

Teaching and Learning Research Programme

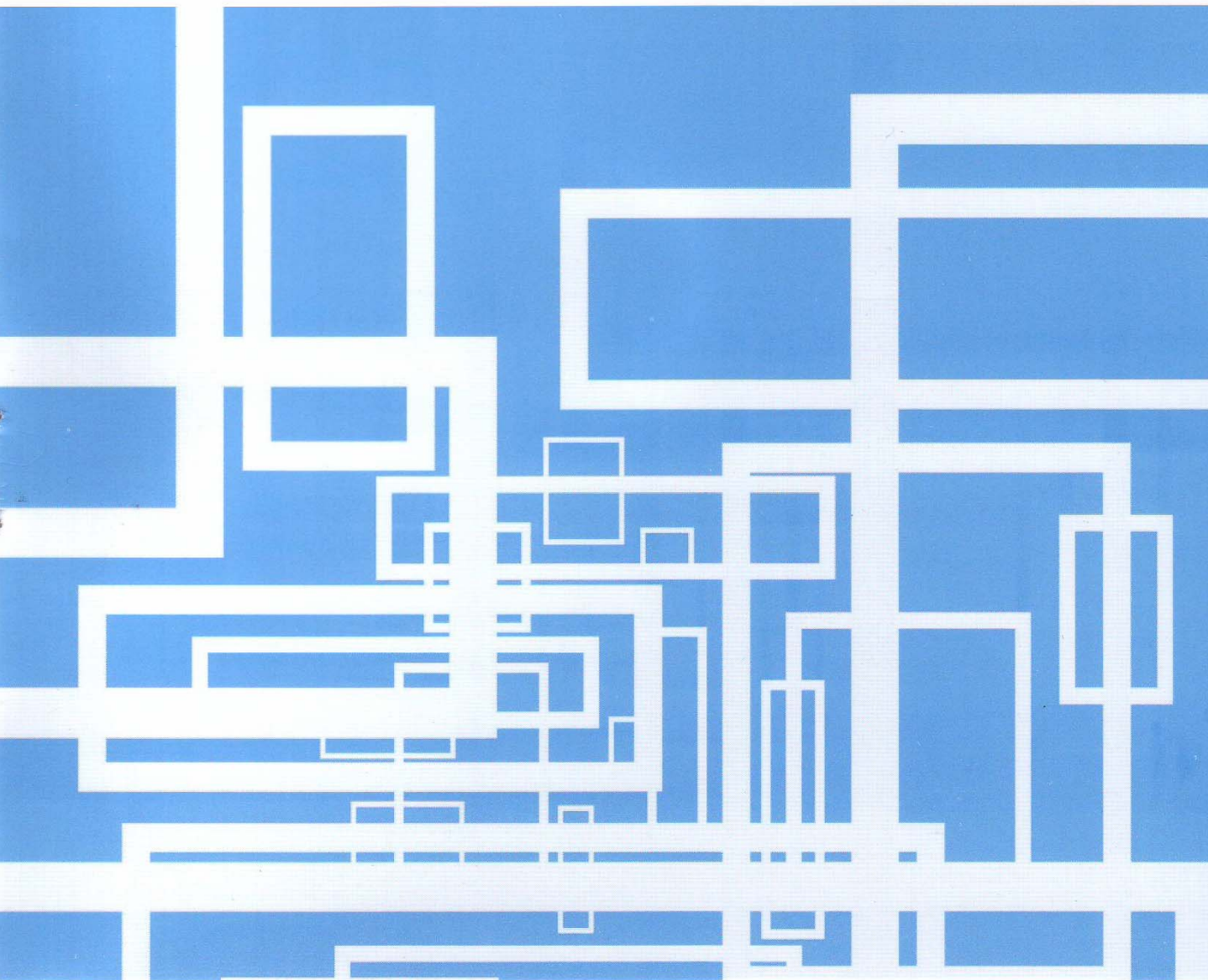
14-19 Education and Training

A Commentary by the Teaching and
Learning Research Programme

May 2006

TLRP

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Foreword

The Teaching and Learning Research Programme is the biggest-ever investment in educational research in the United Kingdom, and is the largest programme currently managed by the Economic and Social Research Council. Its aim is to shed light on learning and teaching throughout life, and to produce findings which will help improve educational outcomes for people of all ages.

A number of TLRP projects are working on issues of direct relevance to the future of 14 -19 education and training. Responses to government initiatives in England such as the Tomlinson Committee's proposals and the 14 -19 Education and Skills White Paper show that there is no consensus about how to educate people in this age group. Further changes to the system are inevitable. Moreover, the complexity of the issues involved means that discussions about the pace and direction of reform will continue alongside consideration of how to implement changes that have already been agreed.

In response to the need for continuing dialogue between researchers, policy makers and practitioners about the most appropriate ways forward, TLRP has run two evidence-based seminars on this topic in collaboration with the Qualifications and Curriculum Authority's 14-19 Advisory Group. We are now publishing this summary of our work in the field. The issues arise in different ways in England, Scotland, Northern Ireland and Wales and we hope that this summary will be of interest throughout the UK.

This is the fourth in a series of TLRP Commentaries and helps articulate the ESRC's commitment to engaging both policy makers and practitioners with its research. We would welcome your comments. For more information and contact details, please visit the Programme's web site, www.tlrp.org.

Professor Ian Diamond FBA AcSS
Chief Executive, Economic and Social Research Council

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May 2006

1. Introduction

14 – 19 education and training in the United Kingdom

This Commentary was stimulated by controversies about 14 -19 education and training in England. The underlying issues also arise in different ways in Wales, Scotland and Northern Ireland. Policy in this area is diverging between the four home countries. This means that it is important to focus on the key issues where research can illuminate policy rather than looking only at developments relevant to a specific country.

The issues have been unfolding for some time. In England, the working party report on 14 -19 education and training (2004), chaired by Sir Mike Tomlinson, was rapidly followed by the Government's 14 -19 Education and Skills White Paper (2005a). Both highlighted the need to reform many aspects of education and training for 14-19 year olds. The proposals which followed Tomlinson can largely be seen as an attempt to make the current system operate more effectively. But decisions could be taken later to implement a version of the broader and more radical vision for the sector that Tomlinson envisaged.

The Teaching and Learning Research Programme, together with the Nuffield Review of 14-19 education and training, will participate in articulating the choices on how 14 -19 education and training might be developed in the future. This Commentary is a contribution to such discussions.

The TLRP aims to improve outcomes for learners of all ages and manages some 60 investments. Many of its projects are engaged in research highlighting important issues for the education and training of the 14 -19 age cohort. These issues are drawn from several sectors and reflect the fact that 14-19 year olds are now learning in a wide range of settings including schools, sixth forms, further and higher education, private and voluntary sector organisations, and workplaces. TLRP's wide interests mean that its researchers are well placed to contribute to this debate

In the past, compulsory and post-compulsory education have been thought of as distinct and separate phases. All four home countries are interested in easing the transition between these phases, particularly to facilitate lifelong learning. In different ways, England and Wales have gone furthest towards considering 14 -19 as a phase of education in its own right as a means to achieve this goal. However, such a change might not be helpful if the age of 14 were to become a new watershed and the continuity and coherence of prior education were to be disrupted at a new point of transition. Changes need to be made if 14-19 is to be considered a distinctive phase, and the implications for the phase that precedes it would need careful thought.

In September 2004 the Welsh Minister for Education and Lifelong Learning launched the *Learning Pathways 14-19 Guidance* (National Assembly for

Wales, 2004). That document featured a Learning Core that identified 'the skills, knowledge, understanding, values and experiences that all learners need to prepare them for further learning, employment and personal fulfilment so they can contribute to our bilingual and diverse society, whatever learning pathway they choose to follow.' In July 2004 the DfES published its Five Year Strategy for Children and Learners (DfES, 2004) and set a clear direction for policy development in England. In relation to 14 -19 education, it offered a 'vision for a reformed and personalised system' to provide a 'world class curriculum offer for all'. The 14 -19 Education and Skills White Paper (DfES, 2005a) sustained the commitment to personalisation and it featured equally strongly as an underpinning rationale for new education investments in the Chancellor's 2006 Budget (HM Treasury, 2006).

'Education tailored to the individual' is seen as a way of both tackling exclusion and raising standards in England. Scotland and Wales have put their faith in more systemic reform. The Scottish Credit and Qualifications Framework (SCQF, 2006) has been developing clear progression and credit transfer pathways that build on earlier curriculum and qualifications reforms, while the Welsh Assembly Government is developing the Welsh Baccalaureate in order to provide 'the breadth and experience so critical to young people if they are to make their way in the world - and to take it in much greater numbers than currently achieve advanced academic or vocational qualifications' (WJEC, 2004). In Northern Ireland the Department for Employment and Learning published the Skills Strategy for Northern Ireland in February 2006 (DELNI, 2006). This sets out reforms whereby 'all young people will have the opportunity alongside their academic curriculum, to take high quality, high value vocational education courses' as part of a Vocational Enhancement Programme in Northern Ireland.

This policy divergence may make it appear that more personalised learning is primarily an English concern. But from a TLRP perspective, a growing focus upon teaching and learning seems to underpin policy and practice in all four countries.

The TLRP's first Commentary was on Personalised Learning (Pollard and James, 2004) and drew mainly on school sector projects. It found that Personalised Learning's emphasis on learners and learning was important and timely and was being tackled in evidence-informed ways, and applauded its focus on improving teaching and learning to enhance outcomes. But we added that, given the pressures, constraints and expectations of the last decade, it would need considerable resolve to prevent discussion of Personalised Learning losing its focus on learners and learning, and shifting back into an over-simplified consideration of teaching provision and associated systems. In particular, the current concept of personalised learning might need to be extended to address lifelong learning issues such as the development of learning dispositions and learning identities.

Standing back from the specifics of particular projects or policy initiatives, TLRP has also been working to identify underlying 'principles of teaching and learning.' These were the subject of the second TLRP Commentary (James

and Pollard, 2006). In this context, we particularly welcome the initiative by the Secretary of State for Education to establish a Review, led by Christine Gilbert, Chief Executive of Tower Hamlets Council, to set out a vision for how teaching and learning should develop between now and 2020.

This Commentary on 14-19 Education draws on evidence from TLRP projects working in post-compulsory settings. However, issues from schools are also likely to apply as personalisation develops within 14-19 education and training. Both sectors would benefit from more conceptual clarity, and from more awareness of the interconnectedness of the issues involved. This is a necessary foundation for the development of coherent policy and practice.

2. Education and training for 14 – 19 year olds: challenges for the future

14 – 19 education and training contain many complexities for policy-makers and practitioners. Sometimes a specific research project can provide useful insights into a particular problem. But more commonly, the TLRP's contribution is to address some of the underlying issues, and provide evidence about them. In this way, bearing in mind that easy answers on 'what works' are unlikely to be available, we hope to contribute to evidence-informed judgement.

We believe that seven major issues and dilemmas face practitioners and policy-makers face at this pivotal, time for the 14 – 19 sector.

• The complexity of 14 – 19 education and training

A major challenge is to understand the progress of young people within this complex phase. Learners have a wide range of goals, aspirations, achievements and identities. These exist in the context of a variety of institutions, qualification structures and labour markets. Learners, teachers, employers and others involved in this sector have a very wide range of perspectives and it is often difficult for individuals to see the big picture.

Issue

How to cope with the specific whilst being aware of how the system as a whole works?

Commitments by UK governments to the 14 – 19 sector emphasise the economic case for making future cohorts better educated, better trained and more highly skilled than the existing workforce. But 14 – 19 education and training are also important because they set people on particular pathways and learning and career trajectories. These affect their future skill development, their attitudes to formal and informal learning, their economic outlook, the opportunities open to them and their personal development. Thus 14 – 19 education and training has a variety of social, economic and political goals in addition to being important for educational and personal development.

Issue

How to balance educational and training provision for 14 – 19 year olds to satisfy such a wide range of potentially competing goals?

● A period of transition, choices and decisions

Learners face major changes during the 14-19 phase, not least because this is the time when young people develop behaviours and attitudes associated with the transition to adulthood. These changes affect their perspectives on school, their attachment to different subjects and their aspirations for further education and training. The educational provision which learners experience also changes at this stage. Some have to cope with the challenge of multiple border crossings between school, further education, higher education and work. The size of the challenges for those who have to negotiate a number of moves between these different environments is not always acknowledged.

Issue

How to provide specialist forms of education and training without undermining learning progress through multiple transitions?

The transitional nature of the 14 – 19 phase also draws attention to the importance of choice and constraints, and the consequences of decisions and non-decisions for learners. There is universal agreement, in principle, that young people and their families need to receive information about entitlements and options at appropriate times. For instance, there are proposals for online prospectuses which will provide high quality, accessible information. However, such information and guidance must be made easily available to anyone in the age group, including those currently not participating in education or government-supported training programmes.

Issue

How to enable well informed choices, and ensure that information and opportunities are available to all?

Some individuals choose to follow well-established paths, notably the academic track, that have clear trajectories with well-understood processes and destinations. Those who do not follow this path are faced with a set of less familiar choices, where outcomes may be uncertain and it is less clear how to choose between the options.

Issue

Is it best to offer more hybrid programmes to engage more learners (for example, mixing vocational and general education units), or would this risk destabilising qualifications and pathways that are currently well understood?

● Knowledge, skills and the economy

The goal of making young people better educated, better trained and more highly skilled than previous generations has an explicit economic dimension as well as reflecting social and educational goals, although there is no universal agreement on these objectives. The UK economy is partly

dependent upon the growth of knowledge-based capacity, and will need people with a wide range of professional, intermediate and other vocational skills. Better vocational education and training provision is an economic necessity and we must be clear about the nature and purpose of vocational learning. However, there are no guarantees that up-skilling will help young people overcome labour market disadvantage or protect them against economic change or future recessions. The challenge is to influence perceptions about the status of vocational education and training, especially in comparison to higher education.

Issue

How can we promote the benefits and opportunities of high- quality vocational education and training pathways to a wider range of learners?

Boosting the range and quality of vocational provision is a laudable goal and there are a range of proposals for doing so, including the development of local centres of expertise and leadership. However, there needs to be a clear distinction between curricula and forms of assessment designed to address the residual problems of mainstream school provision, and vocational learning that is designed to provide progression through further education, training and employment. In the debate about the consequences of separate academic and vocational tracks, the assumption that those not 'achieving' at age 14 or 16 should follow a vocational route is itself a significant barrier to enhancing vocational provision.

Issue

How can vocational curricula be designed to support social inclusion without undermining attempts to enhance the status of vocational provision as a whole?

Evidence suggests that work-related learning initiatives, general vocational qualifications and vocational programmes in schools often lack a clear rationale. The purposes of work experience, the place of vocational qualifications before 16 and the motivational aspects of vocational learning all need further investigation. Clarification is needed of the role of employers, whose engagement with the reform process has so far been limited.

Issue

How can employers be most helpfully involved in vocational education while appropriate educational objectives are maintained?

There is also a larger question. If knowledge work and lifelong learning are going to be increasingly important in future, does this have more fundamental implications for curriculum design in this phase? Should there be a more fundamental reconfiguration of subjects to give greater emphasis to the development of key processes? Would this disadvantage students who are attached to particular subject identities and appreciate studying their subject in depth?

Issue

How might more opportunities be created for some learners without damaging the prospects for others?

• Identity and learning

The themes of transition, choice and constraint in this phase are crucially bound up with the notions of identity and identity development. Choices made and pathways adopted reflect young people's views of themselves as learners and their views on the type of people they wish to become. But navigating a path is a socially constructed process. Peer groups, family and teachers influence the choices that are made. The range of roles and pathways on offer depend on how the labour market is structured and how work is organised. The attitudes of employers are of key importance here.

Issue

How do we provide structures and process to support exploratory learning by young people whilst also respecting their agency and emerging identities?

One way of considering an identity is as an unfolding story – an emerging narrative of our self, in which we feel secure. However, a number of young people in the 14-19 phase have relatively fragile identities as learners or experience environments in which they feel vulnerable.¹

It is possible to support the development of more confident learners within education and training, often after making explicit changes from the approaches to learning which caused difficulties in the past. Hence the decision of some learners to opt for programmes on the basis that they do not include formal examinations, and by other learners to seek a new learning environment, for example by moving from school to a further education college. For other young people, a move to a work environment in which they feel more secure and valued helps rebuild their fragile learner identities. But this can only happen in a supportive work environment, and work or work experience is not a magical solution. Its success depends upon the extent to which a work environment can offer opportunities for the young person to develop.

¹ The changing role of identity and agency in learning across the lifecourse is an important theme for TLRP as a whole. Ideas drawn from two TLRP studies looking at the learning biographies of children progressing through compulsory education and at adults over the age of 25 would be a useful source of reference for those interested in these issues for 14 – 19 year olds. The former study by Pollard and Filer is a twelve year, longitudinal ethnographic study in which social influences on the learning of two cohorts of children were traced as they moved through their entire compulsory schooling in a city in southern England, while the 'Learning Lives' project, led by Gert Biesta, is a longitudinal study involving the development of learning biographies for 150 adults aged between 25 and 65+.

Helping young people with fragile learner identities rebuild their confidence in their ability to learn is a key task for education and training in this phase. Not to do so runs the risks that these young people will 'retreat,' avoid engagement with further learning and risk social exclusion in the future.

Issue

For those with fragile learner identities, how to move beyond unsuccessful experiences and build self-confidence whilst perhaps tackling a similar set of learning challenges?

● **Assessment, learning and selection**

Transition, choice, constraint and identity development for young people is already a strong mixture, but when you add in 'high stakes assessment' the brew becomes particularly potent. The problems associated with over-assessment in this phase are widely acknowledged. However, even the form and purpose of assessment associated with particular types of learning and qualifications cannot be considered in isolation. We need to consider how different types of assessment inter-relate. There can be unintended consequences elsewhere in the system, and certain forms of assessment may constrain some types of learning.

The value of an assessment outcome can be judged in four ways:

- Does it recognise achievement?
- Is it helpful in selection?
- Does it encourage further learning and skill development?
- Does it give access to further education and training?

Issue

How can independent, self-aware learning be supported through formative assessment whilst societal requirements for the certification of capability and selection are also met?

Different forms of assessment facilitate particular outcomes over others, while some qualifications are more rewarding for some learners than for others, and have different effects on their motivation. Another concern should be with striking the right balance between nurturing deep learning processes and crediting immediate learning outcomes. All young people should leave this phase with some positive learning experiences and an awareness of the circumstances in which they learn best.

Issue

Can a system be devised so that the cumulative effects of learning and assessment in this phase provide a strong platform for lifelong learning for all learners?

● Learning environments and structures

We know that different learning environments and institutional structures have a significant effect on learners themselves. But there are many discontinuities between school, further education, higher education and the workplace. Perhaps more effective learning contexts and linkages could be created. Such developments would emphasise the need for critically reflexive teachers, tutors and other staff who can support learners' adaptation to new environments and respond to a diverse range of students.

Learning environments that support deep learning processes are likely to require extensive collaboration between different types of providers, whether schools, colleges or workplaces. Whether collaboration is facilitated or constrained is itself a system-wide issue. To meet the varying needs of pupils and to open a wider range of vocational options to more people, some proposals for reform presuppose a much greater degree of collaboration between schools, colleges and workplaces than we see today. Policy levers, funding and support all need to be in alignment if this ambition is to be achieved. Collaboration is expensive, whilst other policies, and factors such as the existence of performance tables, may act as a spur to competition between schools and colleges.

Issue

How to facilitate collaboration between providers in the interests of learners, when the predominant policy driver for the system as a whole is the performance of particular institutions?

● Inclusion, equity and social justice

The UK is characterised by relatively low levels of social mobility. Education, particularly during the 14 -19 phase, plays a key role in the allocation of learners to different pathways. These have very different outcomes in terms of learning, the labour market and ultimate life chances. While economic arguments emphasise the importance of developing young people's knowledge and skills, the educational perspective highlights the central role of personal development.

One current discourse on the relationship between education, training and employment makes great play of economic arguments in relation to the labour market, economic growth and the knowledge society, while at national and European levels there is also an inclusion agenda based on concerns with citizenship, equity and social justice. The interaction between these two discourses is a key issue for education and training in this phase. In addition, a concern for inclusion means acknowledging the key role of the tutor in the nurturing and recovery process required to rebuild the fragile learner identities of some young people. The reengagement of young people is especially challenging where under-achievement is linked to inequalities associated with class, race, gender, ethnicity or disability.

International comparisons highlight the low participation rate in education and training by 17 – 19 year olds, particularly in England.² Given the poor long-term labour market prospects for those with few or no qualifications, this low participation suggests the need for a social inclusion agenda that addresses structural inequalities as well as encouraging individual participation. There is also a need to recognise the structural conditions within which a discourse based on personalisation and individual choice is framed. Living and learning in a society where there are major social and economic inequalities means that people’s freedom to choose future education and employment pathways varies widely. Indeed there are a whole range of economic and labour market factors as well as social behaviours such as stereotyping, discrimination and prejudice that influence the extent to which individuals can realise the choices they make.

Vocational provision is sometimes regarded as a vehicle for engaging or reengaging young people who are disenchanted with general education. This is a worthwhile aim. But such provision is not necessarily ‘vocational’ in the sense of leading somewhere particular in labour market terms. It may also be that some individuals are not ready to re-engage with formal learning at this time in their lives but may do so at a later stage. So it is important to continue efforts at reengagement beyond the age of 19.

Issue

How to promote inclusion, equity and social justice for all young people in a way that does not undermine the perceived value of vocational routes?

The TLRP does not claim to have simple answers to such challenges. It is committed to working with partners to develop ways forward based on the production, review and analysis of high quality evidence, and the application of professional judgement.

This Commentary offers overviews of some key issues concerned with teaching and learning in further education and in the workplace, coupled with brief reports from TLRP projects that are conducting research with particular relevance to 14 – 19 education and training in these areas. There is also an outline of how other TLRP projects are handling issues of progression from this phase into higher education, and the role being played by the Nuffield 14-19 review in facilitating debate about policy in this area.

The final section of the Commentary highlights some enduring issues and dilemmas with which practitioners and policy-makers are engaging at this pivotal, and historic, time for the sector. We have identified seven such issues, from which various challenges for policy and practice follow.

² The FE White Paper (DfES, 2006) points out that the “proportion of our young people staying on in education and training post-16 is scandalously low: the UK ranks 24th out of 29 developed nations.”

3. Teaching and learning within Further Education and their implications for 14 – 19 education and training

The future role of further education colleges: evidence submitted to the Foster Review

Kathryn Ecclestone, University of Nottingham

Debate about 14 – 19 education and training has been partly framed by wider discussions about the future of further education, in particular Sir Andrew Foster's review *Realising the Potential: A review of the future role of further education colleges* (DfES, 2005b). In this context, given that the TLRP is committed to supporting the development of evidence-informed policy and practice, it is appropriate to start with a consideration of the response which TLRP made collectively to the Foster review. In February 2006, researchers from four projects³ researching policy, teaching and learning in the learning and skills sector and further education colleges met to discuss evidence and emerging findings from their projects in relation to the questions and recommendations emanating from the Foster review of further education. In due course, we anticipate that the work of these projects will be refined further to produce a research-based set of principles for effective teaching and learning in further education colleges, to go alongside the research-based set of principles for effective teaching and learning in schools which the TLRP has already produced (James and Pollard, 2006). The researchers' continuing dialogue with policy-makers associated with the Foster review emphasised the role of research in policy formulation, policy and governance and mission and purpose in FE colleges.⁴

The role of research in policy formulation

The project on Policy and Inclusion in the learning and skills sector made a brief written submission to the Foster Review. Sir Andrew Foster also read and commented favourably upon our first major research article and report on the structure and operation of the new learning and skills sector in England. In June 2005, Frank Coffield and Ann Hodgson, two of the co-directors of the project, met Sir Andrew to discuss the implications of our research for the future role of FE, as part of the review. We were encouraged to see that some of the points made to him by our project appear in his report, particularly

³ The researchers (Richard Steer, David James, Roz Ivanič and Gareth Parry) were representing four projects that contributed to the following analysis:

- The impact of policy on learning and inclusion in the learning and skills sector
- Transforming learning cultures in further education colleges
- Informal and formal literacies in further education
- Widening participation in higher education: the place of higher education in FE colleges (this project begins in 2006).

⁴ On 27th March, 2006 the government published its White Paper on FE: *Further Education: Raising Skills, Improving Life Chances* (DfES, 2006). The recommendations of the Foster Review were accepted more or less in full.

the important distinction between sector and system and his references to role and organisational confusion among the main bodies in the system.

Researchers from TLRP projects on FE would welcome opportunities to offer continuing insights, perhaps through the Implementation Unit proposed by the review. Research in the TLRP offers robust and well-warranted evidence about diverse aspects of policy, teaching and learning in the FE sector and we believe that representation from the TLRP in the new Unit would be useful.

Policy and governance

The Policy and Inclusion project highlights strongly the problems of role confusion within the learning and skills sector, in particular between the DfES and the LSC and between the roles of the various organisations involved in quality assurance and quality improvement.⁵

The three TLRP projects on further education show that staff feel immensely pressurised by the impact of planning, funding, targets, inspection and the endless waves of initiatives.⁶ These external pressures divert the energies of individuals and institutions, away from their core task of improving the quality of teaching and learning. The Transforming Learning Cultures project suggests that Foster's discussion of workforce development, quality assurance and governance as a backdrop for teaching and learning overlooks the finding that these factors are deeply imbued in everyday teaching and learning activities and have a profound effect on teachers' attempts to change their practice for the better.

The Policy and Inclusion project has found widespread support for better local planning of post-16 provision within a more coherent 14+ system. However, this effort at greater co-ordination for the benefit of 'users' may be undermined by tensions within government policies promoting institutional collaboration on the one hand and competition on the other. Inequalities in funding for different types of learners need to be redressed, to ensure fairness in the system as well as 'value for money'.⁷

⁵ The FE White Paper (DfES, 2006) does acknowledge concerns about the complexity of the infrastructure in the learning and skills sector and does seek to clarify that the LSC should "focus on strategic commissioning...[and] work with Local Authorities on 14 – 19 strategies." The LSC Chair is required to advise on a new accountability structure down to local level which will be regularly reviewed.

⁶ The FE White Paper (DfES, 2006) seems mindful of this in two ways. First, as with Foster, it recognises that FE has faced much change over recent years and reiterates that the intention is to build on the strengths of FE. Second, there is an attempt to lift some of the burdens by changing the relationship between a college and the LSC, with the college becoming more autonomous and self-regulating, and the LSC more strategic and supervisory. "For most colleges and providers, conversations will take place just twice a year, once to agree a plan and once to review performance against it."

⁷ There has been some movement here too as the FE White Paper (DfES, 2006) proposes: "to examine whether funding for 14 – 16 yr old learning should be distributed so that where a young person attends more than one institution each is funded proportionately." A number of tricky issues remain, but the White Paper outlines some possible models of ways forward.

The Policy and Inclusion project has highlighted two problems linked to inspection and quality improvement: firstly, the fact that there has been considerable confusion within the learning and skills sector over responsibility for quality improvement⁸; and secondly, while a lot of attention has been devoted to making improvements in seriously under-performing colleges, much less has been paid to improving quality in colleges with middling inspection grades which may not be realising their full potential.

Mission and purpose

The 'skills agenda' versus a broader purpose for FE

We welcome the raised profile and attention that the review gives to an undermined and undervalued sector. However, our research does not show support for the narrow mission of 'skills' as the basis for inclusion proposed by Foster. Instead, all projects concur with Foster's positive comments about the attitudes and motivation of students in FE, and show that learners and teachers welcome the diverse purposes and second chance opportunities offered by colleges.

The projects also show that colleges deal with very large numbers of young people and adults who found their earlier education a dispiriting and demotivating experience, and who are not ready for clear vocational choices or to develop employment-related skills. All students interviewed and observed in our projects need and want a different learning environment. In comparing FE colleges with US community colleges, the review appears to overlook the diverse and eclectic purposes of those colleges. We therefore disagree that the mission of UK further education colleges should be narrowed.⁹

There are also questions about the place and importance of higher education provision in FE colleges, and the danger that a narrow skills-based mission will result in the dismantling of HE provision in FE or its recasting as 'higher skills'. Either outcome will affect the aim of widening participation in HE. The TLRP has seven projects exploring teaching and learning and the relationship

⁸ The FE White Paper (DfES, 2006) acknowledges this confusion and highlights how "for the first time, we will have a single agency and a single strategy for quality improvement...A new single body, the Quality Improvement Agency (QIA), will bring together the former quality improvement and development activities of the Learning and Skills Development Agency, the DfES Standards and Skills for Life Units, the Learning and Skills Council and the Adult Learning Inspectorate. It will offer a single, integrated approach to quality development and improvement across the sector."

⁹ The rhetorical stance of the FE White Paper (DfES, 2006) seems clear: "we will put the economic mission of the sector at the heart of its role". However, there is at least recognition of the dangers: "This economic mission does not mean narrow vocationalism. It includes for instance the general education that employers value and the stepping stone provision that helps prepare people for success in life and work as well as provision at Levels 2 and 3."

between FE and HE, and these will be able to make a major contribution to this debate.

The centrality of teaching and learning

Whilst recognising the importance placed by Foster on putting the learner at the heart of policy and practice, this rhetoric misses an important point. The TLRP's further education projects all highlight the central importance of the relationship between the tutor and the learner in the success of FE. Therefore we would argue that teaching and learning, rather than simply learners, should be considered as central. We would welcome a TLRP contribution to the debate that emphasises the importance of looking at teaching as well as learning within further education.¹⁰

The experiences of learners in FE

Colleges already appear to be carrying out remedial work to restore or repair damaged learning identities for some groups of learners. Interviews with learners in FE have highlighted the important role of schooling and prior educational experiences in shaping the issues for students in FE and the challenges they present to FE staff. Many of the learners we have interviewed talked of their negative experiences in the school system, which they contrasted with the very positive experience of learning they were getting in FE. In addition, a significant proportion of the learners interviewed in London received part or all of their prior education in countries outside the UK, presenting a further set of challenges for these colleges.

The effects of qualifications on literacy and numeracy

The Foster review refers to the importance of literacy and numeracy in the purposes of FE but overlooks the negative effects of changes to the qualifications framework and definitions of 'achievement' and 'key skills' that affect how literacy and numeracy are taught in vocational courses. The Literacies project shows how good teaching and learning principles in this area are undermined by misunderstandings about how adults and young people use literacy in vocational and other contexts.

Conclusion

We wish to reiterate our strong commitment to playing a constructive role in discussing research evidence with policy makers formulating a response to the Foster review, and with those working in the proposed Implementation Unit.¹¹

¹⁰ Again while the rhetoric is clear that the "needs and interests of learners and employers [are] at the heart of the system" the FE White Paper (DfES, 2006) also acknowledges the need for a "national strategy for teaching and learning in Further Education." The main proposal in relation to FE staff development is to introduce from Sept 2007 'a regulatory CPD requirement' that all lecturers fulfil at least 30 hrs of continuous professional development (CPD) a year and maintain a portfolio showing, for instance, records of industrial experience.

¹¹ The White Paper remains open for comment until 30 June 2006 and even after that date there is scope for dialogue over various aspects of implementation.

What TLRP projects have found about teaching and learning in further education, and what it means for 14 – 19 education and training

Vocational education and training (VET) are a central part of further education (FE) provision in the UK. The completed TLRP project, Transforming Learning Cultures in FE (TLC), identifies key issues for policy making in 14 – 19 VET in England, while two related projects address what is happening in teaching and learning in different contexts in FE in Scotland and Wales. Other projects touch on the different literacies for learning used by different groups of learners in FE, and the role which tutor-supported self-evaluation could play in learner development. All these projects highlight the centrality of teaching and learning and emphasise the key role tutors play in supporting learning within FE.¹²

¹² Another TLRP project, by Mark Goodrham, on Using Research to Enhance Professionalism in Further Education (FE), confirmed the tensions inherent in professional practice in FE have become increasingly problematic, leading to a sense of 'restrictive' professionalism (Hoyle and John, 1995) or that public service professionalism is 'in flux' in relation to FE practitioners (Stronach *et al.*, 2002). One is left with the impression with all the focus upon systems and structures the critical importance of tutors and tutoring in FE is often overlooked, and the role they could play in improving the quality and range of 14 – 19 provision.

Transforming learning cultures in further education

Phil Hodgkinson, University of Leeds,
Helen Colley, Manchester Metropolitan University

The TLRP project, Transforming Learning Cultures in FE (TLC), identified the following key issues as having implications for policy making in 14 – 19 VET.

Relationships with employment

Vocational education and training (VET) programmes require relationships with their relevant employment sectors. There should be a close relationship between the knowledge, skills and understanding needed in the sector and the curriculum of a VET course. VET courses provide either progression from the course into related employment, or relevant off the job education for trainees already working in a firm. These two purposes are linked, but making them work is fraught with difficulty. For example, many students' original job-related expectations were not realised in four of the VET programmes studied in the TLC project. In another programme, students claimed that their job prospects had improved but not because of increased understanding of the workplace.

There are four different types of course organization which are common in FE and were studied within the TLC project. They are:

- College-based provision, with integral links with local employers.
- College-based provision, with no significant employer links.
- Employer-based modern apprenticeship provision, with some college day release.
- Employer-based provision, with college-organized assessment of National Vocational Qualifications (NVQ) competences.

Each situation brings different strengths and weaknesses. The most effective VET provision is likely to be found when college and employer links are close and synergistic. Fuller and Unwin (2003a) showed how such close links can work well in a modern apprenticeship scheme in the steel industry. Our research showed equally effective provision for nursery nurses that was college-led. In both cases, on the job training experiences and college-based off the job VET were mutually supportive. Both were valued by all concerned – employers, tutors and students. In the case of nursery nursing, the two-year period on the course helped the majority of students who completed to progress easily into employment.

This very success revealed associated problems. Existing values and practices in the sector were difficult to challenge. There were occasional tensions, as when the college tutors helped students understand and adopt principles of equality of opportunity, whilst some students routinely encountered racist attitudes in their work placements. Other issues could not be raised, because close links with the workplace rendered them invisible. Key amongst these was female gender stereotyping, associated with low

status and low pay. A linked issue was emotional labour. By this we mean that nursery nurses must bottle up and constrain their feelings regardless of their own emotional well-being, yet acknowledge and deal supportively with intense emotional pressures and demands from the children (Colley, 2004).

Other problems centred on students who discovered that they did not want to be nursery nurses or that they were unlikely to achieve the necessary qualifications to enter the profession. The tight focus on the practice of being a nursery nurse marginalised these students. A few dropped out and some were excluded, while tutors thought that others disrupted the bonding of the group.

Where links between college and employers are less close there can be different problems. On a male-dominated engineering day release course, many students struggled to see the value and relevance of what was taught in the college. Their identity was formed at work, and they did not regard themselves as students. This situation may allow college tutors to introduce theory and methods not found at work, and thus challenge aspects of existing working practices. However, the risk is that the more they do this, the less notice some students will take. Here too, emotions played a role in inclusion and exclusion, as students completed or dropped out according to their ability to cope with the demands of college work in addition to full-time employment and family responsibilities (Colley *et al.*, 2003).

An increasing number of VET courses have no substantial employer links or even work experience. This was the case on a GNVQ business education course and is likely to be the case in many successors to GNVQ programmes including vocational GCSEs. Students enrolled on the full-time course intending to learn skills to get them good jobs in business. Business-related knowledge, skills and understanding were taught successfully and tutors were unconstrained by employment practices. However, it proved difficult to inculcate ways of working appropriate for employment into the students. Many had no practical experience of the business sector with which to relate what they were taught. The successful ones learned how to be good students of business studies, not how to be business employees. The lack of local employer links made progression into related employment difficult (Walhberg and Gleeson, 2003).

Sometimes the college just provides NVQ assessment or verification. What is learned depends almost entirely on the employers, and there can be problems because working practices are too narrow to allow the full range of NVQ competence to be developed. One college tutor took it upon herself to work with the trainees and their employers to fill as many of these gaps as possible. The result was relatively high pass rates. These were achieved by adding college teaching in the workplaces. This was not officially part of her job, and the college was not funded to provide it, but it was an essential ingredient in the success of the programme. College decisions to move to online assessment (reflecting a broad national trend) closed down the space for such 'underground' tutor-student contact and the learning opportunities it could generate (James and Diment, 2003).

Possibilities and Limitations of VET

When it examined the place of VET within 14-19 provision, the research identified significant possibilities and limitations. For students who wish to work in a specific employment sector, VET provision with close employer-college relations, whether employer-based or college-based, can work very well. Such provision also worked well for students who were unsure that this was what they wanted to do when they started the course, but grew to like that type of work as the course developed. They are less good for students who do not know what they want to do, who discover during the course that this is a type of work that they do not want to do, or who discover that aspects of the job or of the qualification requirement are beyond them. A particular problem on the nursery nursing course was faced by a few students who were excellent workplace performers but failed the written assessments

For students without clear vocational ambitions, it is possible for entirely college- or school-based provision, like that in vocational GCSEs or vocational A levels, to provide a valuable part of a more general education. This is particularly true if course content is not tightly constrained by employer needs, and a more broadly-based critical approach can be adopted. However, such courses may be less effective as potential routes into employment, unless supportive links with local employers are also developed.

Vocational courses often offer a second chance to students who have not done well with mainstream academic school provision. Many students value this second chance and the practical and instrumental focus of the work. However, this purpose for VET serves to reinforce its inferior status compared to prestigious academic qualifications. Furthermore, our research revealed hierarchies of status between VET qualifications. These hierarchies are seen in the attitudes of tutors and some students, in the required entry qualifications, and in the ways that possible progression routes are described. So the current VET system and its division from the academic curriculum reproduce and reinforce educational and employment inequalities.

VET works best when a student can commit him or herself with certainty to a specific job area, and does not change his or her mind later. However, TLC research supports other studies which show that this sort of certainty is rare. It is more common for students to be unsure what they want to become, to choose a course almost on a whim or, even if the intention was firm when the choice was made, to change their minds later, before the course was finished.

Much current VET provision is not well suited for the majority of students who change their minds in this way, and the least suitable are those courses which have the strongest employer links. The course content becomes increasingly irrelevant for a student who does not want to work in the specific area targeted.

VET, vocational guidance and career choice

Our research confirmed that many vocational students' aspirations are lowered through their rejection by or drop-out from higher status courses, and through subsequent formal and informal guidance interventions. Successful participation in VET resulted in students re-interpreting the choices imposed on them by others as positive choices made by themselves.

There are particular problems for many young women, who are disadvantaged in the labour market by gender stereotyping in work experience and vocational guidance. The Equal Opportunities Commission (EOC, 2005) calls for more proactive careers education and guidance for all young people, to promote access to non-traditional occupations. Our research confirms that girls and some boys need opportunities to understand why they often desire the stereotypical destinies they pursue, to ask critical questions about what those destinies offer and demand and to ask why their education contributes so often to the reproduction of social inequality.

Policy Implications

This research points to five policy implications for VET provision from 14 to 19.

- There is a danger of the VET system being asked to achieve too many objectives. Three common purposes are specific job-related preparation, a second chance for those not doing well in academic subjects and a broadening of general education for any who want it. These are not completely compatible with each other. Different needs require different types of provision.
- The success or failure of VET provision is linked to the relationship between that provision and higher status academic courses. If the academic and vocational are kept apart, the lower status of the vocational route will be reinforced.
- Any VET provision is strongly constrained by the attitudes, values and practices of employers. VET courses that develop strong employer links are relatively powerless to challenge those values and practices, even when there are important reasons for doing so. Courses without such close links are much less likely to provide effective progression routes into employment.
- Especially within the 14 -19 age group, VET provision should recognise and support normal patterns of career uncertainty and progressive changes in career intentions. This will require greater flexibility in curriculum and assessment provision, support for course changes and some students dropping out partway through, and the provision of professional non-partisan career guidance to all students who could benefit from it.

- Strategies are needed to address educational and employment inequalities, including those reproduced by gender stereotyping in VET. Young people need more proactive career education and guidance around these issues, and where possible VET needs to incorporate or link with a broader general education that allows young people to understand the roots of social inequality.

Teaching and learning in further education in Scotland

Jim Gallacher

Glasgow Caledonian University

This research is linked to the Transforming Learning Cultures in Further Education project, but the particular focus in the Scottish project is upon teaching and learning in Community Learning Centres (CLCs). The boundaries between the CLCs and the communities from which the learners come are more permeable than those associated with the more formal campus based learning environments. As a result learners bring more of their personal, social and emotional lives into the CLCs. These lives are often complex and many learners have a wide range of personal and social difficulties or problems which they bring with them into the centres. This is a key element in understanding learning cultures within CLCs.

Teaching and non-teaching staff's emotional labour

A key role for staff within CLCs is to help create an informal and supportive environment which enables learners to develop greater confidence, and to be empowered as learners. This can be conceptualised as 'emotional labour'¹³. In creating this supportive environment it is not just the teaching staff, but also non-teaching staff (such as centre managers and receptionists) who have a key role. This can involve the development of a different and wider set of relationships than those found in the campus based settings. This raises an important issue regarding how colleges can provide appropriate support for staff in undertaking this work. It also underlines the value of FE's diverse mission.

Transitions

While CLCs are very successful in providing informal and supportive contexts for learners, there is evidence that some learners find it difficult to make the transition from these centres to further study in campus based courses or other kinds of activity, including work. This may be associated with cultural differences between the CLCs and the campuses, or practical difficulties associated with travel or childcare. We are exploring these issues more fully in the final stage of our fieldwork.

Relationship between CLCs and the mainstream FE

The peripheral nature of the CLCs, both geographically and in status terms, can make it difficult for staff who work within them to provide the quality of provision to which they aspire. For example, it is sometimes difficult for Centre staff to be confident that they will have the tutors they need to run courses. Staff can also feel more isolated and lacking in support. This can have

¹³ Emotional labour has been described as "the labour involved in dealing with other people's feelings, a core component of which is the regulation of emotions... emotional labour facilitates and regulates the expression of emotion in the public domain" (James, 1989, p. 15).

detrimental consequences for the learning culture within the CLCs. These issues are being explored with college staff.

Learning relationships

The sub-field of a CLC can be modelled as a network of human relationships, some of which originate outside the CLC, but all of which centre in various ways on learning. The learning effectiveness of most of these relationships is strongly influenced by the culture of the wider community.

Teaching and learning in further education in Wales

Martin Jephcote

Cardiff University

This project is at a relatively early stage, but our findings so far have pointed us to the importance of giving more detailed attention to:

- Teachers' investment in emotional labour and its gendered nature. Female teachers respond to and accommodate external and internal college pressures in different ways from their male colleagues
- Prior experiences of schooling are often negative. Many students carry with them into further education their negative experiences of school, which they use to explain and justify their current dispositions to learning. Many teachers perceived further education as the 'last chance saloon' for many of these learners
- Teachers' constructs of students and their learning. Teachers' real and assumed knowledge about their students' localities and lives constructs differing learner identities and classroom practices and reinforces the view that what goes on inside a college site is in some ways connected with, and a reflection of, what goes on in the society around it.

The project team has found the following concepts particularly useful in carrying out our research:

- Learner identity: individuals' understanding of themselves as learners and of their relationships with learning opportunities
- Learner biographies: the processes through which learner identities are shaped by previous learning experiences and the wider aspects of the individual's social movement
- Learning cultures: for example, emotional labour and ethical orientations to teaching.

Literacies for Learning in further education in England and Scotland

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A key issue for 14 – 19 education is the development of communication and other skills. Decisions need to be made about whether to integrate the development of skills into the learning of subjects across the curriculum, and if so, how. The Literacies for Learning in Further Education (LlLFE) project is finding out how reading and writing enable and enhance learning in vocational and academic subjects in the further education curriculum, and is examining the resources which students bring with them to these courses from the reading and writing they do as part of their everyday lives.¹⁴

Literacies in the context of everyday life

Literacy theory (Barton 1994; Barton and Hamilton 1998) shows how reading and writing are not just linguistic skills, but are used and learnt in the context of our day-to-day activities. The reading and writing that people do in the context of domestic life, leisure, work and social participation are very different from most reading and writing activities, exercises and tests in educational settings.

Outside formal education, reading and writing are often intertwined with one another. They are inseparable from the activities they are part of, are shaped by the purpose of the activity, and involve specific uses of time and space, discussions of texts, and tools and technologies. The texts which people read and write in their everyday lives come in many forms, ranging from glowing neon signs several square metres in dimension through a vast range of visual and linguistic communications on the internet, to tiny multilingual labels on toys or food. People read texts intensively or just in passing, with pleasure, excitement or anxiety, and in a multitude of different ways depending on their use for the activities in which the person is engaged.

For this reason, the plural 'literacies' is preferable to 'literacy', and has been adopted by adult and further education policy-makers in Scotland. One of the

¹⁴ A related TLRP project, led by Marilyn Martin-Jones, on the use and development of bilingual literacies as Welsh-speaking students participate in FE courses, has recently got under way. It will investigate the interaction between 'informal' vernacular literacy practices (reading, writing and uses of texts, in different languages and modalities, and involving different technologies) and bilingual practices entailed in the more 'formal' institutional settings of post-compulsory education. The main aims are to identify actual and potential 'border' literacies which are pivotal to learning in a digital age, and to incorporate these literacies into the design and implementation of a bilingual curriculum development project. The research is particularly timely since a strategic framework for the consolidation and extension of Welsh-medium and bilingual provision within the post-16 sector in Wales is currently being put in place. The findings will contribute directly to the development of evidence-based policy and practice.

aims of the LfLFE project is to identify the range of literacies in the everyday lives of students currently in further education. Our work is likely to throw light on literacies for people in the whole 14 – 19 age range.

A corollary of this view of the way literacies are situated in purposeful social activities is a view of literacy learning in everyday contexts. Both children and adults develop their repertoire of literacies through participation in activities which they find meaningful, using a wide variety of types of text in a wide variety of ways, rather than through lessons, exercises and tests. This suggests that, for the 14 – 19 age group, education should provide supported opportunities for literacy learning through participation.

Literacies for learning across the curriculum

Learning across the curriculum is a purposeful use of literacies, just as much as everyday activities outside college are. The reading and writing involved in, say, learning how to run a restaurant (see Case Study), gaining a Business Administration qualification, or studying human biology, are just as specific and complex as, for example, those involved in getting medical treatment. They often overlap with, but are sometimes significantly different from, the literacies of the workplace, of more advanced courses of study, and of lifelong informal learning, for which the course is preparing the students.

A second aim of our project is to identify, describe and understand the literacies involved in learning across 11 further education curriculum areas. The research is finding a vast range of texts in use in pedagogic settings, including booklets, graphical user interfaces, websites, letters, handouts, overhead presentations, textbooks, logbooks, files containing notes on A4 paper, labels, maps, diagrams, writing on blackboards, white boards, measurements and lists. The collecting of the texts is being supplemented by data on the purposes of reading or writing them - according to the teachers, according to the learners, and on who does what with them and how. We are finding that when teachers see progression within the education system as the prime goal of their courses, the literacy practices they require of their students are more academic than those required by teachers who see themselves preparing students for employment.

Our research¹⁵ has also found, somewhat disturbingly, that there are an additional set of literacies involved in demonstrating learning which bear little relation to what is being learned, or to the futures for which courses are preparing their students.

This research has implications for teacher trainers, policymakers, curriculum developers, and teachers of both specialised learning lines and core subjects for the 14 – 19 age range. They need to recognise how literacies mediate

¹⁵ The other members of the research team are David Barton, Zoe Fowler and Candice Satchwell, (Lancaster University), and Richard Edwards, Greg Mannion, Kate Miller and June Smith (University of Stirling).

learning and the demonstration of learning. Specialist communication teachers need training in identifying these literacies. Mechanisms need to be put into place to allow subject specialists to work with communication specialists at all levels including policy, materials development, college management, and classroom practice, to ensure that the literacy practices in which students engage on their courses facilitate learning instead of hindering it. In addition, communication specialists need to be able to identify the literacy practices that students bring with them from their everyday lives, and to mobilise these as resources for learning on their courses.

Development of literacies through purposeful activities

While the focus of the LfLFE project is on the role of literacies in enhancing learning in further education, its findings are relevant to policy and practice for literacy development itself. The literacy practices in which students are engaging on their courses, particularly those which include work placements or work based learning, are purposeful uses of reading and writing and can, in turn, support literacy development. By participating in meaningful activities, students have the opportunity to undertake the reading and writing which is required by those activities, and hence gradually develop their competence in them.

The implication is that the full range of curriculum areas can help develop communications capabilities, without needing a separate 'Communication Skills' curriculum. Communication specialists could be members of vocational, academic and recreational curriculum area teams and would act as consultants, teach in teams and teach explicit awareness of the literacies which are being developed through use. English Language and Literature can then be curriculum areas in their own right.

Assessment of literacies through purposeful tasks

The project has found that in the assessment of literacy capabilities, literacy tends to be decontextualised or at best simulated. While the Key Skills portfolios are admirable in principle, in practice their requirements are based on a view of literacy which originates in the context of school rather than those of everyday life or work. For example, at Level 2 there is a requirement to include a piece of writing of approximately 500 words in the portfolio. This might be appropriate for A Level Media Studies, where continuous writing of about 500 words is an organic part of the course. On a Catering and Hospitality course, however, there is no context for such a piece of writing, so the task has to be invented. However, there are a multitude of extremely demanding real life literacy practices in Catering and Hospitality which would be more suitable for demonstrating the student's competence.

Pointers for Practice

Teacher Education And Expertise

- Specialist teachers of communication need to be trained to understand the nature and complexity of texts, of ways of using literacy in real life contexts, and of the ways in which literacy is learned through participation in purposeful activities.

The Academic And Vocational Curriculum

- The ways in which students read, write, learn through reading and writing, and learn to read and write in their out-of-college lives, need to be taken into account in designing the whole curriculum, and the means of assessment for all curriculum areas.
- The demands made by the specialist texts and literacy practices of each curriculum area need to be recognised. Specialist teachers of communication need to work in partnership with subject specialists at all levels to ensure that literacies are enhancing rather than hindering learning.
- The demonstration of learning in curriculum areas should be designed in such a way that it does not make unnecessary additional literacy demands of students.

Communications Competence

- Communication should be taught, learned and assessed in the context of purposeful use.
- The demonstration of communicative competence should be rethought so that it accredits actual uses of literacy in context, rather than the ability to answer test questions (as currently in Skills for Life tests) or the ability to complete specially designed communication assignments (as currently in Key Skills portfolios).
- Curriculum areas should be seen as sites for contextualised literacy development and assessment, particularly when they are linked to workplaces and other aspects of everyday life.

Case Study

When the Hospitality department was first approached as a subject area for inclusion in the LfLFE project, the response was that there was not much literacy in Catering. However, observation of the college restaurant and kitchens – not to mention the theory classes - indicates that this is not necessarily the case.

Students on courses at level 2 and 3, including the NVQ Food and Drink Service (level 2) course researched, are given a log book which has to be filled in as they complete different elements for assessment. The completion of the log book is a formal literacy practice firmly grounded in an educational context. This is a practice which students regard with varying degrees of enthusiasm, but is generally seen as a necessary and relatively manageable

activity. Because completion of the log book is crucial to completing the course, it is in evidence throughout all activities in the restaurant and kitchens.

At the same time, students are 'working' in the restaurant, taking orders ('writing checks'), reading and explaining menus to customers, reading booking entries in the diary, working the bar and the till, reading the whiteboard in the kitchen with details of the dishes and who is cooking what, accessing the computer for information about customers' special requirements, and filling in electronic templates for customers' bills and cash summary sheets. At other times they are designing and writing menus, posters and leaflets for use in the restaurant. In addition students are asked to complete assignments, such as, at level 1, researching how to find a job and complete a CV, culminating in a mock interview, and designing and costing a menu to fit given criteria. One student explained how he had learnt to describe the same dish in a variety of styles, ranging from a £7 meal to one for £40. This might appear to be the kind of activity required of an A level Media student, rather than level 2 Catering.

Although many students found no difficulty in completing their log books, some struggled with it. Two students required individual help with writing down what they had done in the restaurant, whilst apparently having had no difficulty in actually doing it. The same students had no problem with writing orders, checking the computerised restaurant bookings and so on. The students acknowledged that the conventions of the formal literacy practice of completing a log book were different from those of the workplace-based practice of writing a check.

Tacit skills, personal competences and learning success through tutor-supported self-evaluation

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The TLRP Project on Tacit Skills and Knowledge, part of the TLRP Network on Improving Incentives to Learning in the Workplace, developed an innovative approach to tutor-supported self-evaluation (TSSE), with the aim of supporting learners towards the intentional evaluation of their personal competences. Our target groups were initially learners over the age of 19 with interrupted occupational or learning careers, who embark on various courses in colleges of further education with the purpose of returning to work or learning. Most of them have experienced career or education breaks at different stages of their lives and their social and educational backgrounds were varied. They often did not value the personal or tacit skills and competences that they had acquired from their life experiences because they felt that these skills are not recognised by others such as prospective or current employers. Additionally, they often lacked confidence in their abilities.

There is good reason to think that these patterns apply equally to many learners younger than 19, recognizing that they too have many and varied life experiences that are often undervalued and go unrecognized. (Evans, 2002). Moreover, recent work sponsored by OECD is showing how human capacities for self-monitoring develop most strongly in late adolescence and through the twenties. This suggests that supporting learners in the kinds of activities we outline below can best be started in 16-19 phase and built on subsequently through further and higher education or work.

We have been collaborating with several colleges of further education in London to develop methods of tutor supported self-evaluation. Some of these ideas have also been explored with 16-19 year olds in a related NRDC project, Supporting successful outcomes with literacy, numeracy and other key skills in Foundation and Advanced Modern Apprenticeships. This explored unsatisfactory achievement in literacy, numeracy and the wider key skills within Modern Apprenticeships.

One approach to improving performance has been to concentrate literacy, numeracy and wider key skills support, either intensively at the beginning of a modern apprenticeship or on a pre-modern apprenticeship programme. These approaches are described as front-end delivery models in contrast to programmes where key skills are introduced later on in programmes or are scarcely taught at all. Some good practice examples have successfully used approaches based on similar principles to those of tutor-supported self evaluation.

Development and implementation

The aim is to support the learners into self-evaluation of their personal competences through participating in and evaluating learning activities and tasks. The approach is incorporated across the course with the purpose of uncovering tacit skills and establishing links and relationships between personal skills and classroom-based or work-based activities.

Models can be produced (see box 1 below) that help to evaluate learners' personal competences and to explore what classroom or college activities, events or tasks contribute to the acquisition and development of personal skills and competences. In addition to self-evaluation of learners' personal competences, TTSE may help learners and tutors evaluate how learners can acquire or develop skills. This approach has been developed in collaboration with tutors and practitioners. They argue that such a method can enable learners to reflect upon their skills in the context of real classroom or workplace situations and challenges, so that it can lead them into a more intentional self-evaluation of their personal skills.

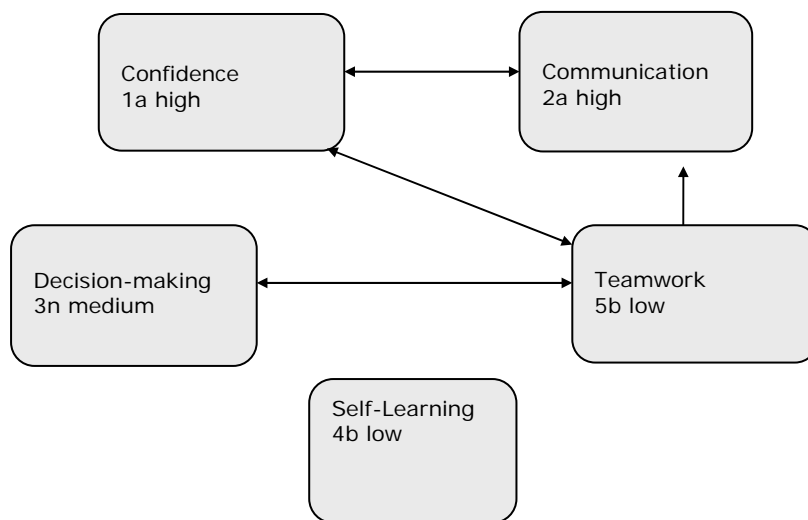
It is generally recognised that as a result of participation in classroom or workplace activities the learners acquire, deploy and develop a number of personal competences and skills. However, this is often taken for granted, and the learners do not recognise that one specific activity such as brainstorming, problem-solving or a team activity supported them into recognition, deployment and further development of those tacit skills that they may have acquired from their previous experiences, either formal or informal. Purposeful self-evaluation of their skills in the context of learning activities will make this process more visible and will help the learners and their tutors to establish links between skills development and tasks and assignments they might encounter in the classroom or workplace. This would let tutors promote skills development more effectively.

Our research has indicated that this supported self-evaluation of learners' personal skills and competences has a positive impact on their confidence and their learning outcomes. Learners' awareness that they are able to use their previously acquired skills in learning activities enhances their confidence and encourages them to use their skills more. Moreover, if the learners recognise that they are using previously tacit skills in their classroom or workplace activities, they feel motivated towards more active participation in such activities. Two examples follow.

BOX 1: The self-evaluation of personal skills in the context of brainstorming: the case of Lizzie.

We asked the learner to evaluate her own skills and abilities in the context of brainstorming activities undertaken in the class. Her responses were analysed using the Dynamic Concept Analysis computer program and the model below reflects her personal skills and defines interrelationships among the concepts (See Model 1 below)

Lizzie generally perceives brainstorming as a useful classroom activity. She argues that participation in the brainstorming enabled her to develop the communication skills (2a), as she was encouraged to 'voice her ideas', even if she was not sure herself whether her 'ideas fit into the general topic' of the brainstorming. She feels that this contributes to the development of her confidence and self-assurance (1a). She argues, however, that the pace of the brainstorming activities is too intensive, and this does not fully facilitate the development of her decision-making skills (3n). Lizzie maintains that the intensive pace of the brainstorming 'does not give her much time to make informed decisions'. She feels that teamwork skills (5b) are not facilitated through this specific activity, as the learners are expected to make their own assumptions and to voice their own ideas. However, as the model shows, low deployment and use of teamwork skills (5b) encourages her to 'speak for herself and to give her own ideas', thus contributing to the higher levels of her communication skills (2a) and confidence (1a). Lizzie feels that the self-learning skills are not facilitated through this activity (4b), and this made her realise that she has to develop her self-learning skills through other classroom activities, for example researching or reading.



Model 1. Lizzie's case: self-evaluation of personal competences in the context of brainstorming

The second example comes from a 'front end' course designed to develop key skills within Foundation Modern Apprenticeship. In order to be able to cope with the demands of the Technical Certificates and NVQs within the frameworks, it is essential that trainees have well established key skills from the outset. The emphasis of our approach was to offer early opportunities for trainees to improve these skills. Early success for trainees is very motivational and the indications from the evidence are that retention is enhanced when the key ingredients are in place. An early emphasis on key skills was also intended to help trainees to get off to a flying start with portfolio preparation.

BOX 2: Assessment Centre for Modern Apprenticeships in Administration and Child Care.

The provider is committed to offering literacy, numeracy and the wider key skills in a front-end delivery module as the tutors firmly believe that it contributes to the learners' positive outcomes and facilitates as well as speeds up the completion of their frameworks. As part of their initial assessment the learners also have to take the paper-based Occupational Assessment to identify what they know within their chosen occupational areas. Ongoing assessments include portfolio development as well as formative assessment with a second diagnostic test. For their portfolios the learners undertake a number of projects and assignments with the support of the occupational expert and the basic skills expert.

The learners are offered a selection of projects to choose from. The projects give learners the opportunity to demonstrate their literacy, numeracy and wider key skills, and are related to their occupational areas. Formative assessment involves on-line and continuous assessment of learners. The purposes of the continuous assessment were:

- to ensure that the learner's progress is satisfactory;
- to set new targets and objectives; and
- to give the learners detailed feedback on their achievements.

Owing to the limited number of learners in this case, many of the literacy, numeracy and wider key skills sessions were conducted as one-to-one tutorials. The teachers argue that this promotes both confidence and skills development in the learners. There is potential for using models of the type developed in Box 1 in these types of programmes.

The application of these methods leads to some more general conclusions about the ingredients for success in using tutor supported self-evaluation in college-based 14 – 19 education and training:

- teachers and trainers need to be prepared and adequately trained to support the identification and development of learners' personal competences
- early introduction of tutor-supported self-assessment of learners

- use of 'plan, do and review' activities
- development of front-end provision to develop key skills
- use of formative assessment techniques in concrete and relevant activities, to help develop learners' motivation and learning (' what skills are related to what activities?')
- supported self-assessment using computer-based methods where appropriate and possible
- group size small enough for teachers to give effective individual support and feedback, and to relate their teaching to the concrete experiences, vocational programmes and workplaces of learners
- The learning environment can motivate or demotivate learners. It needs to be of a high quality, stimulating, supportive and quite different from the types of environment that learners might associate with prior school experiences

4 Learning in the workplace and its implications for 14 – 19 education and training

The future of work-related provision within 14 – 19 education and training

Work-related learning is seen as an under-developed strand of 14 – 19 education and training, and all four home countries have ideas as to how it can be strengthened. In the past there has often been a lack of a clear rationale behind work-related learning initiatives, the role of general vocational qualifications, and vocational programmes within schools, and a hope that these programmes and initiatives could fulfil a number of partly competing alternatives. Any future proposals will need to be clear on the purposes of time spent at a relevant place of work, the place of vocational qualifications before age 16 and the motivational aspects of vocational learning. All these ideas will need further investigation.

What TLRP projects have learned about work-related learning, and its implications for 14 – 19 education and training

The major contribution to the debate about apprenticeship comes from a completed TLRP project on 'Apprenticeship models in contemporary industrial society, which was a part of the TLRP Network on 'Improving Incentives to Learning in the Workplace'. The project on 'Techno-mathematical literacies in the workplace,' while not focused on 14 – 19 education and training, has resonances in this area with ideas about how functional maths should be developed for those in this age group. The project on 'Early Career Learning' tracked the experiences of nurses, engineers and accountants who had recently made the transition from education and training to work and again, while the focus was upon graduates, more general lessons could be drawn about learning in the workplace that would be applicable to 14 – 19 education and training.

Apprenticeship and vocational learning

Alison Fuller, University of Southampton

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Throughout the world, apprenticeship is recognised as a valuable model for vocational learning for young people. But in today's fast-changing economic landscape, it faces major challenges. Apprenticeship should be a major part of the UK's post-16 provision, but much of what is currently called 'apprenticeship' fails both young people and employers. The government-funded programme of 'Apprenticeships' takes many forms, reflecting the diverse nature of around 100 occupational sectors. It is not a course or a qualification. Some apprenticeships are highly prized, selective, and lead to well-paid careers. The engineering sector requires at least the same levels of attainment as are needed to enter the sixth form or some degree courses, with GCSE grade C and above in Maths, English and Science or Technology plus extensive interviews and cognitive and practical aptitude tests for entry into apprenticeship programmes. Engineering apprenticeships also last for a minimum of three years and can lead to HNC/HND (level 4), thus providing a foundation for university study.

At the other end of the spectrum are what we term "so-called apprenticeships". They demand little if anything in the way of entry requirements, and provide restricted opportunities for learning, with no foundation for progression beyond level 2. This is the social inclusion approach inherited from the youth training schemes brought in to cope with rising youth unemployment in the late 1970s. These types of apprenticeship tend to be found in service sectors. But the absence of a robust regulatory framework means that both good and bad provision can be found in all sectors.

Unlike many other European countries, where apprentices are only found in organisations with trained trainers, in the UK virtually any employer can be involved. This corruption of the concept of apprenticeship means that for many young people the experience provides no added value in terms of leaving school or college to enter the labour market. This is confirmed by the Learning and Skills Council (LSC)'s statistics on attainment, which show that the majority of participants do not achieve the set qualifications.

In our research, we developed the concept of an 'expansive-restrictive' continuum to capture the range of apprenticeship types in the UK.¹⁶ At the expansive end are organisations which see apprenticeship as being important to both the young person and the goals of the business. At the restrictive end are organisations interested only in how quickly they can turn apprentices into productive workers. Expansive organisations see apprentices as having dual identity for the duration of their apprenticeship, as learners and as workers.

Much of the 14 -19 White Paper (DfES, 2005a), like the Tomlinson report (2004), is situated within what we call the educational paradigm. Here

¹⁶ For more information see Fuller and Unwin (2003a and 2003b).

students learn mainly in educational institutions and may have some opportunity to experience the world of work, and community and voluntary activity. Apprenticeship in the true sense is located within the employment paradigm but uses a dual mode approach whereby learning takes place in both the workplace and in educational settings. Much of the less satisfactory apprenticeship provision is located within the employment paradigm where learning takes place almost exclusively on the job.

The government has announced that it wants to expand apprenticeships and improve their performance. We argue that this should only be done via well-regulated, quality assured, dual mode apprenticeships. This would raise the status of the work-based route and provide a high-quality alternative to full-time education.

Pointers for Practice

The challenge for government, employers, education and training providers and local LSCs is to create an expansive model across all sectors. To do this, we need a sector-by-sector analysis of the distinctive role apprenticeship can play in providing the knowledge and skills required in the contemporary economic and occupational context. Further and higher education, as well as employer-led bodies and trade unions, need to be involved in a forward-looking partnership that lifts the work-based route out of its social inclusion ghetto. Then, apprenticeships can be designed to be both fit for purpose for employers and to provide young people with a platform for educational and career progression.

More immediately:

- Some sectors will need to create consortia programmes to increase their breadth
- Investment is needed to provide small-group tuition from experienced basic skills teachers for young people who enter apprenticeship without level 2 attainment
- A cadre of professionals is required at local level to help employers embed apprenticeship in their business plans
- There must be clearly identified transfer routes to enable dissatisfied apprentices switch employers or return to full-time education

The following example is taken from one of the companies we investigated in our project. Whilst it represents the high standards of the engineering industry, it embodies the quality levels to which all apprenticeships should aspire.

Expansive Apprenticeship

Company A manufactures bathroom showers and employs some 700 people. It has a well-established apprenticeship programme which has been used to develop successive generations of skilled and qualified engineers and technicians. Many of the company's ex-apprentices have progressed to senior management positions.

Applicants for apprenticeship are required to have a minimum of four GCSEs at grades A* to C including Mathematics, English and Science. They also sit aptitude tests and undergo at least one formal interview. Successful applicants are given a contract of employment which specifies the rights and responsibilities of the employer and apprentice. Apprentices' pay is increased annually as they gradually become productive members of the workforce. Throughout the programme, apprentices are considered by managers and other employees to have status both as employees and as learners.

The company currently employs apprentices in engineering, and one each in steel production and processing and in accountancy. The company training officer has responsibility for the apprentices, who can see him at any time to discuss their progress and any emerging issues. He is also responsible for managing the relationship between the company and the local FE college, which delivers the off-the-job provision. The completion of the programme takes three to four years and involves apprentices being seconded to a range of technical and commercial departments to complete their "workplace curriculum". The aim is to produce employees who have a broad understanding of how the company is organised, as well as the technical knowledge and competence required of fully competent staff in the relevant 'discipline' and with a solid platform for career progression.

Apprentices attend college on a day-release basis. There they pursue knowledge-based vocational qualifications, such as the Ordinary National Certificate, a level 3 award that can also qualify them for entrance to higher education. In addition, a private training provider visits each apprentice every month to assess their progress towards attainment of the relevant NVQ. At the end of the programme apprentices have gained a wide range of experience and applied knowledge through their participation in the workplace training scheme, their attainment of an NVQ3 and the appropriate more general vocational qualification. Their personal and social development is also facilitated by participation in residential outward bound courses designed to develop organisational and team working skills. Moreover, through the company's apprentice association, apprentices get involved in charity activities in the local community.

Techno-mathematical Literacies and Functional Mathematics 14-19

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The TLRP project on Techno-mathematical Literacies (TmL) is investigating the combinations of mathematical, statistical and technological skills that people need in workplaces. We focus on employees at “intermediate” skill level, typically non-graduates with A-level qualifications or equivalent. They may be working in a service industry such as banking as sales agents or customer enquiry agents, or in manufacturing industry as skilled operators or supervisory managers.

This research follows on from the *Mathematical Skills in the Workplace* project (Hoyles et al, 2002) which promoted the idea of “mathematical literacy” as a growing necessity for successful performance in the workplace. In the current project, we are using the term “Techno-mathematical Literacies” (TmL) as a way of characterising mathematics as it exists in modern, increasingly IT-based workplaces (see for example, Kent et al, 2005). We use this new term first to avoid the baggage which goes along with the disputed term “numeracy” that pervades educational discussion of mathematics; second to indicate that the mathematics involved is much more than basic arithmetic; and third to avoid the apparently simple term “mathematics” against which many people in companies may have prejudices based on their school and later life experiences. Beyond this, we are convinced that the idea of literacy is really helpful. Individuals need to be able to understand and use mathematics as a language which will increasingly pervade the workplace through IT-based systems as much as conventional literacy pervaded working life in the last century. This language exists in the form of computer inputs and outputs that have to be composed and interpreted.

Here is an illustration of what we have observed about TmL, which we will draw on to consider some issues that connect our interests in workplaces to 14-19 education and training. The illustration concerns the use of mathematical and statistical analysis in a company that provides store cards and credit cards. The company uses data about its customers’ spending habits in order to target customers for the marketing of new financial products or to encourage customers periodically to spend more using their cards. This involves drawing samples of say, 50,000 or 100,000 people from the database of several million customers in such a way as to maximise the response rates on a mail-shot to the chosen sample. This process of “data mining” is undertaken by a dedicated team of people in the company, working at the request of the marketing groups who design and manage product launch and promotional campaigns. The data miners are generally highly-qualified mathematically (technical degrees and post-graduate qualifications in statistics are typical), whereas the marketing officers generally have little exposure to formal mathematics beyond GCSE. This may seem a sensible division of labour — the maths types do the hard sums to get results for the

marketing people to use. But this description masks some crucial assumptions that are open to question:

- that the two “sides” share a sufficiently effective language to be able to communicate with each other;
- that the results (which are based on statistics) can be interpreted without some degree of shared knowledge of problem context and analytical technique.

Indeed, we heard that between marketing and data analysis there is a growing “grey area” in which marketing needs have to be expressed as analytical questions, and the results of statistical analysis have to be interpreted to make business decisions. The problem is that there are not enough marketing officers with a well-developed facility for mathematical thinking, and at the same time there are not enough analysts with a well-developed knowledge of marketing and the “real world”, and an ability to communicate in a non-technical way about the analysis that they do.

The company has recognised the need for marketing groups to have a generally better level of statistical understanding, which we would call TmL. The data mining manager described to us his attempts to train marketing officers to interrogate the customer database for themselves:

We found the biggest restriction is... understanding analysis as a process, so if you gave them the manual and a database query, for example ‘how many people live with a Manchester postcode and have a charge card and spend over £500 per month’, they could follow the manual to get an answer – by clicking through the different options. But what is at issue here is not the nuts and bolts of doing database analyses, but the big picture of “analysis as a process”.

How might the TmL that underpin analytical thinking be developed by people such as these marketing officers? Our working assumption is that, in the workplace, training needs to happen in the context of the work with the aim to develop a situated appreciation of the analytical models in use, as expressed through the IT systems. Part of this training might be to make visible and then discuss how expert analysts use the tools available to support them in “doing mathematics”. For example, we noted how the analysts “knew” when ratio and relative change were core ideas, and simply divided one column of a spreadsheet by another “to see what happens”. This strategy helped them to get a feel for the key features and invariants underlying the models they were using. The point here is not only to do with the classical problem of “transfer,” the complex ways in which formal learning should transfer to workplace activity. It is also a recognition that experience helps people to develop very rich and generally tacit understandings and ways to cope with the complexities of their workplace situations, and these understandings are partly mathematical. Training should help people to construct new understandings on the basis of this expertise. Mathematical practices at work are inseparably tied up with “everyday” activity at work, the tools used and how they are used to solve business problems and communicate relevant mathematical ideas. It is this expertise that should form the basis for further development of “functional” mathematics.

Other examples of TmL that we have found ubiquitous, alongside appreciating models and their outputs, are reading graphs and being able to communicate the meanings of graphs in context. An example of this comes up in the selling of current account mortgages, which we have investigated. A standard “persuasive graphic” that is used with prospective customers shows the outstanding balance of the mortgage over time, and the effects on the graph of “offsetting” the mortgage debt against savings – that is, paying interest only on the difference between the outstanding mortgage and the savings held in the account – see the Figure below which shows the standard repayment of £100,000 borrowed over 20 years (grey line), compared with offsetting £20,000 of savings for the life of the mortgage (black line). By saving on interest, capital can be repaid more quickly, saving in the case shown several years on the mortgage term.

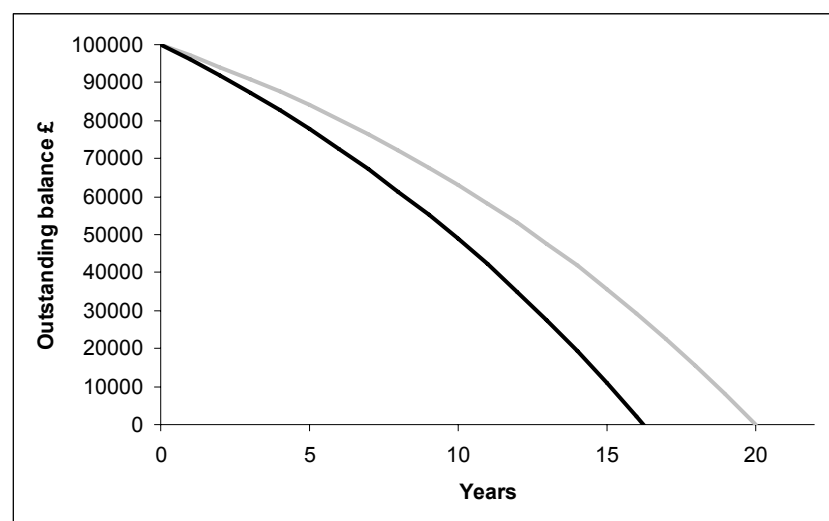


Figure: Outstanding balance graphs for a current account mortgage

Software-generated graphs like this are a key tool used in selling current account mortgages. The main point to be made to the customer is that discounted interest rates are not the only thing that matters about a mortgage, contrary to the way that most mortgages are sold. We found that sales agents had only the vaguest idea of how the graphs are calculated by the software, but as with the example discussed above, should it matter that the user of the tool does not know what the creator of the tool has done? We think it matters because key parameters for the mortgage are not visible in the graph, such as the interest rate and the monthly payment. Moreover, there would be a benefit in knowing something about how the parameters interrelate to determine the repayment characteristics. Managers say that sales employees need a better appreciation of how the different aspects of the current account mortgage fit together. Communicating attractive features of the mortgage involves a series of reasoning steps by which employees are able to link a customer concern or characteristic to a feature or benefit of the product. We are not advocating algebra refresher courses for sales staff. Rather, there is a need for employees to explore the relationships that are embedded in the model of the mortgage that is encoded in the software, and to reason about these

relationships and their effects on “outputs” such as mortgage repayments, and to have a language to communicate this to customers.

Turning to formal 14-19 education, especially vocational qualifications which generally have a specific work context, we believe the same broad requirements for understanding apply. There should be some focus in mathematical education – the “functional mathematics” part – on developing understanding of the process of modelling, and on the skills needed to interpret and communicate about model outputs. This should be considered as universal, and not restricted to the most basic mathematics. Conversely, modelling can no longer be left to the small numbers of expert employees who will build mathematical models. Many employees will need to interpret and understand something about the range of applicability of mathematical models

Our point of view fits with the current discussion of functional mathematics as introduced in the White Paper. The submission by the Association of Teachers of Mathematics (ATM) draws heavily on our earlier work (Hoyles et al, 2002):

Mathematical literacy is much more than the ability to carry out and understand calculations and we hope that a functional mathematics course would help to prepare young people to meet the demands of the workplace by developing skills such as complex modelling, interpreting different representations of data, extrapolating, monitoring and communicating.
(ATM, 2005)

There is some debate as to whether functional mathematics should be considered as a basic mathematics qualification for students who cannot access higher-level mathematics qualifications. From our point of view looking at workplaces, it is evident that all school and college mathematics courses could benefit from a more “functional” approach involving the use of mathematics as a tool to solve a variety of problems. The effect of being presented with problems to solve and tools to face up to them in collaborative settings can be genuinely functional, and most crucially motivational, for all students, especially when they are required to justify their solutions in group-working.

A key finding of our TLRP project is the central importance of making invisible techno-mathematical skills visible, making the output from technologies explicit so that the connection between mathematical ideas and workplace objectives becomes apparent. As our example also shows, it is possible for people to progress successfully through the hierarchy of mathematics qualifications even to postgraduate level without knowing how to pull out the invisible mathematics and use it as a basis for action and communication across different communities in the workplace or beyond the workplace to the customer.

Learning in the workplace after age 19

Michael Eraut, University of Sussex

The TLRP project on “Early career learning” focused on learning at work by graduate nurses, engineers and accountants, but more general lessons about work-related learning for 14 – 19 year olds can be drawn. Research focused on learning rather than teaching shows that formal education and training provide only a small part of what is learned at work (Eraut, 2004). Most learning arises naturally out of the demands and challenges of work - solving problems, improving quality or productivity, or coping with change - and out of social interactions in the workplace with colleagues or customers. Responding to such challenges entails both working and learning.

Thus, much learning at work derives its purpose and direction from the goals of the work, which are normally achieved by using current competence, trying things out and talking to other people. Our research on learning among professionals at an early stage in their career has looked into how this happens.

Sometimes, however, people recognise a need for some additional knowledge or skill that seems essential for improving the quality of their work, expanding its range or taking on new duties. Learning goals are identified which employees pursue by a combination of self-directed learning, learning from experience and learning from other people. Formal training may be provided, perhaps alongside mentoring or coaching at local level. But even when there has been formal training off the job, people may still need further learning on the job before they become fully competent. This is especially true for short courses, which have very little impact unless they are appropriately timed and properly followed up.

The most common form of learning from other people takes the form of consultation and collaboration within the immediate working group. This may include teamwork, ongoing mutual consultation and support or observation of others in action. Beyond the immediate work environment, people seek information and advice, from other people in their organisation, from customers or suppliers or from wider professional networks, often on a reciprocal basis.

The critical factors affecting such learning are the microclimate of the workplace, the confidence of the worker and the role of the local manager.

The local manager influences both the climate and individual dispositions through active attention to social relationships, mutual learning and good feedback. He or she adds to learning opportunities through organising work to provide the appropriate level of challenge and support for groups and individuals, and to ensure participation in appropriate work activities. But local managers are rarely trained for this important aspect of their job. To develop managers for this role would significantly boost learning, quality and retention in the workplace.

One implication for the work-related learning of 14 – 19 year olds is that work can be a very rich learning environment, but that learners may feel overwhelmed rather than positively challenged if they are not adequately supported. Indeed, in the absence of structured learning support, the types of learning strategies that enable individuals to learn effectively at work such as self-directed learning, learning from experience and learning from other people may need to be explicitly developed before individuals can get the most out of their opportunities. Similarly, even when formal training off the job is provided, people may still need further learning support on the job before they become fully competent. Support for meshing different types of learning can be fundamental for effective performance at work for young people, but many supervisors or experienced workers may be unaware about how to do this effectively.

One final caution about an uncritical acceptance of the value of learning at work is the importance of the micro-climate in the immediate work environment. If this is positive then the young learner may experience new ways of learning and their confidence as a learner may be enhanced, but if it is negative, not only may relatively little be learned but negative attitudes to other forms of learning may be developed or reinforced.

5 Learning in higher education and its implications for 14 – 19 education and training

Lessons from higher education with implications for 14 – 19 education and training

Miriam David

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TLRP has 12 projects in higher education that illuminate issues for educational policy and practices with 14-19 year olds. Seven, on widening participation in higher education, were commissioned in late 2005 and are at an early stage in their development. Earlier projects include one on the effectiveness of problem based learning (PBL) in higher education oriented towards professional development, while the other four refer to undergraduate education. As a set, these projects have thus related to academic and vocational education for students at the upper reaches of the age group to which Tomlinson (2004) and the government skills white paper (DfES, 2005a) refer. The project on PBL, which was completed in 2003, could illustrate issues about this approach to vocational learning that would have some relevance for 14 – 19 provision.¹⁷

Only one of the other projects – on enhancing teaching and learning environments in undergraduate education – has been completed, and the other three are still ongoing. The first, on the Social Mediation of University Learning, addresses social and organisational factors at an institutional level that affect undergraduate education. A second is the Disabled (Undergraduate) Students project which looks at higher education in various institutional settings, specifically to consider students' views and perceptions of the changing provision for disabled students, with respect to learning in higher education. Finally, the 'Learning to perform' project asks: 'How are musical performers created? Are there better ways of creating them? And can we apply our findings to other learners in different fields?'

These projects open up issues about the boundaries of learning and teaching between further and higher education, and also about adult and lifelong learning. They are all exploring student experiences in diverse contexts and circumstances, and the issues that affect both learning and teaching. They all hint at the ways in which educational policy developments or educational reforms transform the contexts of learning for students and young people.

They address in various ways the challenges of a more diversified kind of curriculum and pedagogy for higher education, and its borders with further

¹⁷ The project on the Effectiveness of Problem Based Learning in Promoting Evidence Based Practice, by Mark Newman, examined the proposition that Problem Based Learning (PBL) will assist students to achieve specific competencies in professional education. While, the approach may be particularly suitable to support adult learning, it may be that the approach to building up knowledge in PBL may be attractive for some 14 – 19 year old learners too.

education on the one hand and postgraduate vocational and professional education on the other, as with the 'Early career learning' project previously described (page 48). Our work will inform policies and practices such as whether to make assessment more differentiated and on whether A levels are challenging enough, a concern expressed in the White Paper.

The project on disabled students will provide much-needed evidence about the changing student populations in various forms of higher education and the changing need for different forms of teaching and learning. In particular, the researchers are investigating the extent to which educational forms themselves create the conditions for limiting or enhancing social forms of learning.

TLRP's seven projects on widening participation in higher education will increase our understanding of important factors affecting 14-19 year olds as outlined in the Tomlinson report. They will shed light upon how to promote new forms of learning and teaching for students in subjects learnt by 14 – 19 year olds. They will address the question of how to transform educational opportunities for students who have not traditionally seen higher education as a route through to further employment or to educational or training opportunities. Across this latest TLRP investment, issues of ability and disability, class, ethnicity, race, gender and sexuality are likely to be of central importance. Evidence on them will help build our understanding about ways of transforming higher education and its links to further education.

The project on problem-based learning in higher education and continuing professional education can contribute to our learning about approaches to learning and practice within professional areas that overlap with vocational topics and issues. The Learning to Perform project also enhances our learning and understanding here, and is dealt with in more depth below.

Creative Learning in higher education

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Royal College of Music

The TLRP's Learning to Perform project is an example of good practice in what the 14-19 White Paper refers to as 'a range of different learning styles'. It focuses on vocational learning within a four-year undergraduate degree programme which is undertaken by BMus students at the Royal College of Music.

With very few exceptions, undergraduates enter the RCM as accomplished specialists on one musical instrument. Early findings from Learning to Perform show that virtually all undergraduates (at least 97 per cent) enter the RCM intending to work in music on graduation. Two years later, four fifths of third year students hope particularly to become performers or composers. The College's Working in Music project found that on graduation, over 80 per cent of students go on to spend all their working time in music and only 6 per cent leave music.

Undergraduates develop the musicianship on which they will base their careers mainly through the medium of their chosen instrument. They have weekly individual lessons from a distinguished professional performer, frequently handpicked from those available. They are auditioned for places in orchestras, where they work with international conductors, under the coaching of section leaders from London orchestras, to rehearsal schedules that are structured as within the profession. They are placed in schools, orchestras or the community, or start to build up their own instrumental teaching practices, either as part of their course, or because they have decided that the experience would be helpful to them.

It is clear that individual support from within their faculties, including through the academic staff, helps the students to develop the skills needed to cope with the professional expectations of their work. Students regularly perform in, and organize, professional concerts during their time at college. The Woodhouse Centre at the college provides drop-in and targeted vocational support to undergraduate students and to alumni for their first five years after graduation.

Of course, learning to be a performer in music may be regarded as rather specialist, but what is of wider interest is the way that great effort is placed upon getting suitable work placements for learners, how they get explicit coaching and support for learning development at work and how their tutors regularly review their performance, learning and development across different learning arenas. Such support means that these learning environments can be seen as conducive to what Fuller and Unwin (2003a) term 'expansive learning'.

6 The Nuffield 14-19 Review

Independent research on an emerging phase of education

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The Nuffield 14-19 Review, supported by the Nuffield Foundation, was launched in October 2003 to spend three years researching major issues to be faced in developing a new 14-19 phase of education in England and Wales. It started its work as the Tomlinson Working Group was deliberating long-term curriculum and qualifications reform. But it has a much more comprehensive brief than that afforded to Tomlinson (2004) and is able to take a broader and more questioning stance.

The Review provides a critical scrutiny of every aspect of 14-19 education and training for England and Wales. It:

- debates the aims and values that should inform the new phase
- has critically analysed both the Tomlinson unified diploma system proposals and the Government's 14-19 White Paper
- researches the organisational dimensions of 14-19 reform that drive institutional behaviour
- examines critically the data and statistical base at the heart of government and professional decision-making
- researches and debates lessons to be learned in the policy-making process

At the same time, this independent multi-dimensional review is examining the wider context for reform by drawing on research on the impact of socio-economic factors on the choices made by young people and the role of labour market trends and employer demand for skills. The Review, while focusing mainly on England and Wales, also positions its findings within an international and UK comparative perspective.

In its first two years the Review has commissioned over 70 papers, which are available on its website, and which were critically discussed by a core group of researchers, policymakers and practitioners in 12 Working Days. The Review also produced Annual Report in November 2004 and November 2005.

The Review argued, in its first Annual Report, that England has moved to a 'medium participation system' since the mid-1980s, but that post-16 participation rates have remained static for more than a decade. It suggested that this stasis results from a 'syndrome' comprising several 'system factors' – a continuing academic/vocational divide; institutional competition and selection and, crucially, the continuation of a marginalised work-based route in a youth labour market that draws young people into low skill work and does not offer sufficient incentives for them to become more highly qualified. In its

first year, the Review also highlighted the apparent inability of policy-makers to exercise 'policy memory' and learn from the past.

Its second year of research included a focus on the underlying aims and values of education and training for 14 -19 year olds, a review of the Tomlinson Final Report and the 14 -19 White Paper, the institutional and organisational dimensions of 14 -19 reform, policy learning from historical and international comparison and a focus on 17+ participation and younger learners in the workplace. The Review suggested that government policy documents on 14 -19 education and training have largely failed to articulate underlying aims and argued that there needs to be a constant appraisal of the values which are embedded in educational language and practice and which shape learning experience. The Review also noted that despite nearly two decades of continuous reform, the behaviour of the education and training system, in terms of participation, progression and attainment rates, is still failing to meet the expectation of policymakers. It went on to argue that all learners, regardless of attainment in compulsory schooling, should be able to continue with general education beyond the age of 16 to provide them with the basis for lifelong learning and adult life. Moreover, raising participation rates requires more than the reform of qualifications: sustained attention needs to be given to increasing the incentives for young people to stay in education and reducing the incentives for them to enter the labour market early. A third area of findings concerned the organisation of 14-19 education and training. The review characterised current institutional arrangements as 'strongly competitive and weakly collaborative'. It proposed the development of strongly collaborative 14-19 local learning systems to support the participation, learning and progression of all young people within any given local area.

The Annual Reports, papers produced by the Review, and summaries of the discussions which followed them, are published on the Review's website (www.nuffield14-19review.org.uk). The Nuffield Review is supported by a research directorate from Oxford University Department of Education Studies, the Institute of Education, University of London, SKOPE at Warwick University and UCAS.

7 Conclusions

The work of TLRP has begun to uncover ways to promote learning development and progression in the 14 -19 phase of education and training. However, big challenges remain, such as to how to support the learning of all learners in this phase in ways that do not undermine the different values of various kinds of education, both vocational and more academic.

Existing TLRP projects have illustrated the strengths of different routes through further education and into higher education and the workplace. New TLRP projects will take on further issues of progression and transition, and will highlight ways to increase the participation of 17-19 year olds in further and higher education and training. From a research perspective, it is also interesting that the four home countries are taking different approaches to supporting the learning and development of 14 – 19 year olds as this offers the prospect of comparative learning.

Reconciling the dilemmas posed by vocational education and training in contemporary contexts will require substantial discussion, evaluation of evidence and considered judgement over the next few years. We hope that this Commentary will contribute to such debate. Continuing findings from TLRP projects will progressively strengthen the evidence base that should underpin reform and development in this phase of education and training. For further information, please see www.tlrp.org.

Acknowledgements

Our thanks to all the staff, students, researchers and others who have contributed to the research on which we have drawn in this Commentary.

We would also like to acknowledge the editorial support of Martin Ince, TLRP Media Fellow, in the production of this publication.

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