.113</td>
<td>-0.032</td>
</tr>
<tr>
<td></td>
<td>[0.025]**</td>
<td>[0.018]**</td>
<td>[0.026]**</td>
<td>[0.015]*</td>
</tr>
<tr>
<td>Mother shows little interest in child’s education</td>
<td>0.435</td>
<td>-0.274</td>
<td>0.084</td>
<td>-0.042</td>
</tr>
<tr>
<td></td>
<td>[0.032]**</td>
<td>[0.023]**</td>
<td>[0.034]*</td>
<td>[0.020]*</td>
</tr>
<tr>
<td>Father shows little interest in child’s education</td>
<td>0.312</td>
<td>-0.22</td>
<td>0.04</td>
<td>-0.09</td>
</tr>
<tr>
<td></td>
<td>[0.033]**</td>
<td>[0.024]**</td>
<td>[0.034]</td>
<td>[0.020]**</td>
</tr>
<tr>
<td>Mother reads news most days and books most weeks</td>
<td>0.011</td>
<td>0.05</td>
<td>-0.01</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>[0.020]</td>
<td>[0.014]**</td>
<td>[0.020]</td>
<td>[0.012]**</td>
</tr>
<tr>
<td>Father reads news most days and books most weeks</td>
<td>-0.077</td>
<td>0.091</td>
<td>0.004</td>
<td>0.038</td>
</tr>
<tr>
<td></td>
<td>[0.019]**</td>
<td>[0.014]**</td>
<td>[0.020]</td>
<td>[0.012]**</td>
</tr>
<tr>
<td>Slow early development (bed-wetting, late walking, late speaking)</td>
<td>0.259</td>
<td>-0.279</td>
<td>0.025</td>
<td>-0.077</td>
</tr>
<tr>
<td></td>
<td>[0.026]**</td>
<td>[0.018]**</td>
<td>[0.027]</td>
<td>[0.016]**</td>
</tr>
<tr>
<td>Early illness or handicap</td>
<td>0.308</td>
<td>-0.611</td>
<td>-0.158</td>
<td>-0.224</td>
</tr>
<tr>
<td></td>
<td>[0.080]**</td>
<td>[0.055]**</td>
<td>[0.087]</td>
<td>[0.052]**</td>
</tr>
<tr>
<td>Social maladjustment at 7</td>
<td></td>
<td></td>
<td>0.272</td>
<td>-0.071</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[0.010]**</td>
<td>[0.006]**</td>
</tr>
<tr>
<td>Cognitive ability at 7</td>
<td></td>
<td></td>
<td>-0.231</td>
<td>0.643</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[0.014]**</td>
<td>[0.008]**</td>
</tr>
<tr>
<td>Observations</td>
<td>12787</td>
<td>12878</td>
<td>10927</td>
<td>10922</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.14</td>
<td>0.21</td>
<td>0.23</td>
<td>0.59</td>
</tr>
</tbody>
</table>

Standard errors in brackets
* significant at 5%; ** significant at 1%

Notes: Social maladjustment is measured using the Bristol Social Adjustment Guide (as rated by the teacher). Cognitive skills are averages of test results sat at school at the relevant ages. Both social and cognitive skills are measured in units of standard deviations from the mean (see Box 1 for more information). All regressions contain controls for child characteristics: gender, ethnicity, birth weight, illness at birth, handicap, twin status, only child, birth order, number of older brothers, number of older sisters, whether next oldest sibling was born within two years of the cohort member, number of younger siblings,
number of household members, whether the cohort member was breastfed, was walking alone before the age of 1.5 years, speaking by two years, wetting by day after three years, whether the cohort member attended a welfare clinic as a baby; parental characteristics (at child’s birth unless stated otherwise): father’s age, mother’s age, education of both parents, social class of the father, marital status of mother, whether mother smoked and if stopped, during pregnancy, previous complications in pregnancy, interval between marriage and birth, whether mother obese, whether mother worked during pregnancy and number of hours, whether English is mother’s usual language with the child, whether or not each parent reads books and newspapers regularly (age seven), parent shows interest in child’s education (age seven), ever lived in care (age seven), health visitor reports of serious family difficulties (including disability, mental illness, divorce, alcoholism); local characteristics: broad region, urban vs. rural, % semi- and unskilled males as proportion of economically active males in local authority, % economically active females/economically active males in local authority (both 1961).

The intuition that there is greater mobility in social scores than cognitive ones is also confirmed in Table 2, which gives transition matrices for social maladjustment and cognitive test scores between the ages of seven and 11. To produce these, we divide the population into quartiles at each age, and calculate the probabilities of moving between quartiles over time. These probabilities can provide useful information about the potential malleability of social versus cognitive skills.

From Table 2, we see that 44% of children in the most socially maladjusted quartile of the population at age seven were still in the most socially maladjusted quartile at age 11, while 29% had moved into the quartile above, i.e. moved into a relatively less maladjusted group over time. For cognitive test scores, the proportions were 64% and 26% respectively.

The matrices taken as a whole suggest considerably more mobility in social skills than cognitive skills; to summarise the degree of mobility across all quartiles, we can calculate immobility indices for social maladjustment and cognitive test scores. Here, we see that the immobility index for cognitive test scores (3.59) is higher than for measures of social maladjustment (2.99), which may in turn imply that social skills are more malleable than cognitive skills.

It should be noted that the apparent differences in the degree of mobility between cognitive and social skills shown in these transition matrices, and in the regression coefficients in Table 1, could also arise from differences in the amount of measurement error in social and cognitive skills measures: in particular, if there were greater measurement error in the social adjustment scores (which is plausible, given that these measures

---

15 Our quartiles do not contain exactly 25% of the population in the case of the social maladjustment scores (see notes to Table 2 for more details).

16 We calculate the immobility indices by summing proportions on the leading diagonal and all adjacent squares, i.e. for social maladjustment, the immobility index is calculated using the following figures: 0.44+0.30+0.21+0.94+0.29+0.19+0.37+0.24+0.26+0.20 = 2.99.
are likely to be assessed by different teachers at age seven and age 11, while cognitive tests can be scored more objectively), this could lead to greater measured mobility in social skills compared to cognitive skills. For this reason our findings should be taken as suggestive. In future work we plan to assess the sensitivity of our results to the possibility of measurement error.

Table 2: Transition matrices for social maladjustment and cognitive test scores, ages seven and 11

<table>
<thead>
<tr>
<th>Age 11 →</th>
<th>Least socially maladjusted</th>
<th>3rd</th>
<th>2nd</th>
<th>Most socially maladjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most socially maladjusted</td>
<td>0.09</td>
<td>0.22</td>
<td>0.20</td>
<td>0.49</td>
</tr>
<tr>
<td>2nd</td>
<td>0.24</td>
<td>0.30</td>
<td>0.19</td>
<td>0.27</td>
</tr>
<tr>
<td>3rd</td>
<td>0.16</td>
<td>0.26</td>
<td>0.21</td>
<td>0.37</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age 11 →</th>
<th>Highest cognitive score</th>
<th>3rd</th>
<th>2nd</th>
<th>Lowest cognitive score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest cognitive score</td>
<td>0.64</td>
<td>0.26</td>
<td>0.08</td>
<td>0.02</td>
</tr>
<tr>
<td>2nd</td>
<td>0.25</td>
<td>0.37</td>
<td>0.26</td>
<td>0.11</td>
</tr>
<tr>
<td>3rd</td>
<td>0.08</td>
<td>0.27</td>
<td>0.38</td>
<td>0.28</td>
</tr>
<tr>
<td>Highest cognitive score</td>
<td>0.03</td>
<td>0.10</td>
<td>0.29</td>
<td>0.59</td>
</tr>
</tbody>
</table>

Immobility index for social maladjustment: 2.99
Immobility index for cognitive scores: 3.59
Note: Because of the distribution of social maladjustment test scores, each ‘quartile’ contains approximately, rather than exactly, one quarter of the population. Transition probabilities are therefore presented for transitions from age seven to age 11, i.e. the row probabilities sum to 1. Immobility indices based on column rather than row probabilities show a very similar picture: with an index of 3.01 for social maladjustment, and 3.59 for cognitive scores.

What skills matter for schooling and other adolescent outcomes?
Social skills are very important for schooling outcomes and decisions. Although performance in cognitive tests, particularly at age 11, is important for decisions at 16 and beyond, social skills matter too. Children who exhibited social maladjustment at age 11 were less likely to stay on at school post-16, after taking into account cognitive ability and other family background factors (see Table 3, which shows that every standard deviation increase in maladjustment at 11 is associated with a
3.3 percentage point reduction in the likelihood of staying on at school at 16). While cognitive skills appear to have had an even larger impact (Table 3 shows that an increase of 1 standard deviation in cognitive skills at age 11 is associated with a 20.2 percentage point rise in the likelihood of staying on at school post-16 conditional on other background characteristics), comparisons of the size of the coefficients across different types of skills need to be made with care.\textsuperscript{17}

Beyond this, social maladjustment – both at seven and 11 – is also an important determinant of performance in higher education (HE). Although cognitive abilities, particularly at age 11, were even more important in determining whether an individual obtained an HE qualification, the importance of social skills cannot be overlooked.

Social skills developed during childhood also appear to be at least as important as cognitive skills in explaining what can be thought of as negative adolescent outcomes, such as contact with the police and teenage motherhood. Table 3 shows that social maladjustment during childhood is clearly associated with an increased likelihood of getting into trouble with the police (as reported by the parent) or having been to court (as reported by the school) by age 16. Our basic model suggests that every additional standard deviation in the maladjustment score at age 11 is associated with a 2 percentage point increase in the probability of having been in formal trouble by age 16 (conditional on a host of background characteristics).\textsuperscript{18} This is clearly at least as important a determinant of early criminal activity as cognitive ability. Table 3 also shows a strong positive association between social maladjustment at 11 and the likelihood of teenage motherhood among women in the NCDS: every additional standard deviation in the maladjustment score at age 11 is associated with a two percentage point increase in the probability of having a child before the age of 20. The impact of cognitive skills at age 11 was even larger: an additional standard deviation of cognitive achievement at age 11 is associated with a 4.3 percentage point reduction in the likelihood of being a teenage mother (conditional on other background characteristics).

In general, cognitive and social skills at age 11 seem to matter more for these outcomes than the same measures at age seven. This is perhaps unsurprising,\textsuperscript{19} although it is worth

\textsuperscript{17} Although both cognitive and social skills measures have been standardised, Appendix Figure A1 shows that their distributions are very different. It is not clear, therefore, that one standard deviation change in our measure of cognitive skills is directly comparable to one standard deviation change in our measure of social skills, particularly in the presence of possible measurement error in both.

\textsuperscript{18} A list of background characteristics included in our models can be found in the notes to Table 1.

\textsuperscript{19} It may also be the case that, given that some children may have been prevented from staying on due to poor academic outcomes, we might expect the coefficient on cognitive skills to be larger.
pointing out that social maladjustment at age seven has a significant impact on the likelihood of obtaining an HE qualification (in both specifications) over and above social maladjustment at age 11. This is never true for cognitive skills, though of course this may simply reflect greater correlation between cognitive skills over time.

Table 3: Schooling and other ‘adolescent’ outcomes

<table>
<thead>
<tr>
<th></th>
<th>Schooling</th>
<th>Social outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post-compulsory schooling?</td>
<td>HE qualification? (1)</td>
</tr>
<tr>
<td>Social maladjustment at 7</td>
<td>-0.008</td>
<td>-0.017</td>
</tr>
<tr>
<td></td>
<td>[0.006]</td>
<td>[0.007]*</td>
</tr>
<tr>
<td>Social maladjustment at 11</td>
<td>-0.033</td>
<td>-0.023</td>
</tr>
<tr>
<td></td>
<td>[0.007]**</td>
<td>[0.007]**</td>
</tr>
<tr>
<td>Cognitive ability at 7</td>
<td>0.011</td>
<td>0.023</td>
</tr>
<tr>
<td></td>
<td>[0.010]</td>
<td>[0.012]</td>
</tr>
<tr>
<td>Cognitive ability at 11</td>
<td>0.202</td>
<td>0.205</td>
</tr>
<tr>
<td></td>
<td>[0.010]**</td>
<td>[0.011]**</td>
</tr>
<tr>
<td>Female</td>
<td>-0.018</td>
<td>-0.068</td>
</tr>
<tr>
<td></td>
<td>[0.010]</td>
<td>[0.011]**</td>
</tr>
<tr>
<td>Father’s years of education</td>
<td>0.013</td>
<td>0.016</td>
</tr>
<tr>
<td></td>
<td>[0.004]**</td>
<td>[0.004]**</td>
</tr>
<tr>
<td>Mother’s years of education</td>
<td>0.033</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>[0.004]**</td>
<td>[0.005]**</td>
</tr>
<tr>
<td>Father’s high social class</td>
<td>0.091</td>
<td>0.059</td>
</tr>
<tr>
<td></td>
<td>[0.013]**</td>
<td>[0.016]**</td>
</tr>
<tr>
<td>Stayed on at school post 16</td>
<td>0.272</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[0.015]**</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>8509</td>
<td>7740</td>
</tr>
</tbody>
</table>

Standard errors in brackets
* significant at 5%; ** significant at 1%

Notes: main specification has same background control variables as in notes to Table 1. HE qualification (2) additionally controls for whether or not the individual stayed on at school post-16. The outcome ‘trouble with police by 16?’ is coded as 1 if either the teacher reports that the young person has ever been in trouble with the police, or if the parent reports that their child has ever been to court (presumably as a result of some criminal behaviour).
**What skills matter for labour market outcomes?**

Social skills also matter for labour market outcomes (see Table 4). Even conditioning on schooling outcomes (whether or not the individual stayed on at school post-16, and whether or not they received an HE qualification), teacher-rated social maladjustment at age 11 is associated with both lower employment probabilities and lower wages at age 42 (also at age 33, shown in Appendix Table A1). Our model suggests that an increase of one standard deviation in the maladjustment score at age 11 reduces the probability of employment (conditional on schooling outcomes) by 3 percentage points for individuals at 42, and reduces wages (conditional on schooling outcomes) by approximately 3%. The magnitude of the impact of cognitive skills on the probability of being in employment at age 42 is similar to that of social maladjustment (albeit in opposite directions), but the impact on wages at age 42 is much larger: an increase of 1 standard deviation in cognitive ability at age 11 is associated with approximately a 10% increase in hourly wages (conditional on staying on at school post-16). This suggests that social skills are important not only because they influence achievement at school, but also because they impact on labour market performance directly: this is consistent with other research, which has shown that it is often work experience and personal traits such as reliability, motivation and integrity that employers are looking for.  

---

Table 4: Labour market outcomes (at age 42)

<table>
<thead>
<tr>
<th></th>
<th>Employment</th>
<th>Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Social maladjustment at 7</td>
<td>-0.014</td>
<td>-0.013</td>
</tr>
<tr>
<td></td>
<td>[0.004]**</td>
<td>[0.004]**</td>
</tr>
<tr>
<td>Social maladjustment at 11</td>
<td>-0.029</td>
<td>-0.028</td>
</tr>
<tr>
<td></td>
<td>[0.004]**</td>
<td>[0.004]**</td>
</tr>
<tr>
<td>Cognitive ability at 7</td>
<td>0.005</td>
<td>0.006</td>
</tr>
<tr>
<td></td>
<td>[0.008]</td>
<td>[0.008]</td>
</tr>
<tr>
<td>Cognitive ability at 11</td>
<td>0.023</td>
<td>0.018</td>
</tr>
<tr>
<td></td>
<td>[0.008]**</td>
<td>[0.008]*</td>
</tr>
<tr>
<td>Female</td>
<td>-0.13</td>
<td>-0.128</td>
</tr>
<tr>
<td></td>
<td>[0.008]**</td>
<td>[0.008]**</td>
</tr>
<tr>
<td>Father’s years of education</td>
<td>-0.001</td>
<td>-0.002</td>
</tr>
<tr>
<td></td>
<td>[0.003]</td>
<td>[0.003]</td>
</tr>
<tr>
<td>Mother’s years of education</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>[0.004]</td>
<td>[0.004]</td>
</tr>
<tr>
<td>Father’s high social class</td>
<td>-0.01</td>
<td>-0.012</td>
</tr>
<tr>
<td></td>
<td>[0.012]</td>
<td>[0.012]</td>
</tr>
<tr>
<td>Stayed on at school post 16</td>
<td>-0.013</td>
<td>0.127</td>
</tr>
<tr>
<td></td>
<td>[0.011]</td>
<td>[0.017]**</td>
</tr>
<tr>
<td>Obtained HE qualification</td>
<td>0.035</td>
<td>0.218</td>
</tr>
<tr>
<td></td>
<td>[0.009]**</td>
<td>[0.015]**</td>
</tr>
<tr>
<td>Observations</td>
<td>7735</td>
<td>7735</td>
</tr>
<tr>
<td>Observations</td>
<td>5417</td>
<td>5417</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.31</td>
<td>0.35</td>
</tr>
</tbody>
</table>

Standard errors in brackets
* significant at 5%; ** significant at 1%
Notes: specification (1) has same background control variables as in notes to Table 1: specification (2) additionally controls for whether or not the individual stayed on at school post-16. Regression coefficients reported for log wage models.

**Conclusions**

Our work shows that successful education policy cannot neglect the development of non-cognitive skills. We find that social skills are important determinants of schooling and labour market outcomes and of a variety of behavioural outcomes, including teenage motherhood and engagement in illegal activity before the age of 16. Our work contributes to a growing body of research that documents the role of non-cognitive skills in an
individual’s life, all indicating that a uni-dimensional vision of skill is wrong and likely to mislead both research and policy.

Furthermore, recent research suggests that non-cognitive skills may be more malleable than cognitive skills.\textsuperscript{21} Even though our work is quite preliminary, our findings are consistent with this assertion, which suggests that non-cognitive skills may be more effectively influenced by education policy than cognitive skills (the usual focus of analysis). Given that disadvantaged children tend to be more socially maladjusted (shown in Table 1), education interventions targeted at disadvantaged children are also likely to be more effective if they consider explicitly the formation of social skills.

Our work is consistent with a growing body of evidence showing that skills formed relatively early in the life cycle have long-lasting and substantial effects on a variety of important outcomes.\textsuperscript{22} It is possible that early human capital interventions, designed to take into account both the multidimensional nature of skills, and the dynamic nature of skill formation, can be among the most effective set of policy instruments to combat early school leaving, unemployment, teenage pregnancy, illegal behaviour and many other behaviours and outcomes.


\textsuperscript{22} Carneiro and Heckman (2003).
Appendix

Figure A1. Distribution of standardised cognitive and social skills at seven and 11
### Table A1: Labour market outcomes (at age 33)

<table>
<thead>
<tr>
<th></th>
<th>Employment (1)</th>
<th>Employment (2)</th>
<th>Hourly wage (1)</th>
<th>Hourly wage (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social maladjustment at 7</td>
<td>-0.004</td>
<td>-0.002</td>
<td>-0.017</td>
<td>-0.012</td>
</tr>
<tr>
<td></td>
<td>[0.005]</td>
<td>[0.005]</td>
<td>[0.008]*</td>
<td>[0.008]</td>
</tr>
<tr>
<td>Social maladjustment at 11</td>
<td>-0.03</td>
<td>-0.029</td>
<td>-0.029</td>
<td>-0.023</td>
</tr>
<tr>
<td></td>
<td>[0.005]**</td>
<td>[0.005]**</td>
<td>[0.008]**</td>
<td>[0.008]**</td>
</tr>
<tr>
<td>Cognitive ability at 7</td>
<td>0.016</td>
<td>0.016</td>
<td>0.063</td>
<td>0.062</td>
</tr>
<tr>
<td></td>
<td>[0.009]</td>
<td>[0.009]</td>
<td>[0.013]**</td>
<td>[0.013]**</td>
</tr>
<tr>
<td>Cognitive ability at 11</td>
<td>0.036</td>
<td>0.031</td>
<td>0.143</td>
<td>0.084</td>
</tr>
<tr>
<td></td>
<td>[0.009]**</td>
<td>[0.009]**</td>
<td>[0.012]**</td>
<td>[0.012]**</td>
</tr>
<tr>
<td>Female</td>
<td>-0.246</td>
<td>-0.247</td>
<td>-0.38</td>
<td>-0.366</td>
</tr>
<tr>
<td></td>
<td>[0.009]**</td>
<td>[0.009]**</td>
<td>[0.013]**</td>
<td>[0.012]**</td>
</tr>
<tr>
<td>Father’s years of education</td>
<td>0.002</td>
<td>0.002</td>
<td>0.005</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>[0.004]</td>
<td>[0.004]</td>
<td>[0.005]</td>
<td>[0.005]</td>
</tr>
<tr>
<td>Mother’s years of education</td>
<td>-0.004</td>
<td>-0.004</td>
<td>0.009</td>
<td>-0.001</td>
</tr>
<tr>
<td></td>
<td>[0.004]</td>
<td>[0.004]</td>
<td>[0.006]</td>
<td>[0.006]</td>
</tr>
<tr>
<td>Father’s high social class</td>
<td>0.007</td>
<td>0.006</td>
<td>0.021</td>
<td>-0.001</td>
</tr>
<tr>
<td></td>
<td>[0.014]</td>
<td>[0.014]</td>
<td>[0.019]</td>
<td>[0.018]</td>
</tr>
<tr>
<td>Stayed on at school post 16</td>
<td>-0.01</td>
<td>-0.01</td>
<td>0.134</td>
<td>0.134</td>
</tr>
<tr>
<td></td>
<td>[0.013]</td>
<td>[0.013]</td>
<td>[0.017]**</td>
<td>[0.017]**</td>
</tr>
<tr>
<td>Obtained HE qualification</td>
<td>0.028</td>
<td>0.028</td>
<td>0.194</td>
<td>0.194</td>
</tr>
<tr>
<td></td>
<td>[0.012]*</td>
<td>[0.012]*</td>
<td>[0.015]**</td>
<td>[0.015]**</td>
</tr>
<tr>
<td>Observations</td>
<td>7777</td>
<td>7777</td>
<td>4641</td>
<td>4641</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.32</td>
<td>0.32</td>
<td>0.32</td>
<td>0.32</td>
</tr>
</tbody>
</table>

Standard errors in brackets
* significant at 5%; ** significant at 1%

Notes: specification (1) has same background control variables as in notes to Table 1; specification (2) additionally controls for whether or not the individual stayed on at school post-16. Regression coefficients reported for log wage models.
2. Does the education system teach the right skills?

John Weston*

Is education an end in its own right, dedicated to the furtherance of knowledge and the uplifting of the human spirit? Or does it have the more prosaic goal of preparing young people for life – and, more particularly, for playing a value-adding role in society through paid work? Since Jean-Jacques Rousseau kicked off the debate about the role of education in the mid-18th century, there has been no shortage of questions, but answers have been harder to come by. While the Further Education White Paper, Leitch Review and the Welfare Reform Green Paper have brought skills, education and employment policy closer together, discourse still seems to skirt round suggesting real answers to this fundamental question.

Like many ardently fought debates, the education debate is one which generates more heat than light, although it has the undoubted virtue of entertaining those who hold strong views on either wing of the argument. For those of us who do not see the world in stark black and white, and for whom some of the subtleties of the shades of grey are what make the world the fascinating place that it is, these are not mutually exclusive ideas. In a practical education system, however, one in which we must strike a balance between equipping pupils to take their place in society and making them useful as employees, the relative importance we give to these goals can have a fundamental impact upon the system we devise.

The United Kingdom has a proud educational history and tradition, with many of our older schools and universities boast-
ing pedigrees of 700 years and more, and where traditional religious and classical teachings are still revered. Our educational establishments have often provided the environment for some of the most radical evolutions of our thought processes, as well as being the cradle for developing breakthroughs in science and technology. More recently, these same institutions have turned their attention to the art of business and the human behaviours on display in the business world.

Now, at the beginning of the 21st century, increasing global competition and the pace of change brought by technological development create the illusion that our world is shrinking. The speed of modern communications is making knowledge transfer easier and easier. There are no realistic challenges to the view that, if we are to maintain and improve our standards of living in the UK, we need to be able to compete with the best in the world.

It is perhaps inevitable that, at such times as these, we become more introspective and more demanding in the questions we pose about whether our education system is producing what we need. Some of these issues are addressed in Lord Leitch’s review of skills the UK needs in 2020, published at the end of 2006.24 There is no doubt in my mind that, in whatever sector a business operates, obtaining optimum performance from every employee is the key to success. In whatever field of endeavour, the performance of organisations – whether in industry, education, the private sector, the public sector – is totally dependent upon the performance of the individuals working within them. To put it another way, all organisations are essentially ‘people businesses’.

Within this context, a group of individuals capable of generating extraordinary levels of motivation and possessing skills, techniques and knowledge that are superior to those of their counterparts in competitor organisations, will generate a significant competitive edge. As our society continues to develop, technology is making the huge workforces of yesterday, dominated by manual labour working for industrial giants, a thing of the past. It is the smaller entrepreneurial companies with specialised highly skilled workforces that are increasingly the source of new jobs. These factors make it more important than ever that our education system produces the right raw material
for further development. If we fail to create an education system that achieves that, we will fail to create a truly competitive economy that can hold its own in the global marketplace, and being ‘born an Englishman’ in the 21st first century will certainly not represent ‘winning first prize in the lottery of life’, to paraphrase Cecil Rhodes.

**Striking a balance**

My personal belief as an industrialist with experience of large and small companies is that in striking a balance between an education system geared to education in its own right, as opposed to one that prepares young people for work in the world in which we now live, we have not yet achieved sufficient emphasis on the latter. We rely on the education system to provide us with the promising employees who have the potential to become world-class business leaders. This means, at the very least, that we need them to have a reliably competent range of basic skills, including literacy and numeracy, and a foundation upon which we can build to teach the more sophisticated skills they will require throughout their working life. Currently, there are an estimated five million adults in the UK without basic maths and English skills, and that figure inhibits not just the potential of individuals but the performance of industry and the economy as a whole.

However, employers are looking for more than just individuals with the right basic skills. What we also need are people with the right attitude and the right motivation, and with the social skills to make a contribution to their employer and to the community in which they live and work. Employers do not expect vocational education in schools to deliver workplace expertise, but they do believe it is not unreasonable to expect as standard from school leavers some basic understanding of the requirements of the world of work.

So where do we stand in the UK today, and how do we measure up against our international competitors? Although the UK compares favourably with its competitors in terms of the proportion of the workforce with high level skills, and on employer spending on training, there is no room for complacency. There are still too many adults with low skills – a third of the working age population is not qualified to level 2 – and too
many young people aged between 16 and 19 do not have literacy (16%) and numeracy (50%) skills to at least level 1 standard. The UK still compares unfavourably with its key competitor nations in terms of the proportion of the workforce qualified at intermediate level.

Employers believe too many school leavers lack the ‘transferable skills’ for employability of self-management and teamwork; moreover their business awareness and attitude to work are poor. This widespread problem is illustrated by the CBI’s Employment Trend Survey\(^{25}\): in 2004, 41% of employers were dissatisfied with school leavers’ attitude to work, 39% with their key skills, 62% with their self-management, and 72% with their business awareness. Students who appreciate the importance of both basic skills and employability skills are much more likely to be motivated to learn and do well at work.

The serious problem of poor basic skills in young people in the UK is well documented and must be tackled quickly to ensure that students leaving school are equipped to fulfil their potential in the workplace or in further or higher education. There has been progress at primary level, but standards at 14 and 16 remain low. When implemented, the proposals in the 14-19 Education and Skills White Paper may ensure that every young person masters functional English and maths before they leave education.\(^{26}\) But this must happen quickly, with a step change in the rate of improvement. Just over 90% of those below standard at age 11 are still below standard at 16. More young people need to achieve competence in numeracy and literacy (equivalent to a C or above at GCSE): at present only 52% of 16 year-olds achieve a grade C in mathematics and just 60% do so in English. The vast majority of young people take GCSEs, with 93% of students sitting GCSE English and 94% GCSE mathematics.\(^{27}\) While attainment levels have been rising over recent years, the rate of improvement is slow. Basic skills have not been sufficiently well integrated into the post-16 curriculum.

In 2004, 77% of 11 year olds achieved a level 4 or above in the Key Stage 2 test for English; 74% achieved this level in the maths test. There has been a general increase in pass rates since 1997, when the percentage of pupils achieving a level 4 or above in these tests was, respectively, 63% and 62%.\(^{28}\) This


\(^{27}\) Opportunity for All Indicators (Department for Work and Pensions, 2006).

\(^{28}\) Ibid.
is a highly creditable achievement and one that reflects well not only upon schools, but upon the effort the government has put into improving standards over the last eight years. The improvements achieved at primary level, however, have not progressed at the same rate at secondary level: the attainment of 14 year olds has only risen by four points from 63% to 68% between 1999 and 2003.\textsuperscript{29} Furthermore, in 2003-04, 54% of the 640,000 pupils entered for mathematics GCSE in England achieved GCSEs at grades A* to C, compared with 51% in 2002-03.\textsuperscript{30} In 2003-04, 60% of the 597,600 pupils who entered in English (the same percentage as in 2002-03) achieved grades A*-C.

In 2003, 91% who were below standard at age 14 were also below standard at 16. Fifty per cent of 16-19 year olds do not have the numeracy skills expected of an 11 year old, according to the DfES Skills for Life survey of 2003.\textsuperscript{31} In 2004, 46.6% of 16 year olds did not reach level 2 (five GCSEs at C or above). This headline figure masks significant differences between different groups. For example, in 2003 47% of male pupils achieved this compared to 58% of female pupils. While 51% of 16 year olds gained good GCSEs in 2003, only 45% of boys attained this level, compared to 56% of girls. Sixty-five per cent of pupils from families of Indian origin and 51% of pupils from white families attained this level, compared with 46% from Bangladeshi families, 42% from Pakistani families, 41% from black African backgrounds and 33% from black Caribbean families.\textsuperscript{32}

Attainment in vocational education is poor and vocational qualifications are seen as a second class option for low achievers. The clearest demonstration of this is that 84% of the lowest third of GCSE achievers and fewer than 10% of the top third take vocational qualifications.\textsuperscript{33} While the new vocational GCSEs have got off to a satisfactory start, action is needed to ensure high levels of achievement in all courses. Relevant experience in industry must be made available to more pupils. At present too few schools manage this well. Employers recognise that these vocational courses can play a key role in improving pupil behaviour, but if parity of esteem between academic and vocational routes is ever to be achieved, they must not be presented as the courses for the disaffected or less able.
Adults in the workplace
There is a body of evidence to suggest that many UK firms are committed to training. Employers invested £23.5bn on training per annum, compared with the Learning and Skills Council’s budget of £9bn.34 The CBI’s Employment Trends Survey consistently shows that employers believe that the two most important human relations factors influencing firms’ competitive advantage are management and workforce skills – 84% of employers faced with skills gaps in their workforces respond by increasing training and/or increasing the number of trainee programmes. UK employers continue to value the Investors in People (IiP) standard, with over 37,000 firms having achieved IiP status to date and a further 24,000 committed to achieving it – covering nearly 40% of the workforce. Recent data from the European Commission illustrates that the UK performs well against its European competitors in participation in skills development: 21% of the UK’s adult population had taken part in education and training in the previous four weeks – the second highest among member states and well above the EU average of 9%.35 UK companies compare very well internationally on training – almost half (45%) of employees participated in training in 2003, compared to the OECD average of 27%, and had, on average, 30 hours of training in 2003, well above the OECD average of 21 hours. But there is no room for complacency: 40% of small businesses offer no training to their employees.36

Attracting young people
UK employers still struggle to attract recruits of sufficiently high calibre, particularly in the important scientific, engineering and IT disciplines. When compared with the prolific output of India and China, in the UK we all need to do more to attract our young people to careers in these disciplines. I have long taken the view that a significant part of this problem lies with industry itself. The ‘dark satanic mill’ image, particularly of the heavy engineering industry, coupled with the constant publicity of manpower reductions in larger companies, has certainly not provided a good starting point when persuading young people about to embark on their working lives that an exciting, challenging, rewarding and secure career is on offer in these industries. Industry needs to work harder at getting this message...
across. BAe Systems, where I was Chief Executive until 2002, used to encourage many of its engineers to spend time in their local schools for precisely this purpose.

Some practical exposure to projects closely relevant to industrial practice can also be a very good way of doing this. On one occasion BAe challenged teams from 100 schools across the country to prepare the initial parametric design for a new generation airliner. We provided engineering support locally to advise the teams on how to go about this, and how to work through a programme and submit a proposal. Out of the 100 proposals, we selected the six most promising and regrouped the schools into six teams to develop them further. The teams had to devise ways of working effectively by telephone and using the internet and eventually to progress the designs to model standard. The major components of the models had to be built in locations remote from where they were designed and were then brought together for final assembly. Each of the teams, together with their parents and teachers, assembled in a large marquee on the airfield at Fairford in Gloucestershire at the opening of the Royal International Air Tattoo. The teams presented their projects to the 1,500 people present. The degree of innovation was startling. Some of the teams had even written the menus for the on-board catering and designed the cabin crew uniforms. There was an air of almost tangible excitement, real engagement and tremendous motivation and enthusiasm among all those present. I do not know how many of those young people eventually went on to engineering or design careers, but I do know they will have made their choices with a much more informed background than might otherwise have been the case.

One of my colleagues was fond of telling the story of a party of schoolchildren about to tour one of BAE’s factories in the north of England. The female teacher accompanying them was overheard saying: ‘I want you to pay close attention today girls, because if you do not do well in your exams this is the kind of place where you may end up!’ Clearly the staff in our schools have a big impact on how young people think about their career choices. It is absolutely critical that teachers themselves have a real appreciation of industry, commerce and business today if they are to be able to give good advice to those for whom they are responsible.
There has, rightly, been much emphasis recently on the need for us to improve on our performance in teaching vocational skills to pupils of secondary age. One of the most important ways of doing this is encouraging young people to take on industrial apprenticeships. Two-thirds of respondents to a 2004 survey published by the manufacturers’ organisation the Engineering Employers Federation (EEF) and SEMTA, the sector skills body for engineering and manufacturing, were advised by their teachers to remain in full-time education, by far the majority to study A levels.\(^{37}\) The survey also showed that:

- only 1 in 5 were advised to apply for apprenticeships;
- 83% were given little or no information on apprenticeships;
- 33% believed the advice they were given was based on what was best for the school rather than what was best for them as individuals.

The survey adds to the evidence from a previous EEF survey of 600 senior manufacturing managers in the UK, France and Germany, which showed that UK manufacturing employers across all sectors and sizes of firm believed poor careers advice was by far the strongest drawback in recruiting apprentices. This was in stark contrast to French and German employers, who saw it as a positive factor.\(^{38}\)

Many major UK employers are strongly in favour of apprenticeships, although the demand for apprenticeship places still outstrips the supply. A ready supply of employers motivated to offer apprenticeships, and who have a high calibre of skills within their existing workforces, is limited. Some CBI members report that they achieve apprentice completion rates close to 100% when they are able to choose high calibre students. However, completion rates suffer because young people lack the appropriate basic skills (two-thirds starting an Advanced Apprenticeship do not have a level 2 qualification) and many are unable to adapt to the requirements and expectations of working life. Another reason often given for non-completion is the poor quality careers advice given to young people.\(^{39}\)

Many professional institutions are focusing on providing effort and resources to help address this problem. One good example is the Royal Academy of Engineering’s BEST pro-
gramme, but there are many others. Most employers are prepared to help their local schools and colleges through a range of activities – offering work experience, providing employees to talk to students or mentor individuals, or encouraging employees to stand as governors. Employers recognise that they can play a key role in helping to raise business awareness among young people: among CBI members, 59% are involved with work experience for 14-16 year-olds, and 55% for 17-18 year olds. Similarly, employers are willing to play a positive role in assisting with the design of vocational courses through Sector Skills Councils, and providing job-specific training experience in the workplace. Employers have a responsibility to place high priority on increasing schools’ understanding of the world of work, and on understanding the links between skills development, individual performance and the ability to earn well and maintain a high standard of living.

Another important element in what the education system provides for employers is qualifications and grades that help them assess the potential of individuals applying for jobs. In order to do this effectively, we do need a set of grades that differentiates effectively – a recommendation by Mike Tomlinson in his review of 14-19 education, and picked up in the 14-19 White Paper. An A grade has to mean A grade capability and performance if it is to be useful and meaningful to employers. This applies equally to industry and to the university system. Life is, by and large, a competitive process and it is important for young people to recognise early that there is a link between application, effort, achievement and success. It is certainly incumbent upon the education system to try and offer equality of opportunity, and to develop successful strategies for motivating young people to learn, but competition is essential to achieving high performance and is to be encouraged.

We also need to be very wary about tolerating a cultural climate in our schools and colleges in which academic achievement is seen as ‘uncool’. It is important, if we are to achieve the all-round performance we are looking for, that social and communication skills also receive attention. The government is currently working hard to develop and implement strategies for making vocational qualifications as valued in our society as academic ones. We need to be realistic, though, about what can
be achieved and how long it will take, as this dichotomy springs from the culture of our society. We will have to make a profound change to the way society is seen to value vocational skills if the endeavours of government are to bear fruit. Introducing a diploma system that theoretically gives equal status to academic and vocational achievement, as advocated by Tomlinson, is not necessarily an effective way of achieving this. His report certainly drew attention to the issue, but the dislocation and disorientation for pupils, teachers and employers that abandoning the existing A level and GCSE system would involve is not something to be taken lightly.

The place of lifelong learning
Where does lifelong learning fit in this debate on the role of education? It is vitally important that the opportunity to learn beyond the confines of traditional compulsory, further and higher education is available to all those in work, and that the education and training provided is well structured and relevant. This is particularly relevant today, because people will increasingly have to work longer, and the skill sets they will need to do so are likely to change dramatically over the course of their working lives. It is estimated that 80% of the workforce of 2020 is already in it, and they will need to learn and develop new skills as their careers, industry and the economy progress. The FE White Paper may extend entitlement to free education to those up to the age of 25, but the education system remains geared to the young as the workforce itself continues to age. This often leaves the burden of training to businesses themselves. As we have already seen, many British companies do not need teaching about the value of good training. To put it in crudely economic terms, the challenge, and the major cost factor, in a busy workplace lies in releasing individuals who are generating revenue through the work they are doing to spend time developing their skills.

learndirect, the online learning network operated by UfI (University for Industry), the organisation of which I am chairman, is targeted at employers looking for a way to resolve this issue – particularly to rectify the basic skills needs of those who have left school inadequately prepared for the world of work, and increasingly to provide courses and qualifications in IT and

40 Leitch (2005).
managerial, organisational and functional skills. learndirect is also particularly well suited to compliance training, whether in health and safety, financial regulation or any other area where it is important both that an employee takes a course, and has their competency tracked and tested.

Online learning lends itself readily to the work environment. It enables employees to learn in a way that is highly flexible, at times which suit them and the demands of the job, and that has the potential to significantly reduce the cost of delivery because it takes place on-site. These benefits are of relevance to all sizes of organisation, but particularly so for small and medium-sized enterprises, where it is particularly difficult to release key employees. Online learning enables people to study when convenient, to break off to take critical customer phone calls or deal with tasks which cannot be postponed, and to return to their course once the issue has been dealt with. Their ability to train on a computer at work, at home or from a learndirect centre provides unparalleled flexibility.

Further education, in general, plays a critical role in determining the skills of the UK’s workforce, and the April 2006 FE White Paper is right in its ambition ‘to make FE the backbone of England’s economy.’ 41 The review by Lord Sandy Leitch into the UK’s skills poses a serious and urgent challenge: even if the UK meets its existing ambitious targets to improve the UK’s skills profile, we will still fail to have a world-class workforce. Of equal concern, at least four million adults would still not have the literacy skills of an 11 year old and 12 million would not have numeracy skills at this level. 42 The impact on employers that this scenario poses really cannot be underestimated.

It is encouraging to see the emphasis being placed on lifelong learning by the TUC. Current TUC and union activity in skills and training includes over 8,000 union learning representatives and over 450 union learning fund projects. The TUC is bringing all its learning activities under a single ‘Union Academy’ banner, which will provide a wide range of services to support union members’ education and training, train union officers and broker training courses.

42 Leitch (2005)
Conclusions

In summary, all is not doom and gloom in the world of education as far as employers are concerned. The education system teaches some of the right skills. Many parts of the education system are producing highly capable and well-educated individuals. The UK has an enviable reputation in science research, and we have two universities that rank in the top 10 internationally. We have achieved some remarkable improvements in our primary education over the last decade. However, the system is still failing significant numbers of our citizens in equipping them with the basic skills they need for life and employment. In tackling this challenge we need to be clear about our order of priorities and to pose once more the question about the purpose of education, to make sure that the measures we adopt for improving standards are as simple and straightforward as we can make them.

From primary to further education, government should work harder to resist the temptation to launch a plethora of different initiatives and schemes. It should select the small number likely to make the largest difference, properly fund and support them, give them time to be successful, and continue to diagnose their progress and success critically. Indeed, in September 2006 a report by the Education and Skills Committee found present planning and funding mechanisms for skills training to ‘appear incoherent, over-complex, burdensome, and often act as a barrier to further education’s development.’ We need to streamline and simplify if we are going to make the education system work for individuals, for businesses, and for the economic and social health of the UK as a whole.

Once a coherent, overall approach is in place, further effort should focus on incremental improvements and fixes. In the same way as a business, those responsible for the implementation of education policy should work on the principle of a continuous improvement loop until we have a highly polished and effective system, before proceeding to further initiatives. There is a parallel sporting analogy: just as in many sports doing the basic things really well is much more important than trying many new things whose complexity and lack of integration merely confuse those whom we expect to implement them, so it should be in education. Two of the most effective tools for
improving industrial performance over the last few years have been the continuous improvement model of the European Foundation for Quality Management, and Investors in People, both of which are based on the principles of the continuous loop improvement process.

Industry’s requirements from the education system are actually straightforward: industry looks to government to prioritise the basic skills of literacy and numeracy, as employers need people who can read and write effectively, and who can master the basics of mathematics. An employment trends survey published in 2004\(^4\) showed employers’ top three priorities to be:

1. ensuring all young people leave school literate and numerate;
2. addressing the shortage of qualified teachers and increasing quality of teaching;
3. improving Modern Apprenticeships to suit employers and young people better.

The diploma was ranked a poor fifth place in the survey – only 20% thought it was a priority. Our highest priority should be to deliver measurable improvements in these three priority areas, and replicate in secondary education the recent success in improving standards in primary education. Then industry, trades unions, universities, colleges of further education and other providers should continue to work together to provide as successful system as possible for lifelong learning. If we can do this effectively we can produce motivated and qualified people who will ensure that we have a highly competitive economy to meet the challenges of the 21st century. That challenge is staring us in the face today and its urgency cannot be overstated.
3. Extra-curricular and Extended School Programmes and Positive Youth Development

Jacquelynne S Eccles and Janice L Templeton

Recently, much attention has focused on the possible benefits of extra-curricular activities, service learning experiences, and out-of-school activities for the development of children and adolescents. There is also increasing interest in such programmes in terms of their usefulness for inclusion in extended school programmes in the United Kingdom. In 2002, the US National Research Council/Institute for Medicine (NRC/IOM) Panel issued a report on community and school-based programmes that promote youth development. In order to facilitate theory development in the field of positive youth development, this committee focused much of its report on identifying a set of personal and social assets known to be predictive of healthy functioning, and then identifying what was known about the contextual characteristics likely to facilitate the development of these assets. The committee proposed that linking specific contextual characteristics to specific forms of asset development could provide a theoretical framework for both designing and then evaluating the kinds of positive youth development programmes that could be implemented in extended school settings. The committee stressed the need for stronger theory underlying the design of positive youth development programmes. It argued that the field needed to have clear...
theoretical principles underlying both the selection of developmental goals and the design of experiences needed to facilitate these developmental goals. In this paper, we summarise the conclusions drawn by the NRC committee and by Eccles and Templeton (2002) in a subsequent article regarding the assets that promote youth development and the characteristics of contexts that have been shown empirically to support this development. We then describe two specific programmes that illustrate the best use of such a theoretical approach.

**General personal and social assets**

As a first step towards developing a theoretical framework to guide the design and evaluation of positive youth development programmes, the NRC/IOM committee set out to identify the specific individual level characteristics for programmes to promote healthy development. Admittedly selecting programmes’ goals is a value-laden activity. Nonetheless, there are now sufficient longitudinal studies to begin to identify several personal and social assets that facilitate optimal developmental trajectories (Scales and Leffert, 1999). Such a list makes it possible to adopt a scientific evidence-based approach to identifying what programme characteristics ought to be if their goal is to facilitate the development of a specific set of personal and social assets among its participants. Too often programmes are evaluated using ‘outcomes’ that are not well related to the activities provided by the programme. Not surprisingly, such evaluations often end up concluding that the programme had little effect on the measured outcomes. Good programme design and evaluation needs to be based on the theories underlying the supposed links between programme experiences and the developmental changes likely to occur as a result of those experiences. Too often programmes do not have a well-articulated theory of change on which to base either programme design or programme evaluation. Identifying both developmental assets likely to be linked to the behaviours we want to see in our young people and the types of experiences likely to foster those assets is a necessary first step toward generating good theories of change for programme design and evaluation.

Drawing on long-term longitudinal studies, the NRC/IOM committee identified the following three sets of personal and
social assets that are empirically related to both positive development during middle childhood and adolescence and healthy functioning during adulthood: intellectual assets, psychological and emotional assets, and social assets.\textsuperscript{48}

**Intellectual assets**
Academic success emerged as one of the strongest and most consistent predictors of mental health, educational and occupational attainment, pro-social values, low levels of problem behaviours and many other indicators of positive outcomes during both adolescence and adulthood. The NRC/IOM committee also concluded that there is solid evidence regarding the developmental importance of the following types of skill acquisition: knowledge of life skills; good critical thinking skills; and good decision-making skills. The committee also concluded that in-depth knowledge of multiple cultures is an asset in modern, Western societies because of the increasing need to be able to navigate across multiple cultural contexts.

**Psychological and emotional assets**
Strong empirical support emerged for the following psychological and emotional assets: good mental health and positive self-regard; good self-regulation skills (e.g. emotional and social coping skills, planning and resistance skills); a strong sense of self-efficacy and competence in valued domains; pro-social values (e.g., the desire to help others and positive feelings of empathy towards others); a coherent personal identity; and a sense of purpose or ‘mattering’ in life. In addition, the committee concluded that positive and coherent identifications with ascribed, social category based groups (i.e. male or female, African American, Hispanic, or other ethnic/racial groups, social class etc.) is emerging as an important asset for individuals who are members of such groups likely to experience discrimination.\textsuperscript{49}

**Social assets**
One of the strongest motivational needs is the need to belong. Thus, it is not surprising that ‘connectedness’ is predictive of many positive outcomes. Connectedness includes feeling connected to and caring about other people, feeling part of and valued by larger social networks, and feeling attached to social

\textsuperscript{48} Eccles and Gootman (2002), op.cit.

institutions such as school, church, nation and political parties. Connectedness to social institutions, as well as to one’s community, is also a central value in democracies. Concern over lack of connectedness to social institutions has been raised by researchers interested in the importance of social capital as well as by researchers and policymakers interested in declines in civil society. Finally, Larson, Wilson, Brown, Furstenberg and Verma (2002) noted that flexible social skills and multicultural knowledge are critical to navigate the demands of our multicultural communities, which expose youth to diverse ethnic groups who look different, speak differently and have different values.

Goals of positive youth development programmes

Many types of positive youth development programmes have the goal of promoting the assets outlined above. For example, service learning programmes explicitly target the fostering of civic responsibility. Closely linked to this objective are goals related to increasing understanding of diverse groups with diverse needs, and increasing commitments to future service in one’s communities. In essence, this means increasing engagement in the kinds of activities and behaviours considered critical to having a civil society and decreasing the rate of detachment from others and ‘bowling alone.’ Positive youth development programmes of all kinds also explicitly indicate that their goal is to foster a wide range of intellectual, social and emotional assets. Positive youth development programmes also often want to prevent youth involvement in a variety of risky or problem behaviours, including delinquent behaviour, use and abuse of drugs and alcohol, and the early sexual activities linked to sexually transmitted disease and teenage pregnancy.

The question now becomes: what types of experiences are likely to actually accomplish these goals? The same question, of course, was critical to the NRC/IOM committee’s task of recommending which positive youth development programmes work. Too often, popular positive youth development programmes do not have a clear theory about the link between programme features and the supposed assets likely to be influenced by participating in the programme. The assets chosen for the evaluation are often based on goals unrelated to the programme itself. For example, almost all positive youth development pro-

---


gramme evaluations looked at by the NRC/IOM committee included measures of academic achievement and school engagement, even though there was no theoretical reason why the specific characteristics of many of the programme should influence academic achievement or school engagement. We believe that identifying a clear list of characteristics likely to support the development of these assets is a critical first step in building theories of change, which, in turn, can be used to guide the design and evaluation of service learning programmes.

Identifying contextual features that might facilitate asset development
In order to move forward in identifying likely important programme features, the NRC/IOM committee reviewed what was known about the contextual characteristics associated with positive developmental outcomes, using both longitudinal and experimental studies of quite different social contexts. The committee reviewed socialisation studies related to the family, schools, peer groups, positive youth development programmes, prevention programmes, and service learning programmes. The committee’s goal was to identify common contextual characteristics with strong empirical support linking these characteristics to increases in the types of assets discussed above. Eccles and Templeton (2002) extended this strategy. The list Eccles and Templeton generated includes:

- developmentally appropriate levels of structure and adult supervision
- psychological and physical safety
- support for feeling that one belongs (inclusiveness and emotional support)
- support for feeling that one is competent (focus on improvement and findings ways for all youth to feel competent)
- support for feeling that one matters to the programme (opportunities to play strong leadership roles and to engage in activities that truly help the communities in which the youth live)
- embedded learning opportunities related to critical skill areas
- and strong pro-social norms among the youth themselves.57

Given the way we generated this set of features, it is not surpris-
ing that they are quite consistent with most major theories of positive developmental contexts, including Csikszentmihalyi’s work on flow,\(^58\) Deci and Ryan’s work on self-determination theory,\(^59\) Eccles and colleagues work on stage-environment fit,\(^60\) Masten’s work on resilience,\(^61\) Midgley, Maehr and Ames’ work on goal theory,\(^62\) Scanlan’s work on sport commitment,\(^63\) Bandura’s theory of social learning,\(^64\) and constructivist theories of learning.\(^65\)

In the next sections, we discuss briefly how sets of these contextual characteristics can facilitate positive development in extra-curricular and extended school day programmes. We focus on those features for which there is consistent evidence of positive associations between the contextual features and indicators of the types of positive assets outlined earlier. However, before providing this overview, we want to say just a little about the nature of the evaluative evidence in this field. A comprehensive review of the evidence of an association between participation in programmes with these programme features and increases in the kinds of assets discussed earlier is provided in both Eccles and Gootman (2002) and Eccles and Templeton (2002).\(^66\) In these publications, we argued that going into a review of evaluation studies of positive youth developmental programmes with a theoretical framework would tell us more about the kinds of features that are likely to be effective than just deducing these features from the existing evaluation studies. We took this stance because so few programmes are designed with a strong theoretical orientation in mind, and so few evaluation studies actually measured a comprehensive set of programme features.

It is important to note that evaluation research in this area is plagued by many methodological issues:

- lack of rigor in design
- inadequate control or comparison groups
- absence of implementation, evaluation and dosage analyses
- failure to test for group and individual differences in the impact of participation
- failure to fully report null finding
- and failure to pay adequate attention to fade out effects.

Most importantly, many evaluations did not use a well-specified
theoretical model of change. That is, the evaluations were not based on clear hypotheses about which particular programme features ought to be related to which particular outcomes for which particular participants. Nor were the evaluators guided by a clear theory about what is needed for successful implementation of the programme’s curricular goals. Too often, the evaluators were forced into this atheoretical position because the programmes themselves were not created with a well-articulated theory of change. Thus, from a strict methodological perspective it was not possible to draw many firm conclusions regarding causal links between extra-curricular and other positive youth development programmes and participant outcomes. This said, the features we summarise next did emerge as important across many different programmes and a wide variety of developmental assets.

**Developmentally appropriate structure and programming**

Many developmentalists stress the importance of developmentally appropriate levels of structure.\(^{67}\) For example, work by Eccles, Midgley and their colleagues has documented the negative impact of developmentally inappropriate structures during the middle school and junior high school years on early adolescents’ academic motivation, school engagement and mental health.\(^ {68}\) For adolescents, developmentally appropriate structure means clear rules that are decided upon in a democratic manner and are fairly and uniformly enforced. The greater the involvement of the youth themselves in deciding upon and enforcing the rules under the guidance of adult leaders, the better. In addition, developmental appropriate structure in adolescence is reflected in increasing opportunities for leadership in all aspects of the programme.

Relatively few quantitative evaluations of general positive youth development programmes provided sufficient information with which to determine whether this was a programme characteristic that mattered for their success. Unfortunately, the best evidence is that youth drop out of these programmes as they mature into adolescence.\(^ {69}\) In contrast, qualitative evaluations of positive youth development programmes highlighted the success of those that provided opportunities for adolescents to take on leadership roles as they mature and become more

---


66 op.cit.; Eccles and Templeton (2002) op.cit.

67 Eccles, Midgley, Wigfield and Buchanan (1993) op.cit.

68 ibid.

69 McLaughlin (2000) op.cit.
expert in the programme areas. These studies provide descriptive evidence of the importance of programmes responding in developmentally appropriate ways to the growing maturity of their participants.

**Social support from adults and peers**
Social and emotional support was a major implicit component of all of the programmes reviewed in Eccles and Gootman (2002) and Eccles and Templeton (2002).\(^{70}\) For example, the intentional learning component of most service learning programmes and the stress on social supports in mentoring and coaching programmes provide excellent examples of social support from adults. In many cases, although ‘mentoring’ was not explicitly stated as a programme goal, the adult-youth contact in these programmes took the form of mentoring. To the extent that school-based positive youth development and extra-curricular programmes are able to increase the social bonding between students and their teachers, these programmes should facilitate students’ more general engagement at school. There is ample evidence that feeling that the school teachers care about you and feeling attached to school as a social institution increase students’ engagement in the academic tasks of school.\(^{71}\) If extra-curricular programmes can facilitate these feelings, then they might also influence academic achievement. In addition, because social support can create extended bonds between adults and young people, this characteristic of extra-curricular programmes is likely to increase young people’s social capital.

**Inclusive social networks and structures**
Researchers interested in many different social contexts have concluded that healthy development is promoted by fostering a sense of belonging, since it is such a strong human need.\(^{72}\) This theme was evident in many of the programmes reviewed by Eccles and Templeton, particularly those included in McLaughlin’s Community Counts qualitative evaluation.\(^{73}\) Theory and research both suggest that creating this sense of belonging is facilitated by the following types of practices: modelling of caring; providing opportunities to be included and to be respected; active outreach to include many types of participants; and making sure all participants are included in
all components of the programme.\textsuperscript{74} This would involve creating opportunities for those with different interests and different skills levels to be fully functioning participants rather than allowing some to become bystanders or onlookers while others are major participants. It also involves helping the participants to build strong social networks with a variety of adults in their communities so that they can turn to these adults for social support and future networking. Finally, in multicultural societies such as the United Kingdom, it means providing support for developing multicultural competences and social networks.

**Strong and clear pro-social norms**
Messages about social norms are a common feature of most of the programmes reviewed by both Eccles and Gootman (2002) and Eccles and Templeton (2002).\textsuperscript{75} Many of these programmes explicitly indicated that they promoted positive social norms of caring, cooperation, non-discrimination and non-violence to the youth. Some also stress the importance of school engagement and academic achievement, as well as the importance of diligence, hard work, life planning, civic engagement and volunteer service. These norms should support greater engagement in school and more investment in developing one’s skills, as well as increased avoidance of engagement in the kinds of problem behaviours that mortgage young people’s futures.

**Intentional and embedded learning experiences**
In her report Community Counts, McLaughlin concluded that a key feature of successful youth development programmes is their similarity to intentional learning environments.\textsuperscript{76} She summarised the characteristics of intentional learning environments in the following ways. First, intentional learning environments are knowledge-centred, assessment-centred and youth-centred. Being knowledge-centred includes having a clear learning focus (i.e. being about something in particular), having high quality content and exemplary instruction, using principles of embedded curriculum so that a range of academic competences and life skills are taught within each type of activity, and using many different types of ‘teachers’ including the youth themselves.

Being assessment-centred includes having clearly articulated cycles of planning, practice and performance; regular
opportunities for feedback and recognition, often through public performances and other forms of celebration; and feedback focused on improvement and meeting specific objectives rather than on competition and social comparison.

Being youth-centred includes responding to diverse talents, skills and interests by providing a rich array of activities with opportunities to participate at all levels of expertise; identifying and building on the strengths of each participant by providing opportunities for each youth to do what they could do best, as well as to learn new skills; using developmentally and culturally appropriate materials that allow youth to grow in skills and leaderships within the specific activities; and using materials and topics likely to be of interest to the youth. McLaughlin concluded that these features of successful programmes are key to their impact on young people’s intellectual and skill development.

Motivational scaffolding
Two of the key psychological assets identified by the NRC/IOM report are a strong sense of personal efficacy and mastery motivation.77 Research in the field of educational psychology suggests that the acquisition of these assets is supported by the following learning context characteristics: focus on mastery rather than competitive performance; feedback focused on improvement; provision of challenging material with many opportunities to demonstrate improvement and mastery of these materials; minimising social comparison of current levels of competences; and high mastery expectations for all participants.78 Clearly, these types of learning contexts fit under the heading of intentional learning environments. The experience of positive motivational scaffolding is likely to be a major mediator of the impact of successful extra-curricular and positive youth development programmes on academic achievement. To the extent that participating in these programmes helps students develop a mastery orientation to school-based tasks and a stronger sense of personal efficacy, participation may also affect the students’ orientation to learning in their other school courses. If so, then their grades and their engagement in these other courses may also improve.

Opportunities to experience being mattered and leadership
Eccles and Templeton (2002) argued that the need to feel like
one really matters and the need to have opportunities for leadership are key to adolescent development. We also argued that the absence of such opportunities is a key reason that many youth drop out of organised activities and disengage from school. Evidence focused on the evaluations of service learning programmes, in particular, supports these suggestions and highlights the power of such programmes to enhance positive youth development across the board. In many ways, providing opportunities for youth to experience being mattered, challenged and to take leadership roles by allowing them to make meaningful contributions to their community is a sine qua non feature of service learning programmes. Not surprisingly then, it was the feature most commonly evident in successful programmes that included a service learning component reviewed in Eccles and Gootman (2002) and Eccles and Templeton (2002). By their very nature, these programmes provided opportunities to make a difference in one’s community. They also stood out in the extent to which the youth themselves were allowed to play a leadership role in selecting and overseeing these service activities. Both of the examples of programmes we summarise later include a strong focus on providing opportunities for community service.

**Two examples of successful positive youth developmental Programmes**

*Teen Outreach Program (TOP)*

TOP was designed to help adolescents understand and evaluate their future life options and also develop life skills and autonomy in a context featuring strong social ties to adult mentors. Interestingly, even though its primary stated goal was prevention of teen pregnancy and risky sexual activity, neither of these outcomes is explicitly targeted by the programme (e.g. less than 15% of the ‘official’ curriculum deals with sexuality). The three programme components are supervised community service, classroom-based discussions of service experiences, and activities related to social-developmental tasks of adolescence. Participants choose their volunteer activities with the assistance of trained staff who then help match each student’s interests and skills with community needs. The TOP sites offer a minimum of twenty hours per year of volunteer service for each partici-
pant. In the evaluated programmes, participants averaged 45.8 hours of volunteer service during their nine months of involvement.

The teen outreach curriculum provides a framework for classroom meetings that include structured discussions, group exercises, role playing exercises, guest speakers and informational presentations. These discussions are designed to help students prepare for, and learn from, their service experiences by dealing with topics such as lack of self-confidence, social skills, assertiveness and self-discipline. Trained facilitators lead discussions on such topics as values clarification, managing family relationships and handling close relationships. Participants are encouraged to discuss their feelings and attitudes.

There have been several evaluation studies of TOP. Although little explicit attention is given to the programme goals, the desired results of reduction in the rates of pregnancy, school failure and school suspension were achieved in all evaluations. We can only guess as to the reasons for the programme’s success; however, community service and intentional learning opportunities appear to be a key component. The students who performed more volunteer service were at lower risk of course failure while they were involved in the programme. Also, implementation quality of the TOPS curriculum did not significantly influence programme outcomes, suggesting that it is the community service and possibly the mentoring components that are most important.

Cross-age tutoring
Cross-age tutoring involves an older student teaching a younger one under a teacher’s guidance. The model provides an authentic task for tutors to practise the skill being taught and thus improve their own performance. As early as 1978, Cognetta and Sprinthall reported on the benefits of tutoring on the tutor as well the tutored. In their study, high school students who tutored seventh and eighth grade students reported improvements in self-worth, communication skills and sensitivity toward others. A meta-analysis by Cohen, Kulik and Kulik (1982) reported improvements in maths and reading achievement, self-concept and attitudes toward the subject matter. Furthermore, evidence suggests cross-age tutoring benefits

84 P V Cognetta and N A Sprinthall, ‘Students as Teachers: Role taking as a means of promoting psychological and ethical development during adolescence’ (Character Potential: A Record of Research, 8(4), pp. 188-195, 1978).
those who need it most – at-risk students.\textsuperscript{86}

One of the best known cross-age tutoring programmes is the Valued Youth Partnership Program sponsored by Coca-Cola and the Intercultural Development Research Association (IDRA) in San Antonio, Texas. The programme trains at-risk middle school students to tutor elementary school students. Three years is the minimum age and grade difference between tutor and tutee. The tutors, or ‘valued youth’, learn skills to be effective tutors and to design instructional materials in weekly training sessions. These focus on communication skills, child development theory and effective teaching. The tutors work with their tutees at least four hours per week, participate in two annual field trips to places of cultural and economic importance, and attend presentations by community role models. The students are recognised for their efforts with stipends and rewards, such as a banquet and T-shirts. In their evaluation of this programme, Cardenas and colleagues found improvements in the reading and maths achievement, self-esteem, attitudes toward school, dropout rates, truancy and tardiness for at-risk tutors.\textsuperscript{87}

An important aspect of this programme is the focus on implementation evaluation. IDRA collects data on perceived self-concept, language proficiency, aspirations, feelings of belonging in school and relationships with family through surveys, formal observations and in-depth interviews. The structured implementation component of the evaluation ensures the programme is being delivered appropriately and, if not, assists in getting implementation on track.

**Conclusion**

Although support is growing for the importance of the contextual features discussed earlier, more experimental studies that directly manipulate these features are needed before firm causal conclusions can be reached. There is a major need for more theory-driven programme design and evaluation. Staff for many of the programmes we reviewed did not use strong theory in designing their offerings. They did not develop a theoretically based rationale linking specific programme features to specific youth outcomes. Instead, it seems as though they designed a programme that they liked based on a variety of inputs. Too often, the evaluators of such programmes then seemed to select


outcomes that the evaluators believed would be convincing to funders and policymakers. Often, the interventions yielded mixed results. Too little attention was paid to finding out why specific components of the programme either worked or did not. Future programme design and evaluation needs to overcome these limitations. Nonetheless, the evidence for the two programmes outlined above in detail is quite promising. Such programmes are already being implemented in extended schools in the United Kingdom. As more are put into place, careful evaluations are needed to determine which aspects of the programme are most effective for which developmental outcomes.
4. Learning to become one of us

Ruth Silver and Wendy Forrest

There are powerful reasons to think that all effective learning is experiential and practical. However, the term ‘experimental and practical’ is now used, as in the 14-19 White Paper, to contrast with more theoretical, classroom-based activities and to describe the kind of learning needed to raise our national skills performance. This government is committed to tackle the persistent weakness of vocational education and the high levels of school leaver underachievement and dropout. Practical or vocational learning hits both priorities and is at the heart of both the 14-19 and the skills strategies. It is essential that current reform and investment recognise the kind of practical learning that works, and the ways that vocational learners are effectively engaged and supported to succeed.

The task is evident if we compare our participation or productivity with our European partners – and the European benchmarks are already overshadowed by global competition. The challenge has been recently restated by the Work Foundation:88 ‘Britain suffers from an incoherent and insufficiently valued skills training and skills development system. Perversely... it has sustained a high proportion of Europe’s top universities.’

We suggest that this positioning is not perverse at all. It is a clear and accurate reflection of our national priorities. Britain values higher education and the learning it delivers but has traditionally undervalued the alternatives and sought to force all learning into an academic template. We believe this government
is right to be ambitious about the numbers of our young people going to university, but we know that there are other routes to success. It is an enduring problem that all British education still bears the stamp of the universities, and that practical learning is overshadowed and under-rated. The special attributes of practical, skills-based learning are not valued and fostered. The particularly challenges for practical learning are not recognised and tackled.

Following the rejection of Tomlinson, the traditional August exam result mediafest confirmed these enduring attitudes. While Lord Adonis reassured us that the A level was here to stay, the Financial Times blew the whistle on the interests at stake by declaring: ‘The much revered gold standard was never worth defending. A levels were designed for the convenience of dons rather than young people.’

School achievements at GCSE, meanwhile, were overshadowed by claims that soft vocational qualifications were being used to skew the figures. Despite the misunderstandings at the heart of this debate, it was interesting to see the common ground shared by informed commentators from the different sides. Professor Alan Smithers recognised that ‘English school education has been lamentably weak in developing practical skills’, with school vocational courses lacking any real connection to the world of work. The head teacher quoted by the Financial Times defending vocational courses agreed that: ‘Many of the qualifications branded “vocational” are nothing of the sort. Technology courses could sometimes feel more like home-grown versions of Blue Peter.’

This has to change if we are to meet urgent educational tasks around underachievement and workforce capacity. Practical or vocational learning is key: providing new routes to educational success, tackling skills and productivity gaps and repositioning us for the future. The skills crisis is not around the corner; it is already here. In the construction industry, for example, we already face a shortfall of 300,000 skilled workers and current apprentices represent only about 10% of that missing workforce. Will the new strategic focus on learning for skills make the difference? There are a range of policy uncertainties – 14-19 diplomas, skills academies, credit framework, demand-led mechanisms and the work of the Skills for Business Network – that still leave big questions about how practical learning will

89 Financial Times, 18 August 2005.

90 Times Education Supplement, 26 August 2005.

91 Building the Future (Adult Learning Inspectorate, 2005).
be organised to meet the challenge. We believe that these policy choices must draw on the features of effective practical learning that many practitioners will recognise and that our current Edge-funded research clearly confirms.

**Effective practical learning**

There is surprisingly little research into what actually works in practical, vocational learning. In fact, this is the main finding from two recent surveys of work in the area.\(^{92}\) While there is considerable research into the ways in which vocational and work-related learning are managed, supported and funded, there is almost nothing about the learning process itself. Of course, much professional guidance developed within the learning and skills sector is highly relevant and draws on current practice. Yet much of this relates to specific aspects of wider learning processes and, again, there has been little focus on the general learning processes that support skills development. While there are well-established channels for academic investigation into vocational education and the relationship between learning and work, these are underdeveloped relative to countries like Australia, where skills-related learning is not so clearly perceived as second best.

This is at odds with the strategic importance of skills development – and the fairly consistent inspectorate messages that we have not yet got it right.\(^{93}\) Some have suggested that inspectors are working with an academic conception of effective learning that obscures their appreciation of good vocational provision. We think this interpretation of inspection outcomes is simplistic and wrong. Too many learners on vocational programmes drop out or fail to get their target qualification. Providers often have a poor understanding of the skills their learners bring. This means that some find themselves on the wrong programmes, and others have inappropriate or unchallenging personal targets. Learning is often not planned with sufficient attention to personal needs, progress is not monitored and learners don’t have a clear idea of how they are doing or what they need to do next. These are not issues that are specific to practical or vocational learning – but they do seem to be areas where vocational provision has a particularly urgent need to improve. We recognise these inspectorate concerns. They are

---

92 Review of Current Pedagogic Research and Practice in the Fields of Post-Compulsory Education and Lifelong Learning (Tavistock Institute, 2002); Outcomes and Processes in Vocational Learning, A review of the literature (Learning and Skills Research Centre, 2005).

93 Survey Report into Learning at Work (Adult Learning Inspectorate (ALI), 2003); Chief Inspector’s Reports (Ofsted and ALI, 2004); Building the Future (ALI, 2005).
issues that hold back learner success and we think they must be addressed in any effective system of practical learning.

There is strong agreement across the available empirical research, the sector-based action research and the inspectorate surveys that employer links are critical to effective vocational learning. The deeper and more intrusive these links, the better the learning. This would seem to suggest a clear way forward – locate vocational learning with employers. Unfortunately, it isn’t that simple. The ideal would be employers training their own staff and offering them real opportunities to advance. Much of what is termed work-based training does not have that tie in to an ongoing career and, according to the Adult Learning Inspectorate (ALI), even employers training their own staff no longer have a quality advantage. Some work-based training is excellent but the kinds of concerns raised by the inspectorate tend to occur most frequently in work-based learning. And the feedback from learners bears these out. The Learning and Skills Council (LSC) National Learner Satisfaction Survey has consistently reported the poorest satisfaction profile from those on work-based programmes.

There are fairly obvious reasons why this might be so. Some employers can offer learners only a limited range of relevant experience, creating problems for both learning and assessment. They may rely on unqualified or inexperienced staff who cannot match their industrial experience with a professional understanding of learner needs. The support that they provide for the broader personal or learning needs is unlikely to match that available in learning institutions. Management of learning processes is often poor. Finally, there is simply not the employer involvement with learning that the industry needs, as the underdeveloped training opportunities in construction clearly indicate. Therefore a wholesale relocation of practical vocational learning into the workplace does not look like our best current solution.

So if we need to look at learning beyond the workplace itself, what do we mean here by practical learning? At its most straightforward, we think there is something special about programmes where most learners say, ‘I am learning to be an X (bricklayer, chef, stage manager, teacher)’. This kind of learning needs experience of the work itself, taking part in a way that
mimics and then becomes skilled practice. It’s about becoming ‘one of us’. An effective teacher must be a skilled, experienced and knowledgeable practitioner, but they also need to be more. What kind of learning relationship is needed to open the way to a new (usually more adult) work-based identity? It comes near to the relationship of novice and adept: a transformative relationship familiar to our learners through any number of martial arts-related cartoons and films. A good teacher will build understanding, pass on technique, offer telling stories, support and challenge novice behaviour. But more comes from just being around this teacher and tackling the work together.

What then are the critical features of effective practical learning? Teachers are recognised as adept by what they can do, what they have done and how they do it. Learning is like being at work. Tasks set are authentic and performance is judged against professional benchmarks. Teachers model, challenge, coach and stretch. Learners hone their skills and understanding by tackling genuine problems. How learners behave is shaped by relationships with customers/clients, colleagues and allied practices. They internalise professional standards, contrast these with amateur or cowboy practice, and recognise the ways in which standards might be legitimately varied. Learners become job-ready, work-ready, ready to be ‘one of us’.

**Realistic environments**
Learning that opens the door to the world of work must be delivered by experts in a working environment. It does not have to be real but it must be realistic: it has to get as close as possible. The manager of the Lewisham sport and leisure programmes is able to say to her learners: ‘This is the industry – in the gym, the fitness suite and the reception area. We don’t recreate the industry, we’ve got it here.’ Working restaurants with industry-standard kitchens, performance facilities with excellent technical support, construction workshops that mirror site conditions, motor vehicle workshops with the latest diagnostic machinery, industrial sewing machines and cutting equipment – all of these enable learners to tackle real work tasks in real work conditions.

The environment and the task will only seem real if the relationships are also based on work. Many of the teachers we
observed treat their students like apprentices and work with them. Joining the world of work also means working alongside allied trades and co-workers. It’s not just about what you can do but also about how you behave. For younger learners especially, work behaviours may be even more of a challenge than work skills. Some of the behaviours that need to change if learners are to be work-ready are well known: attendance and punctuality are often at the top of employer wish lists.

All our vocational teachers shaped new behaviours by getting learners to think from the customer point of view. At the most obvious, that’s about being punctual, polite and doing a good job. But there need to be constant reminders to instil this customer-centred framework. Trainee mechanics put themselves in the customer’s shoes when reminded that: ‘It’s the second most expensive thing anyone is ever going to buy; don’t get grease on the seats.’

The vocational teachers who contributed to the Perfecting Practice project had years – sometimes decades – of professional experience. They know that their credibility with learners absolutely depends on this. ‘Once they see you know your trade,’ we were told by a plumbing teacher, ‘you can see them visibly relax and get into it.’ He also knows his trainee plumbers learn by watching: ‘They get a feel for how I pick things up. I watch them and it’s like a mirror image of me.’ This begins to take us into the area of tacit knowledge, unconscious competence, knowing-in-action. No one will go as far as to tell you that it can’t all be written down, but they will say things like: ‘I can do it without knowing that I’m doing it’. Or, like the decorating teacher who asks her learners to ‘feel the paint’, it may be impossible to translate experiences into a competence description. Often the learners can only appreciate a professional job when they start to see things through an expert eye. Many people will not notice that the screwheads are lined up on a set of hinges, but that’s the way a professional carpenter will do it and learners pick that up without being told. In all the areas of work we looked at, the professional is often contrasted with the cowboy or the amateur. Becoming one of us means behaving like a professional, working to professional standards and sharing a passion for the work. You only get that by working alongside experienced and expert practitioners.
There is plenty of theory and research to show we learn by doing. An early years student told us: ‘If I have to do it on my own and work it out and concentrate then it will be hard and it’s going to take me longer, but that will make it easier to remember because of all the hard work I’ve put into it.’ A sport and leisure teacher confirmed the critical place of this understanding in the practical curriculum: ‘I think it’s the doing of it that turns someone into a fitness instructor. They’re transformed because they do the job.’ Behaving like you belong often starts with dressing the part. For young people especially, what you wear is heavily tangled up with who you are and who you want to be. Dressing up in chef’s whites or decorator’s overalls, recognising that actors start stripped down or nursery nurses stay relatively buttoned up is a powerful part of growing into the job. The way you talk is also, of course, an immediate clue to who you are and what you know. It’s not just about acquiring the technical vocabulary; every work culture will have unspoken rules about speaking. You don’t learn by being told but by being around someone who comes from that world.

All working worlds are strange and esoteric and that is much of the attraction. The excellent teachers we saw in action communicated a rich sense of the context and history of the work and passion for what they did. If we want new generations of highly skilled workers, we want them to learn from bricklayers who can’t pass a building without checking the bond or mechanics that can’t pass an open bonnet without getting stuck in. But traditional work cultures can also be conformist and excluding. Effective teachers prepare their learners to challenge, not simply comply. We saw excellent examples of teachers who used their own experiences or supported their learners to take on class, gender and race assumptions about who ‘fits’ what kind of work.

Real work and real learning are both about problem solving. This does not mean finding the answer in the teacher’s head or the one at the back of the book, it means finding any solution that works within your operating constraints. Open-ended problems occur naturally in learning environments with real customers and real tasks. Operating a restaurant, a fitness centre, a salon or a theatre will generate the kinds of challenge in which learning thrives. Sometimes customer preference, safety
and resources limit the real problems available to new motor mechanics, plumbers or nursery nurses. Creative teachers have a range of ways of simulating, increasingly through virtual experience, the authentic challenges which learners can’t yet take on. The problems may be electronically generated but the learners still have the opportunity to tackle them alongside expert practitioners.

The first test of any practical task is: does it work? But this is not enough to meet the standards expected of a professional. Expertise cannot all be boiled down to a series of measures, such as tolerance and time. As one of the teachers told us: ‘It’s observation. That’s why you can’t have teachers doing this kind of work who’ve never been in the trade. You can’t read it in a book.’ Having a clear grasp of professional standards also means understanding when and how these might differ from awarding body standards, employer standards or customer standards. A skilled professional can operate with enough flexibility to meet the situation within a standards framework that they have internalised. Learners pick this up from those who have done the work, not from books or even well-specified assessment criteria. They know the ‘right way’, even if this particular job calls for a more elastic view.

Finally, the excellent teachers we spoke to were clear about the wider keys to success. Learners who are both work-ready and fit for the future need far more than a set of time-limited work skills and have to recognise the impact of new techniques, new materials and new technologies at work. They need to understand the unpredictability and the inevitability of change and shake off the focus on a permanent present that leaves younger learners, especially, unprepared. Excellent practical teachers open their eyes by demonstrating the radical ways that work has transformed over time, and signposting the future. They build-in an expectation that skills will need constantly updating, and show that technical skills alone are not enough. Drawing on their own extensive experience, these teachers were able to tackle the behaviours commonly associated with employability but often claimed to be unteachable. Developing those generic behaviours that would secure the learners a future as well as a place at work was all part of ‘becoming one of us’.
Implications for the skills strategy
How does describing the kinds of experiences that characterise effective practical and vocational learning help us develop better opportunities for learners? And what are the implications for the skills strategy? What institutional arrangements can best deliver these experiences? What kind of qualification framework will best foster and recognise this kind of learning? What sort of teacher development opportunities should we provide to ensure that all practical and vocational learners have access to learning that works?

Vocational learning is policy-critical yet many new initiatives owe little to the kind of model we have described. We do not believe that the value of this kind of practical learning has been recognised in new – or newish – proposals about how learning is to be delivered and accredited. Let’s start by looking at the institutional arrangements that are at the heart of recent proposals and, in particular, the skills academies. This is an idea that emerged strongly from both the 14-19 and Skills White Papers but has perhaps been better publicised than described. The very name rather hedges its bets: these institutions will focus on skills but retain their academic allegiance right up there in their title. So what exactly will they be doing?

The 14-19 White Paper told us little of what a skills academy would actually be or do. It reaffirmed the five-year strategy commitment to involve more schools in post-16 delivery and talked about ‘leading and specialist schools in each area linked with colleges and Centres of Vocational Excellence (CoVEs) providing centres of expertise at national, regional and local level.’ The network will also be supported by new national ‘Skills Academies’. The Skills White Paper confirmed the strategic importance of the new academies as the ‘linchpin of national, regional and local partnerships to provide better vocational training’ and the intention to develop twelve skills academies over the next three years, but it did not provide the promised further details of how they would work. We now have the prospectus for the national skills academies, which confirms their position ‘at the apex of a network of high quality providers’ but makes an early declaration that it will not be prescriptive and is clear that ‘no one size fits all’. Some pointers may be offered by the two examples of current or planned academies given in the
white papers.

The Automotive Academy is government-financed but industry-led, and emerged from a Department of Trade and Industry (DTI) task force set up to raise UK standards and ensure global competitiveness for the motor industry. The Academy aims to ensure access to world class training rather than to deliver courses directly: it will broker and badge what other training providers offer. Yet, so far, very few of the opportunities it lists are either ‘academy validated’ or ‘industry approved’. None of the many programmes for entrants to the industry – courses for motor vehicle engineers – yet have any kind of Academy rating. 14-19 vocational learning doesn’t figure: validated programmes focus on leadership, management and quality improvement, and most are targeted at graduates and/or those with industry experience. The Automotive Academy does not get a specific mention in the National Skills Academy prospectus, and perhaps fails to meet the delivery requirements spelt out there, but the role of the academies in delivering leadership and management skills at level 3 or above is newly signalled in this document.

The Fashion Retail Academy does plan to recruit and qualify 16-18s and there is plenty in the description of the planned learning experience – working with established experts, learning through shop floor experience, developing the right attitudes and understandings as well as the skills – that we would recognise as effective practice. It looks like a valuable model but it is not yet linked to an industry-wide mission, so any wider impact is unclear. The Automotive Academy does declare itself a guardian of national standards with local spokes radiating from its national hub – an idea the white papers and the prospectus take up in sketching out the national role of the skills academies. However, these frontrunner academies suggest that there are still some big questions about the nature of the hub – and they offer very few clues about the planned spokes. We believe that such indications as there are suggest that there will be a retrenchment around a school-based offer that simply cannot provide the effective practical learning that we have described.

The clearest indication of government intentions remains the five-year strategy and plans to grow the post-16 involvement of specialist schools. The prospectus tells us that national
skills academies may sponsor specialist schools but will only link with CoVEs. This chimes with the widely reported views of David Bell, Ofsted Chief Inspector, about the need for new specialist schools to take the lead on work-related and vocational learning. Yet Ofsted’s own findings highlight the dangers of such an approach in its first reports into vocational GCSEs and A levels. In each case they questioned how far these programmes were seriously vocational: classroom environments were poorly adapted if at all; teachers were redeployed from academic subjects and lacked relevant industrial experience or understanding; there was confusion about the standards against which vocational work should be assessed; and general quality was disappointing. The 14-19 Nuffield Review has also queried the weakly vocational offer in schools: ‘Questions need to be asked about the appropriateness of some of the institutions which seek to deliver such qualifications – for example, the extent to which schools can deliver realistic vocational learning opportunities with the current staffing profiles and infrastructure.’ However high-performing, specialist or well-funded, it is a rare school that could reinvent itself to offer the breadth or depth of real work linkage found in colleges or work-based learning providers.

Closely related to the development of the skills academies will be the 14 new specialist diplomas. These will mix vocational and academic study and be ‘constructed largely out of existing qualifications’ including ‘any relevant GCSEs or A levels’. Despite the emphasis on employer partnerships, the White Paper tells us that the new vocational offer will be largely delivered directly by the schools. But the example offered of a catering programme – learning in a real professional setting, from experienced and expert chefs, in an industrial kitchen – looks fairly challenging for even a specialist school. Unsurprisingly, the four lines of learning selected to launch the diplomas – health and social care, engineering, information and communications technology (ICT) and creative and media – map more easily on to current school curricula and existing teaching and learning resources. But the re-badge of science, IT and art teachers to deliver these programmes will short-change those learners who really want to tangle with real world tasks. The diploma illustrations in the White Paper confirm the
retreat from Tomlinson’s vision to something much more safe and familiar. And the diploma also pulls us sharply back from a credit-based system aligned with a new qualification framework for adult vocational learning – another lost connection with the real world of work.

It appears to us, therefore, that the institutional and qualification arrangements at the heart of government strategy remain firmly tethered to the academic model which is, at best, the default setting to which education policy constantly reverts and, at worst, the only form of learning to which our culture attaches genuine value. We believe that much teacher education is also stuck in this outdated framework. In working with a wide range of practical teachers, the great majority of whom had received external recognition of their effective and often excellent practice, we were struck by the extent to which these teachers questioned the relevance of their initial teacher training experience and found it hard to identify direct benefit to their teaching practice. There was widespread frustration with the rather dry and academic experience of becoming a qualified teacher and, in particular, with the rather abstracted and word-heavy assessment regime. In their own practice, these teachers delivered learning through realistic tasks, often problem-based, tackled alongside seasoned and expert practitioners. Their learners demonstrated what they knew through what they did: evidence of achievement was largely drawn from practical, on-the-job outcomes. This was often contrasted unfavourably with their own training to become skilled teaching professionals, where the focus on actual teaching practice and the opportunities to learn alongside their peers and to develop collective solutions to shared problems is not sufficiently strong.

We feel an odd mismatch between current rhetoric and practice. Then Education Secretary Ruth Kelly’s speech to the July 2005 Skills Summit highlighted her government’s central commitment to ‘preparing every teenager for the world of work with programmes of learning that employers themselves help design’. This would presumably cover every teenager except those preparing for the gold standard qualifications that Kelly herself was so quick to rescue from the perceived Tomlinson threat. This is a disingenuous bit of visioning from a minister reputed to have asked her advisers why a parent would send
their child to an FE college. But the problems here are not simply about ‘every teenager’ but also about the actual extent of employer involvement in the design or delivery of what we are now told is a demand-led system. Ewart Keep questions the independence of the new Skills for Business infrastructure, including the Sector Skills Councils tasked with driving much of this reform: ‘Although the government has invested them with an apparently key role in developing a new, more demand-led, and employer-led, education and training system they remain state-licensed entities, receiving their core funding from government and expected to respond (positively) towards delivering national programmes and targets the design and setting of which they have played no role in whatsoever.’ In this view, employer involvement is simply another facet of central government control.

There is a further significant danger if the design and delivery of work-related learning is only notionally related to employer needs, only weakly related to workplace practices, and rarely delivered by those with actual experience and industry expertise. Work-relatedness must not simply be a means to reengage those who now drop out at or around 16; it must also offer these young people genuine prospects for the future. One notable feature of the 14–19 White Paper was how little it had to offer disaffected learners. Re-engaging disaffected learners was highlighted as a policy goal, but there were very few proposals about new learning opportunities that might actually achieve this target. The more recent Green Paper, ‘Youth Matters’, put the focus on ‘positive activities’ rather than educational alternatives for those ‘likely to drift into trouble, cause a nuisance or commit crime’. Instead of coherence and parity of esteem we may be headed towards education and stretch for some, and diversion and support for others. Practical, work-related learning should not be used to paper over such divisions. This does not appear to be anyone’s desire or intention, but the traditional biases of our education system mean it is a real threat. Effective practical learning of the kind we have described has the power to transform individual lives and to fuel economic resurgence. We must ensure that we don’t settle for anything less.

We believe there are still many opportunities for chal-
lenging the academicisation of practical learning. The door hasn’t yet finally shut, despite some determined slamming, on the reconsideration of the Tomlinson proposals in 2008. The second and more challenging tranche of specialised diplomas, including construction, will be ready by 2010 and possibly earlier than that if industry bodies are successful in accelerating the process. The target of nine in every ten young people choosing to learn beyond compulsion will not be easily achieved. But skills gap in areas such as construction will not wait. National skills academies are sparking some interest from employers who look like taking the declarations about innovation to heart. We think the excellent practice that we have described needs to inform the way we set about developing learning to make the most of these opportunities. If learning and skills is, as we’re now repeatedly told, the engine room for skills and social justice, it needs to be fuelled by a distillation of the best of current practice not by watered-down vocationalism and academic run-off.
5. Putting the practical back into the academic and vocational

Richard Pring

Introduction
There are many changes taking place in what is now called the 14-19 phase of education and training. The reason for these changes, as stated in many official reports, is threefold: to raise standards in schools and in colleges of further education; to widen participation in post-compulsory education and training, including transition into higher education; and to increase the relevance of what is learnt to economic growth.

These three aims obviously interrelate. What count as ‘standards’ are shaped by relevance to economic growth; one good reason for wider participation is the need for a more highly skilled and knowledgeable workforce. But they are, none the less, distinct. Standards may not always be determined by such economic relevance. And wider participation might be determined as much by the pursuit of greater equality as by the needs of the economy. Social justice and economic utility can go hand in hand.

However, because of the interconnections, an impoverished understanding of one aspect can lead to an impoverished understanding of another. A narrow view of what is meant by ‘improved standards’ might lead to narrower participation in education and training, and to a limited view of preparation for employment. I develop this position in the following way.

First, the distinction, which permeates policy and practice,
between the ‘academic’ and the ‘vocational’, though taken as self-evident, provides a limited view of both.

Second, partly as a result of that ‘false dualism’, the importance of ‘the practical’ as a way of knowing and understanding has been undervalued, especially but not exclusively for the so-called academic young people.

Third, that distinction has contributed to an emphasis upon ‘literacy’ at the expense of ‘oracy’ – that is, the capacity to communicate through talking, listening and discussing.

**Academic and vocational**

Following the White Paper ‘14-19 Education and Skills’, there is being reinforced a distinction between the ‘academic routes’ from age 14 and the ‘vocational routes’, reflected in the specialised diplomas currently being developed. Initially these were referred to as vocational diplomas, although the word ‘vocational’ has seemingly been dropped. But their vocational orientation is maintained through the lead of 14 diploma development partnerships made up mainly of employers.

In effect, those encouraged to progress up the vocational route will be those who show that they are unlikely to succeed in the academic route. Furthermore, they will increasingly be directed to institutions that specialise in ‘the vocational’ – already about 150,000 students aged 14-16 take a substantial part of their courses in colleges of further education, which, until recently, catered for post-16 only. Schools’ sixth forms, and especially the growing number of sixth form colleges, will look after the ‘academic’ students.

‘Academic’ is never defined, but it is strongly associated in practice with a certain content and mode of learning. The content is largely determined by the subject matter, the theoretical knowledge, which is organised in subjects, can be transmitted as such to the learner, and can be written down. Literacy skills are extremely important – to be able to read textbooks and to put on paper what has been learnt. This, in turn, requires certain forms of assessment and grading.

‘Vocational’, on the other hand, requires the acquisition of practical skills – the ability to do and to make certain things. Such capacities relate eventually to doing a particular job – that of a hairdresser, mechanic, electrician, secretary. There is an
emphasis on employment-related ‘skills’. As a result, a lot of learning associated with the ‘academic’ (knowledge of principles underlying the practical, understanding of the historical and social context of the vocational skills) is neglected or omitted. Some people are good with their heads, some with their hands, and some simply good – a three-part classification embodied in the Norwood Report (1943), which recommended and shaped the post-war tripartite system.

This distinction carries with it a differentiation of status. No amount of declaration of ‘equality of esteem’ between academic and vocational qualifications will make them so. Indeed, for this very reason, in order to give equal status to vocational qualifications, the General National Vocational Qualifications at level 3 were renamed Vocational A levels and, as with the later development of GNVQs, were supposed to gain respectability through a mode of assessment that would show their comparability with A levels. The practical learning at the heart of the vocational qualifications was increasingly to be assessed through the written medium.

However, it is difficult, upon reflection, to maintain this clear distinction, and with it the differentiated status that it implies. First, it is difficult to see where the arts and humanities fit within such a distinction. Is the subject of drama (not writing criticism of plays but acting in and directing plays) academic or vocational? Is the exploration, in the humanities, of the controversial issues that divide people in society and that require systematic reflection upon experience academic or vocational? It is significant that, in the changes that are taking place, the arts and the humanities can be dropped at the age of 14, and indeed, especially the practical engagement with them, are playing a less significant part in the education of young people. Second, the so-called academic subjects become vocational where undertaken for pursuit of a special job – the degree in English for journalists, the degree in theology for clergy, the degree in law for lawyers.

The differentiation between the academic and the vocational narrows the perception of the different programmes, which see themselves on one or the other side of the divide. In particular, however, I want to point to the problems on the so-called
academic side, often caused by the disdain for the practical as a way of knowing and as a way of developing intelligence.

The practical

An important philosophical distinction has been made many times between ‘knowing that’ and ‘knowing how’ – between propositional knowledge and practical know-how. Propositional knowledge is the knowledge of the physical and social world that can be put down in statements, verified by reference to experience, give rise to explanatory theories and that can be transmitted as such. Practical knowledge, on the other hand, ‘knowing how’, often escapes articulation in ‘knowledge that’, even if attempts are made to write about such practical knowledge. I know how to ride a bicycle without being able to describe that knowledge fully. That politician knew how to manipulate parliament without being able to write a book on the art of manipulation. Indeed, had he tried to manipulate after reading a book on how to, he might well have made a mess of it. Such practical knowledge is gained from practising, albeit often under the correction and guidance of a mentor or trainer. Moreover, it is assessed through the ‘successful doing’, not through writing about doing.

Furthermore, this practical knowledge can be more or less intelligent, more or less an act of genius. Lord Nuffield was such a genius, both as a technologist and as a practical economist. From the humble beginnings of repairing bicycles after leaving school at 15, he started making bicycles and then graduated to the making of cars. Shifting from the small garage in Longwall Street, Oxford to Cowley, he created the largest car manufacturing plant in Britain – and became one of the country’s richest people. Yet it is said of him that he would never employ anyone who had a university degree because it rendered them incapable of the intelligent know-how required of successful engineers and businessmen. The genius was, as it were, in the hands – in the capacity to understand a practical problem and to put it right.

The recognition of the distinctive quality of practical intelligence was provided by the ‘Manifesto of Capability’ published by the Royal Society of Arts in 1986. The Manifesto empha-
sised the capacity for ‘intelligent doing’, and indeed this notion of ‘practical intelligence’ or ‘capability’ has been a hallmark of the RSA throughout its 250 years. That history is distinguished by the advocacy of the integration of theory and practice, of thinking, doing and making, and of the arts, science and commerce. Such a unity is destroyed, to the detriment of all, where the division is made between the academic (the world of abstractions and the transmission of knowledge) and the so-called vocational. It is in appreciation of this fact that the RSA has developed its programme ‘Opening Minds: Education for the 21st Century’, adopted increasingly by schools disillusioned by a target-driven national curriculum, which does not reflect these practical capabilities.

As is reflected in the work of the RSA, it is a mistake to confuse ‘practical’ with ‘vocational’. The practical is a valuable way of knowing and of intelligent doing in itself. That is, and has been, reflected in a wide range of innovative practices, both past and present. The developments under the RSA opening minds (competences) initiative and the many innovative projects of Edge are a constant reminder of the value of practical learning. The practical learning entitlement of Lewisham College shows what can be achieved through more practical routes into creative thinking and making. The pilot ‘challenge programmes’ of UK Skills shows how practical projects (for example, creating and constructing flowerbeds in a primary school playground) made demands on the enterprise, creativity, cooperation, construction skills, organisation, moral responsibility of young people, which transformed them from reluctant to enthusiastic and responsible learners. The Technical and Vocational Education Initiative (TVEI), launched in 1983, integrated theory and practice through making and designing that transformed the experience of learning for many young people across the ability range, but it ended with the national curriculum and with a regime of accountability that put much more focus upon writing than upon ‘doing’ as an outcome.

The importance of hands-on learning is, indeed, reflected in the ‘14-19 Education and Skills’ White Paper. As a result of the increased flexibility programme, thousands of young people aged 14-16 now undertake part of their studies in the more practical environment of the local college of further education.
Practice Makes Perfect: The Importance of Practical Learning

The evaluation studies point to the general success of this initiative. But it is mainly directed at those who, unmotivated by more academic and theoretical studies, are more likely to be motivated by the practical and vocational. And this attention to the practical in so-called ‘vocational’ courses for the less engaged does a disservice both to the importance of the practical in learning for all young people, and to the status of employment courses such as those provided by in apprenticeships.

Speaking and listening

More recently, concern has been expressed about the neglect of the ‘key skills’ of speaking and listening. The concentration on ‘reading and writing’ (for which the standards seem more easy to specify) has led to the neglect of ‘speaking and listening’ (for which performance against standards is less easy to measure). Yet the evidence over many years points to the priority that should be given to oral skills in the education of all young people – evidence that now seems almost forgotten. If the ‘student voice’ is important, especially in the re-engagement of young people in learning, the evidence for the importance of discussion and for the measurement of ‘oracy’ needs to be taken seriously once again. Priority was once given to the student’s voice in the creation of the Certificate of Secondary Education in 1964, in the Bullock Report in 1975 following the research at the London Institute of Education and elsewhere, in the sophisticated modes of its assessment developed by the Assessment of Performance Unit in the 1970s. That importance of place is also to be found in the centrality of discussion, disciplined by evidence, which was promoted by the humanities courses of the 1970s. A former tradition of curriculum, pedagogy and assessment – intensively researched – seems to have been lost as a result of an accountability regime rising out of the national curriculum reforms of the late 1980s. Yet the arguments for its importance, laid out in chapter 10 of the Bullock Report, remain as valid as ever.

It is interesting in this respect to examine the work of ASDAN, an awarding body, which has placed the assessment of personal and social qualities (including the ability to discuss, to plan, to communicate, and to engage in active learning) at the centre of its awards. Its new Certificate of Personal Effectiveness

---

105 J Highham and D Yeomans, ‘Collaborative Approaches to 14-19 Provision’ (University of Leeds, 2005).


109 C Fox, ‘Talking for Learning: Not the whole story’, in Ellis, ed., Perspectives in English Teaching I (Sheffield: NATE, 2002); A Wilkinson, Spoken English (University of Birmingham, 1965), which gave the definitive account of the ‘oracy project’.

110 T Gorman (1979); A Wilkinson (1965).

111 B MacDonald, ‘The Evaluation of the Humanities Curriculum Project’ (CARE Theory into Practice, University of East Anglia, 1973); L Stenhouse, Introduction to Curriculum Research and Development (Heinemann, 1975).
(CoPE), approved by the DfES for purposes of funding and recognised by the QCA for GCSE equivalence within its qualifications framework, is proving to be very popular with schools.\textsuperscript{112}

\section*{Conclusion}

The considerable developments in schools and colleges aimed at a reform of the 14-19 phase of education and training are in danger of assuming a clear distinction between academic courses and vocational ones, leading to increased selection at 14. Those who are not very good at so-called academic work will be, if they are not already being, directed up the so-called vocational route, which will be more practical and employment related.

The dangers are these:

\begin{itemize}
  \item First, the importance of practical learning in general education is not recognised. What were once thriving woodwork and metalwork departments in schools have declined, as indeed has the training of teachers of practical subjects. Where practical courses do exist, the achievements (the ‘successful doings’) are so often assessed as if they were theoretical undertakings. Inappropriate standards are applied.
  \item Second, the confusion of practical learning with vocational training undermines the value of practical learning for all young people, especially the academically able.
  \item Third, the failure to recognise value of practical learning and the identification of it with vocational training does, in a perverse sort of way, undermine vocational education and training. It is given low status in comparison with the so-called academic studies. Hence, the lack of much needed recruits to apprenticeships, with all the consequences for the skills needs of the country.
  \item Fourth, the narrow conception of standards and of their assessment disregards the practical importance of oral communication, reflected in the capacity to speak, to listen and to discuss.
\end{itemize}

There is a need to re-examine the aims of education and to reaffirm the importance of the practical intelligence for all young people. Such a re-examination could well draw upon the tradi-
tions and practices that underpin many innovative initiatives, both past and present. At the same time, such a re-examination should ensure a strong educational dimension to the vocational training, especially, but not exclusively, through recognition of the ‘students’ voices’ in coming to understand the wider context of their vocational training.
6. Employer-provided vocational training: what are the returns to NVQ Level 2 and the potential effects of ‘Train to Gain’?

Lorraine Dearden, Alissa Goodman, Barbara Sianesi and Helen Simpson

Introduction
The government’s skills strategy is based on the idea of ensuring that employers have the right skills to support the success of their businesses, and that individuals gain the skills they need to be employable and personally fulfilled. Yet many government initiatives in this area are concerned with ensuring that low-skilled workers obtain basic or formal qualifications up to National Vocational Qualification (NVQ) level 2 (equivalent to the basic school leaving qualification). Empirical studies looking at the returns to these lower-level formal qualifications do not, in general, find evidence that obtaining these qualifications confers advantages to individuals in the labour market. It is only formal qualifications at higher levels that seem to deliver significant advantages. However, there is some weak evidence that work-based, employer-provided training leading to an NVQ level 2 (NVQ2) may lead to some advantages in terms of higher wages.

In the light of the latter evidence, it might seem promising that an important new part of the government’s skills strategy
‘Train to Gain’ (also referred to as the National Employer Training Programme, or NETP). This policy is designed to encourage employers to provide qualification-based training to their low-skilled employees, by funding training to a basic skills or first level 2 qualification and brokerage support.\footnote{Level 1 qualifications are those equivalent to fewer than five GCSEs grades A*-C; Level 2 qualifications are equivalent to five GCSEs grades A*-C; level 3 qualifications are equivalent to two or more A level passes; and level 4 and above qualifications are equivalent to at least a first degree.}

However, evaluation of the pilot programme, the Employer Training Pilots (ETP), which preceded Train to Gain, suggests that the programme did not generate substantial increases in the take-up of NVQ2 training, and that much of the funding was directed towards training activity that would have occurred anyway. To date no evaluation of the economic returns to the new training induced by the policy has been carried out. Until the policy can be shown to create genuinely additional training, which itself demonstrates positive returns, the case for justifying the £440 million expected exchequer cost of the nationwide policy remains to be made.

In this chapter, we first discuss the evidence on the returns to training among low-skilled workers. We then summarise some of the findings from the evaluation of the Employer Training Pilots, focusing on the extent to which the pilots induced employers who would not otherwise have provided qualification-based training to their low-skilled employees to do so. We conclude with some suggestions for assessing the extent to which Train to Gain will be successful in its objectives.

**Returns to training among the low skilled**

As many as one in three working age adults (aged 19-64), and one in 3.5 employees in Great Britain lack skills equivalent to the basic school leaving qualification at level 2. These are high proportions by international standards. Compared to other developed countries such as Sweden, Finland, the USA and Germany, the UK has a significantly larger proportion of adults with low qualifications, and a smaller proportion holds intermediate level qualifications.\footnote{Leitch (2005).}

Much vocational training to level 2 in Britain is delivered through National Vocational Qualifications (NVQs). However, estimating the economic returns to individuals who train for level 2 qualifications has posed a significant challenge to researchers.

Dearden, et al. (2004),\footnote{L Dearden, McGranahan and B Sianesi, An In-Depth Analysis of the Returns to National Qualifications Obtained at Level 2 (CEE Discussion Paper No. 46, 2004).} provided an in-depth investiga-
tion of the returns to NVQ qualifications. The aim of this study was to understand why earlier published work using the Labour Force Survey found that, controlling for other qualifications achieved, individuals holding low-level NVQs have statistically significantly lower wage levels than otherwise similar individuals who lack NVQs, the estimates for NVQs at levels 1 and 2 falling between –5% and –20% lower wages. The study principally considered NVQs obtained at level 2, given that they are the most widely held of the NVQ qualifications, but also touched on NVQs at level 1. While the focus was primarily on wages, it also investigated whether NVQs are a stepping-stone to higher levels of qualifications or serve to boost the likelihood of being in employment. Finally, the study compared the returns to NVQ2s with the returns to other level 2 vocational qualifications.

Trying to shed some light on why a seemingly beneficial certification of skills appeared to hurt individuals’ labour market prospects was an important task, with a clear policy relevance given the government’s targets and emphasis on training to level 2.

The study explored a number of potential sources of bias in previous work, looking at returns to NVQ2. It found that, while previous results were biased downwards (i.e. the estimated returns were below their true value), due to bias arising from omitted ability and family background characteristics, the magnitude of such bias was relatively small. In addition, the study found that the estimated returns did rise somewhat when a more appropriate and policy relevant comparison group was used – the pool of individuals with low or no other qualifications. However, even when the sample used in estimation was adjusted to maximise comparability and to account for differences in individuals’ abilities and family background, it was found that NVQ2 holders have equivalent or still slightly lower wages than the comparison group.

From this evidence it seems inevitable to conclude that overall returns for NVQ2s are extremely poor and remain negative for large segments of the working population. However, despite this overall negative prognosis, substantial positive returns for some sub-groups and sectors of the labour force were found. In particular, individuals holding no other qualifications were found to have higher returns to NVQ2 than
those who already have a level 1 qualification. The estimated benefits to the attainment of an NVQ2 were also found to be greater for low socioeconomic status and low-ability individuals. These findings are potentially interesting, given that the less advantaged make up a policy-relevant target group. In addition, the study found some evidence of positive returns to NVQ2 training in some specific sectors. Returns were found to be positive for women in public administration, education and health, and for male plant and machine operatives – among the largest groups of NVQ2 holders.

The study also found evidence that the returns to training were non-negative for individuals who obtained their NVQ2 at their place of employment. That is, there was some evidence that this employer-provided training could result in marginally higher wages. This is important given that the government has focused the new Train to Gain initiative, discussed in the next section, on qualification-based training for low-skilled employees, delivered in conjunction with their employers. One potential explanation for this finding is that workplace-based training is likely to require individuals to spend time training off the job, as well as a financial commitment from employers. Given these costs to employers, it might be expected that employers would only provide this training if they expected it to improve the productivity of their workforce.

However, it is worth noting that these findings for employer-provided training are in sharp contrast to NVQ2 holders who received their qualification through government training programmes, or at college, for whom the returns were large and negative (see Table 1).

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>All individuals (average)</td>
<td>-0.054</td>
<td>-0.008</td>
</tr>
<tr>
<td>Obtained at College</td>
<td>-0.116**</td>
<td>-0.009</td>
</tr>
<tr>
<td>Employer</td>
<td>0.018</td>
<td>0.017</td>
</tr>
<tr>
<td>Govt. training</td>
<td>-0.225**</td>
<td>-0.166</td>
</tr>
</tbody>
</table>

Source: Dearden, McGranahan and Sianesi, (2004). Based on Labour Force Survey. Comparison group is individuals with no qualifications, or level 1 only. ** indicates significance at the 5% level.
Finally, the study found that NVQ2s did appear to represent stepping-stones to higher levels of attainment, with individuals gaining these qualifications being more likely than similar individuals without them to move on and obtain level 3 qualifications.

Nevertheless, the great majority of the findings suggest that NVQ2s offer no benefit to most recipients. These results are in stark contrast to the large benefits that were uncovered from most other level 2 vocational qualifications, including City and Guilds craft certifications, Business and Technology Education Council (BTEC) and Royal Society of Arts (RSA) first diplomas, and apprenticeships.

It is hard, however, to believe that earning an NVQ at level 1 or 2 should actively reduce earnings. This is particularly so given that these qualifications are often obtained while employed and at an individual’s place of work, so that the opportunity cost to individuals in terms of lost beneficial work experience is particularly low.

One potential explanation for the inability to find positive returns is that the type of individuals who undertake NVQ2s, and the timing and precise circumstances under which they choose to do so, are more complicated than can be measured in the data available to researchers. For example, individuals who need to go on a training course to learn a vocational skill may be less naturally gifted at their job than those who do not require the training. Another related issue concerns the level of NVQ that would be received by employed individuals without such qualifications if had they sought to certify their existing skills. Given that most employed workers must have some job-specific competency, if these individuals are actually working at a level equivalent to an NVQ3, then this may well result in the estimated returns to a level 2 being negative when comparing NVQ2 holders to them.

Recent work also suggests that purely focusing on the individual wage returns to training may miss some important parts of the story. Recent work by Dearden et al (2006)\(^{117}\) suggests that the wage returns to training at an \textit{industry} level are larger than those estimated at an \textit{individual} level (using the same data and models). This is suggestive that training has important industry spill-over effects, for example, through fostering a
faster rate of innovation. Moreover, in the same paper they show that the impact of training on industry productivity is twice as large as the impact of training on industry wages, suggesting that wages are a poor proxy for productivity. However, because the study considered a more general measure of training, it is not clear how relevant the findings are for specific lower-level qualifications such as NVQ level 2, where the case for large spill-overs or non-wage productivity effects may not be so strong.

‘Train to Gain’ and the evaluation of the employer training pilots

The national roll-out of ‘Train to Gain’ began in April 2006. It is a policy designed to encourage employers to provide work-related training to their low-skilled employees to acquire basic skills and level 2 vocational qualifications (NVQ2), and forms a major part of the government’s skills strategy.

Train to Gain offers free training either to a basic skill qualification or a level 2 to employees who do not possess a first level 2 qualification or who lack basic literacy, numeracy or language skills. In addition to free training, employees will receive a number of hours of paid time off for training during working hours, and employers with fewer than 50 employees will receive wage compensation for these hours – available at least in 2006-07 and 2007-08. The package also includes a free independent brokerage service to help employers identify their training needs and source appropriate training provision. Train to Gain is expected to cost £268 million in 2006-07 and £437 million in 2007-08 (of which around £38 million in each year will pay for the wage compensation to small businesses).118

In the light of our discussion of the returns to NVQ2 qualifications, this section asks how effective Train to Gain is likely to be, drawing on the available evidence from the evaluation of the Employer Training Pilots, which trialled elements of the programme.

In light of this, we then discuss to what extent Train to Gain is likely to be effective in increasing productivity, and assess the scope for future evaluation of the policy.
Why intervene in the provision of employer-provided training?
The government’s stated aim for the Employer Training Pilots, the predecessor to Train to Gain, was to ‘stimulate the demand for work-based training for low-skilled employees where market failures that reduce investment in skills are most acute.’

What are these market failures and what is the evidence for them? The most important possible market failure in this context arises because the skills acquired in basic skills and level 2 training are likely to be largely transferable across jobs. This means that employers run the risk that, having paid for the training, the employee will then be poached by another firm. In the case where employees are unable to pay for such training themselves, this could lead to underprovision. There may also be informational failures, or firms themselves (especially small firms) may be credit-constrained, both also leading to underprovision.

There is remarkably little evidence on the magnitude of these potential market failures. On the one hand, it is certainly the case that workers with low or no qualifications are substantially less likely to receive employer-provided training than workers with higher qualification levels. For example, just 12% of employees with no qualifications, and 23% who have qualifications below level 2 report having received job-related education or training in the last three months. This compares to 30% of those whose highest qualification is at level 2, 34% of those at level 3 and 43% of those qualified to level 4 and above (see Figure 1). Small firms (those employing fewer than 50 workers) are significantly less likely than larger firms to provide training to their low qualified staff. At the same time, although considerable opportunities exist for the low-skilled, long-term unemployed to receive subsidised qualification-based training, the opportunities for those who are in work are generally more limited.
Figure 1: Employee training (in last three months and four weeks), by level of highest qualification

![Bar chart showing employee training by level of highest qualification]


However, the lack of training among this section of the workforce might arise not because of market failures, but simply because the returns may be insufficient to justify the investment. As already stated, the evidence we have on the private wage returns to holding level 2 qualifications compared to having a level 1 or no qualification at all suggests that NVQ2s offer little or no wage benefit to most recipients, while the returns to individuals who receive their NVQ2s through their employers (rather than through government training schemes or at a school or college) were small and not statistically significant (see Table 1).

As well as the market failures frequently cited by the government, there may also be equity arguments for intervention to provide training for less advantaged groups. For example, it may be considered an issue of social justice that individuals who left school without any qualifications be given opportunities to gain qualifications, regardless of the long-term pay offs. This is certainly a part of the motivation behind the government’s newly introduced ‘level 2 entitlement’, which guarantees that the government will meet the full tuition cost for a first level
2, whether obtained through the employer or through other routes.\textsuperscript{121}

Finally, the government has set itself an ambition to get 2\(\frac{1}{4}\) million adults to achieve functional competence in literacy, language and numeracy, and over three million adults to achieve their first full level 2 qualification by 2010.\textsuperscript{122} Train to Gain will provide additional avenues through which individuals can gain these qualifications and so potentially help the government to meet its targets.

**Has the policy been effective so far?**

Train to Gain has been developed following three years of piloting several different policy variants through the Employer Training Pilots (ETP) that were in operation in a series of waves in a number of local Learning and Skills Council (LSC) areas starting from September 2002. An evaluation carried out at the Institute for Fiscal Studies\textsuperscript{123} provides evidence on the impact of the pilots in their first year of operation on the take-up of training, both by eligible employers (those who employ individuals without a first level 2 qualification) and by their low-skilled employees.

The evidence suggests that the pilots appeared to have had small but statistically insignificant positive effects on the take-up of training among eligible employers and employees, and that the associated levels of ‘deadweight’ (i.e. employer-provided training that would also have been undertaken in the absence of the ETP) were relatively high. For example, the evaluation findings suggest that in the early years of the pilots the proportion of eligible employers providing level 2 training to low qualified workers rose from approximately 8% to around 8.5% as a result of the policy – though this effect (of around 0.5 percentage points) could not be distinguished statistically from zero.

The evaluation findings are shown in Table 2, which shows the estimated percentage of eligible employers who would have provided equivalent training in the absence of ETP and the percentage point increase in the proportion doing so estimated to have resulted from the introduction of the pilots. ‘Back of the envelope’ calculations on the basis of these evaluation results suggest that about 10% to 15% of the ETP training is ‘additional’ training, and about 85% to 90% is ‘deadweight’.\textsuperscript{124}
The findings for the take-up of training by eligible low-skilled employees were of a similar magnitude.

**Table 2: One-year impact of ETP on employers’ take-up, first and second wave pilot areas**

<table>
<thead>
<tr>
<th></th>
<th>First wave pilots areas</th>
<th>Second wave pilots areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline: percentage of</td>
<td>8.40%</td>
<td>8.23%</td>
</tr>
<tr>
<td>eligible employers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>estimated to provide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>training in the absence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>of ETP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effect: estimated</td>
<td>0.38ppt</td>
<td>0.71ppt</td>
</tr>
<tr>
<td>additional training</td>
<td>(Standard error)</td>
<td>(Standard error)</td>
</tr>
<tr>
<td>resulting from ETP</td>
<td>(0.52ppt)</td>
<td>(1.16ppt)</td>
</tr>
<tr>
<td>Sample size pilots</td>
<td>8,123</td>
<td>4,688</td>
</tr>
<tr>
<td>Sample size</td>
<td>19,189</td>
<td>7,001</td>
</tr>
</tbody>
</table>

Note: The pilots were introduced in areas in waves, the first in September 2002 and the second in September 2003.

Such levels of deadweight are perhaps to be expected for training programmes of this kind. Given that the ETP was universally available, widely marketed and offered employers financial incentives to provide training, we would expect the programme to attract a considerable number from the minority of employers who would have provided this type of training without the ETP offer. It should also be noted that the evaluation results described above focused mainly on the first year effects of the ETP programme. It might be the case that the amount of additional training generated by the policy increased beyond its initial levels, since the numbers of employers and employees participating in ETP increased considerably over time.
Conclusion

The discussion in this chapter raises a number of questions about the likely effectiveness of the Train to Gain programme, in terms of the extent to which it will induce new training among low-skilled employees, and the extent to which any new induced training will generate benefits for employees and for their employers. As we noted, there is some limited evidence on the existence of positive returns to NVQ2 obtained through the employer as measured by employees’ wages, and such training may also result in productivity gains captured by firms. However, one important question is whether any such benefits will necessarily also arise from additional training stimulated through a government programme.

Of course, a first step in assessing the benefits is the degree to which Train to Gain does induce new training among low-skilled employees. The evaluation of the Employer Training Pilots found that, in their first year of operation, the ETP did not appear to raise the levels of training much beyond what would have occurred in any case. If this remained the case under Train to Gain, any net benefits would probably be very small, although not necessarily un-typical of a programme of this type.

The government has suggested that, in the light of the ETP findings, it will work hard to improve the additionality of the national policy, and promises to monitor this. However, given that the policy will be in place nationwide, it will be extremely difficult to find adequate comparison groups to allow the impact of Train to Gain on the take-up of training to be evaluated effectively. Nevertheless, it may still be possible to evaluate the longer-term impact of this national policy on participating employees, by measuring the returns to a level 2 qualification obtained through the programme. Whether the public funding directed towards Train to Gain provides value for money in terms of fulfilling its key aims will ultimately depend on its effectiveness in generating both additional take-up of training and positive returns to the qualifications acquired through the policy.

125 See ministerial foreword to Abramovsky et al. (2005), op cit.
7. Why do governments treat further education students like children?

Alison Wolf

Introduction
Anyone who has followed education policy over recent decades has lost count of the number of times a ministerial speech expressed commitment to raising the status of practical skills. ‘Parity of esteem’ has been the buzzword: so, for example, David Blunkett promised in a speech delivered in 2001 that, under Labour, ‘vocational and technical education will be a positive choice, not a second-class fallback, with as much status and esteem as academic education.’ However, the Conservative administration of 1991 also promised that vocational qualifications would be of ‘equal standing with academic qualifications’ and that their vocational education reforms would ‘break down those artificial barriers which for too long… divided an academic education from a vocational one.’

In reality, government policy since 1980 has revealed a profound contempt for those who are engaged in practical learning – or, more precisely, for all those engaged in practical learning outside the universities. In all other parts of the education system, and indeed in just about every other part of the public and privatised services, there have been reforms that have genuinely attempted to increase customer or client centredness: to increase, that is, the extent to which services respond to the users’ preferences and priorities. For example, the whole movement towards ‘school choice’ has been about increasing families’
influence over their children’s schooling, as compared to that of central or local government. There is plenty of debate over the value and consequences of ‘choice’ as it has been implemented, but no one can doubt that, in the policy community, there is a strong cross-party consensus over the desirability of giving people an increased say in what they are offered.

In further education, meanwhile, there has been a consistent reduction in the choice available to students, and an unstated but powerful assumption that they are unable to identify what sort of learning is in their own interests. Far from greater ‘customer-centredness’ this sector has seen a move towards ever more detailed planning of provision by government agencies and to the micro-management of course content. In a world where most of Whitehall has, at least in principle, embraced the social market, practical learning, the whole further and adult education sector inhabits a world of Soviet-style manpower planning.

This chapter will not attempt to give a full explanation of this singularity. I suspect it arises from a combination of successive governments’ obsession with education as an engine of economic growth, an absence of any direct experience of further and vocational education among civil servants and politicians, and an unconscious but nonetheless real assumption that people who are not academically successful cannot be trusted to make decisions for themselves and need to be looked after by their betters. The following pages will, however, demonstrate that the move to centralised planning has been large in scale, and will argue that it is also deeply misconceived.

Funding regimes and the shift to central control

In the middle decades of the twentieth century, ‘practical’ learning was characterised by widespread, and effectively unregulated, apprenticeships, and a large further and adult education sector in which provision varied widely between local education authorities (LEAs). As Bill Bailey, one of our leading historians of the sector, points out: ‘The growth in further education owed as much to the voluntary decisions of employers or the parents of the young people as to the policy decisions of politicians’. There was an increase in the numbers of employers willing to underwrite day release, as well as increases in both full-time enrolments in colleges and in adult education. LEAs


varied in their willingness to spend on the sector, but many new colleges and extensions were built during the 1950s and 1960s. This was a period when approximately a third of male school leavers went into apprenticeships, which generally involved some day release or evening attendance at college. It nonetheless remained the case that the majority of young school leavers received no further formal education or training.

Youth unemployment in the 1970s was the major impetus for a huge increase in what government currently refers to as the ‘work-based route’ for further education and training. The Manpower Services Commission (MSC) was established in 1973 to develop training and in the 1980s, under one of Mrs Thatcher’s favourite ministers, David Young, became increasingly influential, arguing for the virtues of more practical, technical and ‘entrepreneurial’ education in the schools. The Technical and Vocational Education Initiative (TVEI) provided large amounts of money for 14-18 education, with the avowed intention of changing the status hierarchy of school subjects. The money came directly from the MSC rather than through the LEAs, and lasted from 1983 to 1997, at which point the programme ended. Its most lasting legacy is the technology GCSE. This was, for a while, a compulsory subject in state secondary schools – but is no longer.

Also from the early 1980s, with apprenticeship numbers in rapid decline, large numbers of young people were enrolled on to programmes whose titles changed fairly rapidly (Youth Opportunities Programme, Youth Training Scheme etc), and which mixed work experience (paid for by the government) with ‘off the job’ instruction delivered mostly in FE colleges. These programmes, along with the increasing numbers of 16 year olds staying in full-time education, maintained college enrolments and finances and compensated for the loss of traditional apprentice and day release students paid for by employers. Training courses for unemployed adults (financed through special programmes whose titles also changed constantly) were another source of income for the sector, especially during the periods of high unemployment of the 1980s.

These changes also meant an increasing role for direct contracts with agencies of central government, although the main source of college funding remained their parent LEAs.
However, in 1992, as part of the Conservative government’s general moves to increase institutional autonomy as a precondition for a ‘quasi-market’ in education, further education colleges were removed from LEA control and incorporated. The Further Education Funding Council was created for the sector, as the Higher Education Funding Council had been for higher education. The funding mechanism, however, remained very different from that adopted for universities or, indeed, schools.

In both the latter cases, funding is, in its fundamentals, quite simple: a combination of capital funding (for plant) plus a per capita payment per student enrolled. In the school sector, payments vary by age. In the university sector, there are limits on the total number of students a university can enrol, and the per capita payment varies according to the type of degree, but in a fairly straightforward way. There are four undergraduate ‘price groups’ into which a course can fall, depending on how much laboratory and other practical work is involved. There are constant arguments about the adequacy of the payments but the basic principle is not particularly controversial. While there are, at any given time, more or fewer special initiatives that bring in special funds on a short time horizon, the basic, long-term funding mechanism for teaching, and the way revenue is linked to success in attracting students, are both quite clear and simple.

There does not seem any reason why this approach should not also be adopted for further education. Instead, from 1992 to the present, further education has been directed along a very different path. The general invisibility of the sector meant that there was extraordinarily little general discussion of this in advance: and the complexities of what emerged ensured very little later discussion either.

The funding ‘methodology’ (sic) of the Further Education Funding Council (FEFC) was designed to ensure that colleges responded, in the early 1990s, to the government’s recently established national targets for formal qualifications. To these were added, in the latter part of the decade, additional targets relating to types of student (e.g. adults with no formal qualifications, 16-18 year olds not already in formal education or training.) Under the FEFC, these objectives were promoted through highly complex funding formulae that funded courses and qualifications rather than students.
The approach made certain types of course financially highly attractive (and others very difficult to offer viably), and also built in an element of ‘outcome-related funding’, which in effect meant that, if a student did not pass their course, the college (or other ‘provider’) suffered a financial penalty. (See Stanton 1996 for a discussion of the effects of this on the quality of education and training.)

It was obviously only possible to remain solvent by attracting students to the ‘right’ sort of courses. Students could not be forcibly enrolled on courses they did not want to take (although for the unemployed, training could be something close to compulsory). So to that degree, provision remained responsive to student demand. However, this regime had an obvious impact on the types of course were planned and offered by colleges, and on the way in which students were counselled and steered on to particular options. It also gave colleges a strong incentive to enter students for large numbers of qualifications that would be easy for them to pass without much additional learning, and to close any course where there was a high risk of some students failing.\footnote{The ‘outcome-based’ element in funding was significant but less than for private ‘training providers’ under government contract. However, colleges also have to monitor and report on success rates, as one of their key performance criteria. This, like all targets and similar control mechanisms, can increase efficiency, but also creates major distortions in how organisations operate.}

In many cases, the only way to provide adequate resourcing for a group of full-time students was to enter them for multiple formal qualifications. One important example of the way funding regimes were used to engineer certain types of programme involved ‘key skills’ qualifications for 16-18 year olds. At the time that these were first introduced, in 2000, it was effectively – and intentionally – impossible to fund a full-time sixth form programme in an FE or sixth form college unless the students were entered for key skills qualifications alongside their A levels or other awards, whether or not they wanted to do them.\footnote{They mostly did not. See Hodgson and Spours, ‘Key Skills for all? The key skills qualification and curriculum 2000’, \textit{Journal of Education Policy}, 17(1), 2002.}

Government policy was justified by the argument that formal qualifications were the most important thing that students could carry into the future labour market, and therefore that tax money should be targeted largely, if not exclusively, on award-bearing courses. As we shall see below, the evidence for this proposition is in fact very weak. The pressure to pile up as many qualifications per student as possible also imposed major assessment costs on teachers, especially for the many awards where much or all the assessment is internal, and contributed to a huge increase in the amount spent on assessment and examination.
fees. The FEFC regime also spawned a new type of consultant, who could advise colleges on how to increase their income substantially by exploiting all the byways of the FEFC funding maze.

Under the FEFC, funding for adult and non-certified ('leisure') learning depended increasingly on the LEAs, since colleges were effectively forced to concentrate on programmes that led to qualifications on a centrally approved list. They also became progressively more unwilling to subsidise any course that recruited at slightly under break-even levels in a given year, and unable to plan for more than a year ahead because of the constantly shifting nature of the funding details. Employers, during this period, continued to reduce their willingness to pay for day release or other college-based training. However, colleges continued to receive large sums of money for government-financed training, channelled now through a new network of ‘Training and Enterprise Councils’, TECs (local enterprise companies in Scotland), which were established in 1991 and which decided what they wanted their clients to be offered, and contracted with either colleges or private trainers to provide it.

In 2001, the funding regime, and indeed the whole organisation of the sector, changed yet again with the establishment of the Learning and Skills Council (LSC). This took over the responsibilities not just of FEFC but also community and adult learning and the work-based programmes previously funded by the TECs. In England, 72 TECs were duly replaced by 47 local LSCs (staffed in large part by ex-TEC staff), while the national LSC took over the old FEFC headquarters, but with much expanded duties. In 2004, for example, its budget accounted for approximately a third of DfES annual expenditure.

So far, so simplified. However, the LSC was to be far more than the relatively lean formula-driven allocator of funds that the university sector enjoys in the form of the Higher Education Funding Councils. Its remit was to agree contracts with local colleges and other providers that would ensure that they delivered the right programme of courses and qualifications to meet a range of central government priorities.¹³⁷ These priorities included meeting the range of centrally set qualification targets for the country, within which particular, different, sub-categories received particular emphasis in any given year; raising stay-
ing-on rates among 16 year olds, and maximising the contribution of education and training to economic performance.

If one asked (as I have done) senior national LSC managers whether this meant they believed in the possibility of detailed manpower planning, they would deny any such misguided belief. But it is difficult to know how else to interpret what was asked of local LSCs. Certainly many – perhaps most – of their managers threw themselves into surveys of labour market ‘needs’ intended to tell them how many hairdressers ought to be trained in Stockport and how many bricklayers in Torquay. From this they drew conclusions about the courses local colleges should be allowed to provide.

This is, of course, crazy. Many of the most rapidly growing occupations of recent years, as well as some of those which have displayed the largest absolute increase in numbers, were not even dreamed of twenty years ago (when there was no internet, no DVDs or downloads, no call centres, mobile phone network or hedge funds, few cheap flights and even fewer second homes overseas, and virtually no Chinese export manufacturing). Moreover, this is a country where one in nine people, and one in three people in their early 20s, changes address in a given year. Nearly one in ten 16-29 year olds moves 200 km or more each year. At an aggregate level, London was losing 90,000 UK residents a year in net out-migration to other parts of the UK in 2000-03, replacing them with immigrants from abroad; and in the last 20 years the metropolitan counties of England overall have lost 2.25 million people in net out-migration to other parts of the UK – a figure which overlays far larger movements in and out.\(^{138}\)

The rationale behind LSC planning is that labour market information and governmental education priorities should determine what contracts they offer colleges and other providers of post-16 education. In practice, of course, there are other pressures. Trying to close down, or even severely cut back, a school sixth form because your area does not ‘need’ more A levels is not a wise move, especially in a marginal constituency. However, it is clear that, at present, the dominant influence on LSC decision-making are the signals given by DfES with respect to ‘priority’ targets.\(^{139}\) At any given time these may be basic skills targets, or level 2 qualification targets, or workplace


\(^{139}\) Coffield et al, op.cit.
programmes for employees, or sixth forms for specialist schools. In any conflict between these and local labour market demands – let alone student preferences – there is no contest.

The driver of the current system is the Treasury’s use of Public Service Agreements with government departments. These are designed to provide accountability measures for public services investment and provision, which in practice (and not just in education) tends to mean the ‘delivery’ of aggregate quantitative targets. Government departments, such as the DfES, in turn disaggregate these and pass specific ones on to the agencies they fund, such as the LSCs. Progress towards the targets consequently dominates civil service thinking. Qualifications remain the most favoured metric in education, because they are so easy to count, and because it is also easy for policymakers to convince themselves that they are a good proxy for skills.

Targets and indicators have come in for consistent criticism. However, far from any retreat from qualification targets as the basis for FE funding and ‘performance management’, recent policies have involved yet more enthusiasm for this approach. The National Employer Training Programme (‘Train to Gain’), which is the centrepiece of current Treasury-directed skills policy, is directing an increasing proportion of further and adult education funding towards adults in employment, at the expense of (especially) non-accredited adult education. These programmes will supposedly be demand-led, ‘built up from the employers’ business needs, and delivered in the workplace’, but in practice are tied to the award of formal qualifications, especially at level 2. As Julian Gravatt of the Association of Colleges points out, this is ‘not so much demand-led as command-led… The government will… decide on behalf of employers what is to be taught’.

To summarise, the sector’s core organisation follows a simplistic model of ‘rational planning’, albeit one buffeted by annual changes in government priorities. In addition, the neatness implied by LSC’s creation dissolved into complexity before it left the statute books. Coffield et al identify nine layers of bureaucracy that a pound of public expenditure must pass through on its way from the Whitehall to the learners themselves. Some of these involve direct lines of con-


141 Skills: Getting on in Business, Getting on at Work (DfES, HMSO, p. 11, 2005).

trol – LSC central to LSC region to LSC local – but others involve the multiple and changing organisations with which the LSC must consult, such as ‘Learning Partnerships’, ‘Local Strategic Partnerships’, ‘Regional Skills Partnerships’, Regional Development Agencies or Government Offices in the regions. On top of that, there continue to be programmes funded outside the LSC altogether; for example, adult training funded through the RDAs or Jobcentre Plus.

In addition to the statutory layers, there are also multiple bodies whose decisions impinge directly on both what the LSC can fund and on the nature of the curriculum content for a ‘provider’ who receives a contract to offer a course. Figure 1 is based on a ‘map’ of the post-16 landscape produced last year, and includes only the statutory bodies with a direct remit for the sector and its provision. (It thus excludes government-funded advisory and training bodies, professional associations, unions, research groups, employers or the media.) Moreover, just one year on, I have already had to alter some of the labels in the original diagram, and am confident that it will again be out of date within a short time of publication, if not before.

Figure 1 also highlights an additional area in which practical learning outside the higher education sector has been increasingly subject to centralised control: namely, in the nature and content of qualifications. Until the 1970s, vocational qualifications were almost entirely outside the control of the state, and were instead created by independent vocational awarding bodies. Some of these were directly organised and owned by the occupations concerned: others were offered by specialist examining bodies, of which the largest was City and Guilds, drawing on consultative committees drawn from the relevant occupation or trade. The first direct involvement of the government came with the establishment of the Business and Technology Education Council (BTEC), which created a range of technician and pre-university awards, largely for the growing numbers of full-time post-16 students, and with relatively little direct involvement from Whitehall.
However, in the 1980s the government became convinced that the economy was being harmed by the low rate of formal qualifications in the UK workforce, and that part of the problem was a confusing ‘jungle of qualifications’. These needed to be replaced by a single ‘comprehensive’ system of vocational
awards, allowing ‘ready identification of the relationship between qualifications and the place of each qualification within the overall structure’. In retrospect it is not at all clear that there was any ‘jungle’ at all. There was certainly a large number of awards and ‘awarding bodies’ (as, indeed, there still are), but most employers had no interest in more than one or two of them, and these were entirely familiar to the relevant sector. Hence companies navigated the qualification scene with considerably less trouble than most of us do a supermarket (a sector where there is rather little official pressure to radically reduce the choice of products on offer).

In any case, there was a concerted move to create a uniform suite of new qualifications – and to ensure that these were offered in government-supported training and education. National Vocational Qualifications were duly launched in 1986. Unlike most of their predecessors, these new qualifications were created by a government agency, supposedly in consultation with ‘lead industry bodies’, new ‘employer-led’ bodies set up and funded by the government. In practice, the qualifications were written by consultants drawn from a government-appointed shortlist, using a rigid template of ‘outcomes’, ‘elements’, ‘performance criteria’, and other specialised language, and requiring exhaustive assessment of an enormous range of material. A combination of direct pressure from government with funding mechanisms that made it very difficult for government-funded training programmes to offer any qualification other than an NVQ, forced City and Guilds to abolish and replace most of its traditional long-standing qualifications. The same occurred with most other vocational awards. In sectors where there had not been any qualifications beforehand, new bodies were formed by government to develop and award NVQs: some survived but many found no takers.

NVQs are now run by the Qualifications and Curriculum Authority (QCA) in consultation with the state-sponsored Sector Skills Councils (successors to the National Training Organisations which were in their turn successors to the Industry Lead Bodies set up in the 1980s). The QCA is also responsible more generally for determining whether a vocational qualification other than an NVQ can be offered using public funding. (A good number of non-NVQs still survive, because
of employer and learner demand.) However, within QCA (and indeed within government more generally) vocational qualifications have become very low profile.

Here too, therefore, the FE sector has been involved in a massive increase in centralised control: one with parallels in the school field (where the QCA now controls curriculum content and examinations) but not in higher education.

**Planning, prestige and productivity: is any of it working?**

It is now more than 30 years since the Manpower Services Commission was created to improve vocational and technical training, and more than twenty since NVQs were conceived. While the MSC’s activities were in considerable part a short-term response to growing unemployment, it is nonetheless true that the senior officials responsible were genuine in believing that MSC initiatives would both provide an important stimulus to effective skill development and economic growth, and radically alter the status of practical learning. It was in the name of these laudatory ends that further education was, and continues to be, subjected to a level of central control that is not only far higher than ever before in the sector’s history, but also completely different from the higher education sector.

The second objective—improving the status of practical learning—is one where progress is by its nature hard to measure. However, one important indicator must be the choices that 16 year olds make, since these are informed by perceptions of the relative value of different options, including their status and the respect in which they are held. The period we are considering has in fact been marked by an enormous increase in the number and proportion of young people choosing academic options at age 16, and aiming at, or entering, higher education, and surveys consistently show that the proportions aspiring to university continue to rise. Of course, this is by no means simply because of ‘status’—and university courses include many that are practical and vocational. But it does not suggest any great triumphs in the status arena either.

And what of the first objective, which was and remains the driving force behind government policy in this area? Successive governments have viewed the expansion of higher education predominantly in economic terms, justified by its supposed
contribution to growth. They have not, however, attempted to direct, in detail, the mix of courses open to students, both nationally and in each individual institution, let alone to lay down the precise curriculum content of university degrees. In the area of further and vocational learning, they have done precisely this.

If this policy has been successful, then we ought to be able to find some clear evidence in the economic statistics. We do not. Instead, governments’ continued adherence to this approach requires them to ignore a growing body of practical and research evidence. It is precisely those types of qualification and training programme with which the government has most occupied itself, those which it has nationalised, designed in detail and prioritised in its plans for further education, that now appear least likely to show any positive benefits for either those gaining them or for society as a whole.

We noted earlier that young people have shown little enthusiasm for ‘work-based’ training, most of which is run by specialist ‘providers’, and so is very different from a traditional employer-sponsored apprenticeship. Dolton examined the experiences of young people who had been on work-based training courses such as the Youth Training Scheme in the 1980s, using longitudinal Youth Cohort Study data.\textsuperscript{150} He found that they actually did worse in their post-training careers, after controlling for prior education and qualifications, than equivalent young people who had not been on such schemes. In other words, these schemes seemed to bring no benefits and, indeed, sometimes actually to be harmful to prospects. It is possible that this is because young people in training were actually different in unobserved ways from their apparently equivalent peers, and this explains the finding, but the results are, at the very best, discouraging.

When one turns to evidence for adults, it becomes very hard to explain the findings away as the result of unobserved differences. The National Child Development Study (NCDS) has tracked all those born in the UK in one week in 1958, providing a very large data set\textsuperscript{151} and making it possible to control for large numbers of background factors when examining their experiences as adults. Research carried out by the DfES-funded Centre for the Economics of Education examined the impact

\textsuperscript{150} PJ Dolton, ‘The Economics of Youth Training in Britain’ (Economic Journal, 103, pp. 1261-78, 1993).

\textsuperscript{151} About 17,000 individuals: full data up to age 40 is available for over 11,000 of these.
on these individuals’ earnings of qualifications gained between the age of 31 and 40 (1991-2000), controlling for myriad background factors, including family background, previous formal qualifications and direct measures of attainment at ages seven and eleven.\textsuperscript{152}

The period concerned is one in which both Conservative and Labour governments were promoting vocational qualifications heavily, and also systematically increasing central government’s control over further education. Many of the NCDS respondents had obtained qualifications in this period, and these were overwhelmingly lower-level vocational qualifications of the type advocated by government policy. Table 1 summarises the numbers who had obtained further formal vocational qualifications in their 30s, suggesting considerable success for government attempts to increase the numbers of ‘qualified’ individuals in the workplace.

### Table 1
**Percentage of NCDS (1958 born) cohort obtaining vocational (occupational) qualifications 1991-2000**

<table>
<thead>
<tr>
<th>Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>15.68%</td>
</tr>
<tr>
<td>Level 2</td>
<td>7.14%</td>
</tr>
<tr>
<td>Level 3</td>
<td>2.81%</td>
</tr>
<tr>
<td>Level 4</td>
<td>4.09%</td>
</tr>
<tr>
<td>Level 5</td>
<td>2.78%</td>
</tr>
</tbody>
</table>

(Qualifications are categorised using the National Qualifications Framework, which incorporates all qualifications (vocational and academic) approved for offer in publicly funded institutions. Among academic qualifications, level 2 includes GCSE and level 3 A levels: level 2 vocational would include care assistant and basic construction qualifications.)

If qualifications of the type being promoted achieve their objective and increase work-relevant skills, this should in turn increase their holders’ productivity, and their wages. The extent to which this happens immediately or totally will, of course, vary: some productivity gains may be ‘captured’ by the employer who is able to avoid passing them on.\textsuperscript{153} Nonetheless, and especially in a relatively mobile and open labour market such as the UK’s, one would expect and predict that clear income gains will be apparent for those who obtain further qualifications.

\textsuperscript{152} A Jenkins, A Vignoles, A Wolf and F Galindo-Rueda, ‘The Determinants and Effects of Lifelong Learning’, (Centre for the Economics of Education Discussion Paper 19, 2002).

\textsuperscript{153} UK productivity has also been less than impressive of late (e.g. zero growth in hourly productivity in the third quarter of 2005). This is obviously associated with a wide range of factors, but the official DfES estimate (basis unknown) is that 20% of productivity differences between the UK and more productive competitors is associated with skills differentials. Whether or not skills are as important as officials believe (and see Lewis (2004) for a sceptical view), recent increases in qualification levels are either having little effect or – just possibly – making up for major problems in other areas.
It is, after all, exactly such an income advantage, accruing to graduates, which is used to justify the argument that universities benefit the economy.

In the case of adults who gained the government’s priority qualifications, however, no such income gain can be found. On the contrary, as table 2 shows, the effect of low level vocational qualifications on earnings – notably the current ‘high priority’ level 2 qualifications – was at best neutral, and in some cases significantly negative. (By contrast, 5% of the NCDS sample had obtained a degree-level academic qualification during the period, and this had clear positive effects on earnings.) Gaining level 2 vocational qualifications in one’s 30s – and these are the qualifications that are currently the top priority for every LSC in the country – was associated with earning less at age 40 than one’s contemporaries who were like one in every other way but this. To be precise, gaining a level 2 vocational qualification was associated with a 10% reduction in earnings for men, and a 7% reduction for women, holding multiple variables constant. By contrast, a university level academic qualification – gained in a sector where institutions are much freer to offer supposedly ‘Mickey Mouse’ qualifications, and where government has not (yet) taken control of content – was associated with a 15% gain for men, and 22% for women.

Table 2
Impact on wages of 40 year olds in 2000 of vocational qualifications gained since 1991

<table>
<thead>
<tr>
<th>Type of qualification acquired</th>
<th>Males (Base case: no qualifications gained) (n = 2819)</th>
<th>Females (Base case: no qualifications gained) (n = 2960)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>No significant effects</td>
<td>No significant effects</td>
</tr>
<tr>
<td>Level 2</td>
<td>Negative effect (1% level)</td>
<td>Negative effect (5% level)</td>
</tr>
<tr>
<td>Level 3</td>
<td>No significant effects</td>
<td>No significant effects</td>
</tr>
<tr>
<td>Level 4</td>
<td>No significant effects</td>
<td>Positive effects (5% level)</td>
</tr>
<tr>
<td>Level 5</td>
<td>No significant effects</td>
<td>No significant effects</td>
</tr>
</tbody>
</table>

Does this mean that practical skills and practical learning are, in fact, irrelevant in a modern age? On the contrary. What is truly disturbing for any evaluation of current government policy
is the contrast between the findings for qualification-bearing education and training, and those for uncertified employer-purchased training. For what these suggest is that the relevant types of practical learning are extremely important; and that government is signally failing to provide them – and failing at very large expense.

The finding that workers who receive training tend, in the years thereafter, to earn more is very well established in the literature. However, in the case of the NCDS data, we can both control for multiple background variables, including prior income, qualification and attainment levels, and compare the impact of qualifications and employer-provided uncertified training for the same group of people. The finding is clear. Uncertified training, provided in the workplace, is associated with significant gains in income (and, presumably, productivity). So skills can, and often do, pay.

Both the NCDS and the similar, later data set covering adults born in 1970 also enable us to see what effects non-accredited adult education has on those who undertake it. This is, as we have seen, the type of education that has been squeezed out increasingly over the years, by governments set on funding ‘skill strategies’ designed to improve economic productivity. However, it turns out to have some quite clear and measurable social outcomes. Controlling, again, for background factors, we find that adults who take ‘leisure’ classes tend to be healthier, less depressed and more engaged with their communities.

There is a standard argument put forward to explain a policy of steadily reduced levels of support for general adult education. It is that there is no good or obvious reason why tax money should be used to cover leisure activities for adults who could afford to pay for it themselves. Subsidising skills training is by contrast justified, because it will supposedly benefit the whole economy: first, by raising the productivity not just of those who undertake it but of their colleagues and the economy as a whole; and, second, because of the likelihood of ‘market failure’ and underprovision at enterprise level in the absence of subsidy. The key argument here is that employers will not fund training to the levels that are optimal for the economy as a whole out of fear of losing trained employees to others who can themselves offer higher wages because they have not borne the

---

156 Although it is always difficult to separate the effects of training on worker productivity from, first, the tendency for successful companies to train more and, second, the tendency of employers to invest most in those workers whom they perceive to be most able. See e.g. K Ananiadou, A Jenkins and Wolf, ‘Basic Skills and Workplace Learning: What do we actually know about their benefits?’ (Studies in Continuing Education, 26: 2, pp. 289-308, 2004).


160 R Layard, K Mayhew and G Owen, eds., Britain’s Training Deficit (Avebury Press, 1994). These are both ‘externalities’ arguments, but slightly different ones.
training costs (a process commonly referred to as ‘poaching’).

These arguments look less than secure in the light of the empirical data. It can indeed be argued plausibly that the market will not produce ‘optimal’ levels of training. But it does not follow that government attempts to redress such assumed failures will succeed. They may perfectly well simply compound market with government failure. This appears to be happening in the UK. Vocational awards of the type which government promotes turn out to have no obvious impact on productivity, unlike the training which employers fund themselves. Conversely, the adult education that supposedly has no general social benefits over and above the individual enjoyment of participants turns out to have quite significant general social benefits. It is also, of course, the sort of adult education which remains freely chosen by participants, and in which the pattern of provision is thus a function of learner demand rather than central fiat.

We have now conducted a 25-year experiment in which governments have taken an ever more direct role in the planning, funding and micro-management of practical learning outside higher education. Learners have been offered less and less choice over what they can study; and employers’ actual influence over content in certificated learning has diminished, as locally developed courses give way to national requirements. We are left with continuing skill shortages, and an evident lack of return to the types of qualification supported and promoted from Whitehall. Meanwhile, uncertificated, employer-funded training continues to benefit its recipients; and the ‘graduate premium’ shows little sign of diminishing, in spite of the sector’s huge expansion. Do we need another 25 years to convince us that it is time to change?