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**PROGRAMME DIRECTOR'S
FINAL REPORT**

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Programme Name: Teaching and Learning Research Programme

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Executive summary

TLRP (Part 1) has been seen as a leading influence in research in education and has, we believe, developed a strong reputation for quality and relevance. However, the Programme originated in, and initially engendered, considerable controversy. Whilst maintaining core purposes, explicit developmental strategies and a strong infrastructure were built up from 2002. In 2009, when reviewing the field of educational research as a whole, the RAE 2008 Sub-Panel for Education concluded that: 'the *quality of research* activity reported in the submissions was high and significantly improved from 2001'. They stated: 'it is clear that the best departments can compete on equal terms with the strongest departments anywhere in the world'.

TLRP was managed (Part 2) by combining high expectations and a tight organisational structure with an inclusive, participative and respectful approach to the education research community. The Directors' Team provided sector-specific expertise and its members worked at all times to add value to the activities of projects. In particular, in addition to providing critical friendship to projects, they focused on engagement with users, promoting knowledge transfer and supporting capacity building. The Programme contributed strongly to ESRC's own strategic priorities in these respects.

TLRP's six enduring objectives (Part 3) concerned:

*Learning
Outcomes
Lifecourse
Enrichment
Expertise
Improvement*

The Programme's development overall was driven by eight strategic commitments and major areas of activity (Part 4):

- User engagement for relevance and quality
- Knowledge generation by project teams
- Knowledge synthesis through thematic activities
- Knowledge transformation for impact
- Capacity building for professional development
- Partnerships for sustainability
- International engagement for collaboration and comparison
- Innovative review to add value

TLRP developed a forward-looking Communication and Impact Plan and an organisational infrastructure to implement it. The use of new communication technologies and explicit production systems was an important part of this (Part 5). This report provides illustrations of specific impacts achieved in the form of nine short narratives and eight more developed case studies. These illustrate both the impact of outstanding science and of the Programme's out-reach to non-academic groups.

The Programme recognised the complexity of the social, political and professional changes to which it has contributed.

- *Government education policy* in each UK country developed in ways which are broadly, though not consistently, consonant with the findings and key messages of TLRP. TLRP's projects and Directors' Team maintained a policy of 'constructive engagement' with policy makers and it is believed that the Programme exerted some influence at many levels.
- Commitment to *evidence-informed practice* as a way of improving professionalism and standards grew in all sectors. TLRP worked assiduously with government agencies, teacher associations and

councils to support this development and produced many specifically tailored sets of practitioner materials derived from its research.

Capacity building (Part 6) was an intrinsic part of TLRP's work and the Programme was wide ranging in its influence. This is indicated by the seriousness with which this issue is taken within the field today. TLRP trialed many approaches to capacity building and there is now a measured appreciation of the complexity of needs and of the complementary forms of provision which are possible. TLRP particularly supported the contemporary leadership of BERA in this field.

The management of the Programme (Part 7) required a strategic combination of value-led principles, practical organisation and creative, purposive pragmatism. This enabled confidence to be accumulated with both internal and external stakeholders, and supported the growth of the Programme. It ended some four times bigger than had originally been anticipated, and has now passed into new management its £12m portfolio of projects on technology enhanced learning.

HEFCE and ESRC support for the Programme (Part 8) was invaluable, and was tangibly and constructively realised through the TLRP Steering Committee. Staff at ESRC were unfailingly helpful, though work pressure caused some administrative delays. ESRC procedures provided quality assurance of particular projects and had many other strengths, but were not always congruent with the Programme's more holistic goals.

The sustainability of the Programme's work (Part 9) was maximized through the partnerships which it developed with BEI, CARET, Routledge and a wide range of user organisations. The formation of the UK Strategic Forum for Research in Education extended TLRP's pro-active contribution to self-reflection across the field. Developing future capacity in each country of the UK for systemic thinking about knowledge production, transformation and application is a major priority for continuing improvement.

Contextually, TLRP benefited from a decade of prosperity and optimism, from growing commitment to evidence in policy and practice, from the need to establish new foundations for 21st century education and from the pressure of international competition.

The Directors' Team attempted to harness the energy and commitment of the research community, to form respectful alliances with other stakeholders and to take available opportunities. TLRP was once described as a 'collaborative adventure' and this remains quite a good description from the perspective of direct participants.

For other stakeholders and the public, we hope that TLRP will be seen as having both contributed to new knowledge and understanding of teaching and learning, and as having engendered greater appreciation of education research as an essential contributor to high quality policy making and professional practice in an open, democratic society.

TLRP end of award report

1 Introduction

General background to the Programme

The Teaching and Learning Research Programme (TLRP) has provided coordination for over 700 educational researchers in some 70 project teams, some 20 initiatives of cross-programme thematic analysis and over 30 fellowships across the four countries of the UK. Projects have been based in over 60 HEIs across the UK, including specialist colleges for music and education. This has included over 40 colleges and universities in England, 3 in Northern Ireland, 12 in Scotland and 6 in Wales.

The first projects began empirical work in 2000 and the last project of the TLRP extension on technology enhanced learning is expected to end in 2012. The total budget in the summer of 2009 was some £43m and drew contributions from a wide range of UK government bodies and research councils. Credit for imaginative initiation of the scheme and for its core funding goes to the Higher Education Funding Council for England. TLRP has been managed by the Economic and Social Research Council (ESRC) and has been the largest initiative in its portfolio.

The origins of the Programme can be traced to the mid-1990s when educational research was heavily criticised by government ministers and others for being small scale, irrelevant, inaccessible and of low quality. Whether or not these criticisms were justified, researchers faced major challenges in demonstrating the value of investment in the field.

The education research community in the UK was not alone in facing such a critique – as indicated by international commentators who contributed to a special issue on TLRP of the *British Educational Research Journal* (Vol 33, No 5, 2007). Across the world, globalisation brought ‘reforms’ of national education systems and international competition emphasised comparative national performance. The ambition that policy and practice should be based on ‘evidence’ became more powerfully articulated - with aspirations that science could demonstrate ‘what works’. Thus educational researchers came under the spotlight with calls that they should respond to national priorities more directly. How would they respond? Resistance - to protect academic freedom? Conformity - to grow funding streams?

In the early days of the TLRP, researcher responses were finely poised. Charles Desforges, the first Director, led the debate within the Programme by raising a number of challenging issues. These included the role of user engagement, of scientific design, of knowledge transformation and of theoretical advances towards ‘more comprehensive pedagogy’. His End of Award Report, covering the period March 1999 to April 2002, records his perceptions. It is apparent that there were significant epistemological differences within the Programme and that the ways in which such issues were tackled generated debates and arguments at many levels. In his 2001 Annual Report, the Director recorded his concern that TLRP would be ‘captured by extant research cultures’ within the field. In his 2002 End of Award Report he explained further that:

Research cultures in education form a very broad church. Sadly, some sections of the community do not share a taste for objective evidence, measurement or cause-effect modeling.

More broadly, whilst reflecting on whether the establishment of a research centre might have been a better strategy, the management of the Programme was likened to ‘trying to fly a glider made of jelly’. Charles Desforges summarised:

‘Perhaps the greatest difficulty is that involved in imposing some coherence on such a large and disparate Programme. The major source of these difficulties lies in the Programme model and its related commissioning practices, and will not be overcome.’

Notwithstanding the epistemological issues around design, evidence and scientifically warranted conclusions, the initial policies of the Steering Committee and work of the first Director undoubtedly provided important foundations for the Programme. In particular, we should note the early commitment to user engagement, to innovative knowledge transformation and to theorising pedagogy.

As incoming Director in 2002, a three part strategy was adopted.

- 1 Deepen relationships with stakeholders by affirming the foundations of TLRP.
- 2 Re-engage the research community to generate new energy and commitment.
- 3 Develop an explicit strategic framework to enable coherent, progressive development with which researchers and users could identify.

The key elements of TLRP's growth and productivity were thus based on fully engaging the commitment of the research community and providing a strong, enabling infrastructure and strategic framework to support them in engaging with users, in impact activities and in processes of self-development.

Enactment began with the appointment of a geographically distributed team of part-time Associate Directors to draw in expertise and to emphasise inclusion. It was followed by articulation of 'academic challenges for moral purposes' (Pollard 2002), by discussion of 'what is, and what might be?' (2004) and of the 'challenges facing education research' (2005). Programme conferences were designed to enable researchers to talk constructively about key issues, similarities and differences in views and were focused on underlying conceptions of learning – a process which ultimately led to theorization of the Programme's thematic and D-space structures. The epistemological issue was recast in terms of 'fitness for purpose' though group study and discussion of various positions on design, evidence, warrant and review. Robust quality standards were thus asserted, but it was agreed that the form of these must be appropriate to the particular type of research in question.

Re-development of the relationship between the researchers and the Programme enabled TLRP to function thereafter as a stimulus to 'reflexive activism' (Pollard 2005). This affirmed the goal of improving the quality of research practices and outcomes - taken to be appropriate in any form of professional activity. However, it associated this with a commitment to engage actively in the public, democratic realm and, in particular, to generate independent evidence for public debate and decision-making processes of both practitioners and policy-makers.

TLRP's overarching commitment has thus been to support research which is of both high quality in social scientific terms and of high relevance in terms of policy and practice – to satisfy the ambition of 'Pasteur's Quadrant' (Stokes, 1997).

At the same time, considerable effort has gone into impact work, capacity building across the field of educational research and in 'bridging' between the worlds of researchers, policy-makers and practitioners. Looking back over the years, we believe that a greater respect for, and understanding of, these complementary forms of expertise has been developed.

The development of TLRP Generic and TLRP-TEL

Duration and numbers of investments in each of TLRP funding initiatives are as follows (see Appendix A for more detailed information):

- Phase I (2000-03) supported four networks of projects (three in school sectors and one in post-compulsory education); (perhaps mention here HEIs and inter-disciplinarity).
- Phase II (2001-04) supported nine projects (six in school sectors and three in post-compulsory sectors).
- Phase III (2003-08) supported twelve additional projects in post-compulsory sectors. This specifically extended the contribution of education research in the context of the expansion of HE more generally.

- Building on Phase II funding, 'extension projects' were funded in Scotland (four from 2003-05), Northern Ireland (three from 2004-07) and Wales (four from 2004-07).
- Widening Participation in Higher Education (2006-08) supported seven projects in England, several with high levels of social scientific interdisciplinarity.
- Five Thematic Groups ran from 2002-4 and two others ran from 2006-7.
- Six Thematic Seminar Series ran from 2005-06 and two others ran from 2006-7.
- Three thematic consultancies were awarded in 2000-2 and two more were funded for 2006-7.
- Six associated projects were inducted into the Programme (2004-07)
- Two Career Development Associates (CDA) (2000-03) and five research training fellowships (RTF) (2001-08) were also been funded. Twenty five 'Meetings of Minds' fellowships were funded (2006-2008) before the scheme was passed to BERA.

In early 2006, it was agreed by ESRC, EPSRC, HEFCE and the TLRP Steering Committee that TLRP should manage a joint research council funded extension on Technology Enhanced Learning. This took advantage of the existing infrastructure and was directed by Andrew Pollard until 1st April 2009. A 'e-team' of five consultants supported the first year of TEL, with Richard Noss joining as an Associate Director with TEL responsibility from 1st September 2007. Commissioning for TLRP-TEL took place in three stages.

- Development Project funding supported seven six-month projects during 2006.
- Phase 1 TEL (2007-11) supported three major projects.
- Phase 2 TEL (2008-12) supported five major projects.

TLRP-TEL will report independently in 2013 but is perhaps TLRP's most explicit interdisciplinary legacy beyond the social sciences. The TEL investment reflects TLRP's commitment to relevance, quality, capacity and sustainability and, building on TLRP experience, was designed with an integral thematic structure around four 'research challenges' – productivity, personalization, flexibility and inclusivity in TEL. Many other constructive synergies are sustained between TLRP Generic and TLRP-TEL. For more on TLRP-TEL, see <http://www.tlrp.org/tel/>.

Management arrangements (see: <http://www.tlrp.org/manage/index.html>)

Projects, networks and other funded activities were managed by the academics named as Principal Applicants on initial proposals. Project and network directors were responsible for the progress of their research, for providing annual and end-of-award reports and for appropriate participation in the work of the Programme as a whole. Working within contractual frameworks and Programme policies, project directors and their teams had considerable autonomy.

The Programme Director was responsible for the operational management of the Programme on a day-to-day basis. He aimed to provide academic leadership across the Programme, to coordinate collaborative initiatives and to use the Programme's infrastructure to 'add value' to the work of individual projects. He both reported to and advised the Steering Committee. He was supported by a part-time Deputy Director, up to four part-time Associate Directors (at different times) and a Programme Office of between 2.0 and 3.5 fte (at different times).

The Directors' Team provided expertise across all the major sectors in which research was being conducted. Drawing on this expertise, each team member had responsibility for supporting a specific range of projects or other funded activities, and for direct liaison with an associated portfolio of research users. Over the entire period of TLRP, ten colleagues have served in the Directors' Team.

The Programme Office maintained the core organisational infrastructure for day-to-day Programme activity. Within the office, explicit areas of specialist responsibility were complemented by team-work and a goal-focused culture (see section 7 of this report).

The Directors' Forum was made up of senior representatives from all projects and other investments. They were invited to this away-day meeting every summer to discuss the progress and forward planning of TLRP. This included, in particular, consultation on how to add value from Programme activity.

The TLRP Bulletin provided news and information to all TLRP participants every term, and was used to streamline communication and moderate email traffic.

The Steering Committee had a key policy-making role with TLRP. With a membership of senior research users and distinguished academics from across the UK, it offered advice to the Programme Director, considered project reports and took responsibility for all major funding decisions. It met three or four times each year. Over the entire period of TLRP, over 60 colleagues have served on the Steering Committee. The Steering Committee supported the development of TLRP-TEL until the first meeting of its own Advisory Group in June 2009.

Key performance indicators, were designed to be authentic, practical, informative and measurable, and were maintained for monitoring and reporting purposes. Clusters concerned: contributions to knowledge; the development of research capacity and expertise; user engagement, communication and impact.

ESRC managed the Programme on behalf of a range of UK funders, and drew 5% of the budget to pay for this provision. For most of the Programme, ESRC's Associate Director of Research for Education and his colleagues provided administrative services in respect of funding processes and accountability requirements, with the ESRC Research Priorities Board monitoring decisions of the TLRP Steering Committee and receiving the Programme's Annual Report. In the later stages of the Programme, ESRC split its commissioning and impact promotion functions, and was no longer able to sustain stable, specialist support to Education. The TLRP Steering Committee reported to ESRC's Strategic Research Board. ESRC also provided a wide range of other important services to support research development, particularly in relation to knowledge transfer and impact.

Key funders of the generic Programme included the Higher Education Funding Council for England, the Department for Education and Skills, the Scottish Executive, the National Assembly for Wales and the Northern Ireland Executive. Formally, ESRC's contract to manage the Programme was with HEFCE, the largest funder. TLRP-TEL is co-funded by ESRC and EPSRC.

Whilst this was a complex structure, it provided direct access to formidable sources of expertise and support for the Programme.

2 The Director's role

i) Adding Value:

The Directors' Team has added value to the Programme by collaborating in sharing information between project teams, building cross-Programme trust, helping to generate a collective sense of purpose and negotiating the legitimacy of coordinated activity and notions of the reach of educational research.

Enabling infrastructural resources have been sustained and refined. These include: the website and electronic repository (D-space), annual conference foci, establishment of thematic groups, synoptic reports and Commentaries, the termly Bulletin and annual compendium of project annual reports, Directors' Team role allocation, resource allocation, electronic discussion facilities and Virtual Research Environments.

Thematic analysis across the Programme was progressively developed over the period from being exploratory to including greater elements of review. Most recently it has been configured to take stock of research quality development through TLRP. Such thematic work has been integrated on the website, with automated links to publications in the Programme's electronic repository. Sectoral reviews and Commentaries have been supported with partners as opportunities arose (Esmee Fairbairn, Higher Education Academy, Nuffield Foundation, Institute for Employment Research, NIACE, Association for Science Education, GTC England).

Following conference and other consultations during 2004, the Programme's thematic development strategy was introduced and became the major tool for adding value. It is based on a simple conceptual framework (see p 22 of this report) which has been used to commission and organize all thematic work and new initiatives. The model also provided the basis of the Programme's data-base of user and research interests and of the meta-tagging system which underpinned TLRP's D-Space electronic repository of outputs.

As the Programme moved forward, various strategies were used to maximise cross-Programme analysis and thus to 'add value'. Some of these specific strategies were:

Thematic commissioning – Four early scoping studies were commissioned early in TLRP. These focused on: *capacity building; neuroscience; pedagogy in post-compulsory education; and international benchmarking of research programmes*. At a later stage, work was also commissioned on '*mapping the ripples*' of capacity building and on the production of *impact narratives*.

Conferences – TLRP's annual conferences focused mainly on cross-Programme issues and themes. In 2002, discussion led to the initial identification of some 21 themes associated with Programme aims. These were subsequently refined to produce the TLRP conceptual framework. The 2003 event addressed models of learning being used. In 2004, projects reported substantive work to enable review and synthesis – with particular attention to school projects. In subsequent years, this process began to focus on other sectors and to provide UK-wide dissemination. In 2008 a Westminster event with key partners was designed for policy-makers and practitioners. TLRP's final academic conference was held in March 2009 to review what had been learned about methodology and capacity building.

Thematic Groups – five groups met during 2003 and 2004. Those on *communication and impact, ICT and research development* and on *international synergies* had a major impact on TLRP provision, whilst those on *learning outcomes* and *learning through the lifecourse* tackled more substantive academic concerns.

Thematic Seminar Series – further series were funded through 2005 and beyond. These drew further expertise into the Programme and located TLRP's work in broader contexts. Topics addressed included: *contexts, communities and networks; transitions through the lifecourse; social diversity and difference; education and neuroscience; changing teacher roles; quality in educational research; and collaborating with users to develop educational research*.

Workshops – this academic consultation strategy was used when specific issues needed to be tackled. For example, during 2003 a workshop on the meaning and use of the concept of *'warrant' in educational research* was held, leading to a subsequent paper. The Programme's impact strategy was also tested in workshop consultations before application.

Policy Task Groups and TLRP Commentaries – quick-response initiatives in relation to contemporary policy issues on which TLRP was able to make a worthwhile, and formative, contribution. In 2004, the Programme's first such group focused on *personalised learning* and produced a TLRP Commentary. Fifteen of such Commentaries will have been produced by the end of the generic Programme, each one derived from some form of Policy Task Group.

Directors' Team portfolios – each member of the TLRP team had responsibility for selected cross-Programme issues and themes. Additionally, core themes were addressed collectively.

Directors' Forum – as discussed in section 1, senior representatives from projects and other investments were invited to an awayday every summer to discuss the progress and forward planning of TLRP. In various ways, this focused on adding value from Programme activity.

Knowledge transfer in the devolved UK – where opportunities arose, we aimed to take stock of the contributions made in relation to specific UK policy-making environments. This was achieved through the award of Placement Fellowships in Scotland, Northern Ireland and Wales.

Sectoral Overviews – in England, where opportunities arose, we sought to contribute to reviews of particular sectors – this was achieved for primary education, 14-19 education, workplace learning and lifelong learning.

Synoptic publications – Miriam David edited an Improving Learning book on Widening Participation in Higher Education (2009). Andrew Pollard and Mary James are collaborating on a book on TLRP's 'principles for effective teaching and learning' for completion in 2010. Alan Brown created a website synthesizing work on workplace learning and career development. [See <http://www2.warwick.ac.uk/fac/soc/ier/glacier/learning/>]

Ten principles of effective teaching and learning – this was our most synoptic output offering a summary of accumulated findings and insights from both TLRP and other research in a highly accessible way. It was designed for direct practitioner use in teaching and learning settings and distributed to school, FE, HE and workplace development audiences through Commentaries. This summary was directly linked to the broad aims of the Programme. It represents a dramatic form of knowledge transformation in converting ten years of research by hundreds of people into a single poster.

ii) **Providing Intellectual Leadership:**

A major goal of the TLRP Directors' Team was to create a climate, within the Programme and beyond, in which the significant challenges being addressed by educational researchers can be constructively discussed.

The Directors' Team insisted, with tenacity, on the appropriateness of considering: how 'learning outcomes' may be described and progress indicated; how, whilst recognising a proper diversity of research approaches, all projects should provide 'warrants' or information which enables quality judgements to be made; and how the accumulation of knowledge should be represented through appropriate review processes. The crucial TLRP challenge of producing relevant and secure pedagogic knowledge has been sustained by the Directors' Team. Sensitive management of discussion around these issues has made an important contribution to the process of cultural change within the field of educational research to which TLRP has contributed.

Each member of the Directors' Team provided leadership in relation to particular issues. For example:

Alan Brown: Synergy from international comparison

Thematic work during 2003/4 underpinned two ERA-NET proposals which were produced in collaboration with European partners, building on the work of the first TLRP Director. European networking gradually grew into global networks in relation to both substantive topics and research development strategies. TLRP's international work suggests that there are significant levels of convergence in understanding effective educational provision.

Miriam David: Widening Participation in Higher Education

A thematic group on social diversity from 2006 produced an array of publications, including a special issue of *Research papers in education* 2008 with 10 projects contributing, and a commentary on Widening Participation in HE. *Improving learning by widening participation in HE* is in press with Routledge's Gateway series. This work has also had international impact with presentations about diversity, equity and fair access to HE in Argentina, Australia, Brazil, and India.

Kathryn Ecclestone: Learning through the lifecourse

A thematic group from 2004 produced a special issue of the *Journal of Adult Learning* on learning through the lifecourse. The team also produced a book on learning through lifecourse transitions. TLRP contributed to a 2008 DIUS-led Foresight exercise on Mental Capital and Wellbeing through the life-course and during 2009/10 a Director's Fellowship enables linkage of its analysis of learning to that of the Centre for the Wider Benefits of Learning based on longitudinal cohort studies.

John Siraj-Blatchford: ICT and the development of educational research

The IT development of the Programme has been at the cutting edge of the application of technology for research development. With strong contributions from Patrick Carmichael and colleagues at CARET, TLRP has contributed to UK development and application of research portals, virtual research environments, repositories, knowledge management, meta-tagging and the use of semantic facilities in website construction.

Mary James: Learning outcomes

A thematic group working on outcomes edited a special issue of *The Curriculum Journal* and made a major contribution at 2004 TLRP Annual Conference. A seminar on ways of measuring learning outcomes took place at DfES during the spring of 2005. Further thematic work on the assessment of significant learning outcomes was developed through the Assessment Reform Group and contributed in a TLRP Commentary. Ways of measuring relatively intangible educational outcomes is one of the biggest challenges facing contemporary education.

Andrew Pollard and Mary James: Synthesis of major findings into 'principles for effective teaching and learning'

The generation of a meta-analysis for the Programme was necessary given both the wide-ranging expression of its substantive goal and the need to provide a concise and accessible statement of 'findings' suitable for application by practitioners and policy-makers. The conceptual model on which this work was based can be traced from the Director's work on coping strategies (eg: 1982) and reflective practice (eg: 1987) in schools, but was significantly enhanced by the insights and development work of the Deputy Director both in that role and whilst on her Fellowship. Views on learning were elicited at TLRP conferences and were related to research findings, to extant theorization on teaching and learning, to international discussion and to consultation with teachers and key policy-makers. Through this iterative process from 2002-5, a model of 'ten principles for effective teaching and learning' was formulated as a synoptic summary of the implications of TLRP's findings and experience. This was promoted through two Commentaries and through a special publication + DVD which was distributed to all UK schools. Further work continues. This representation was taken up by Miriam David and Alan Brown and successfully adapted within TLRP Commentaries to findings in HE and workplace learning.

Andrew Pollard: Transformation and impact

The early work of the Programme's thematic group was represented in a special issue of the Cambridge Journal of Education. Impact strategies were developed from the 2001 Communication and Impact Plan and implemented through an 'Outputs Portfolio' (<http://www.tlrp.org/manage/admin/outputnew.html>). Such work has been further supported by contributions to discussions on the assessment of research impact and on engagement with the media.

Andrew Pollard: The educational research community

The development of constructive and pro-active approaches to research challenges and the establishment of new forms of research professionalism was an important underlying goal of the Programme. This initially required establishment of greater respect for diverse forms of expertise and for different epistemological positions, and then the development of practical developmental strategies and initiatives. It was a focus for activity throughout the period. A very specific example concerns an acrimonious debate at the 2005 BERA Conference about the status of systematic reviews which almost resulted in legal action. Constructive TLRP intervention over time resulted in reconciliation and a Research Briefing (RB 30, Reviewing Reviews, Torrance and Sebba, 2007). More broadly, similar contributions are reflected in the development of capacity building strategies within TLRP, within each UK country and through the existence of the Strategic Forum for Research in Education.

iii) Engaging with Users

TLRP's explicit strategy has been to engage potential users in all aspects of the Programme, with each project also developing and implementing strategies to produce high levels of user engagement. Work on user engagement has been sustained throughout the Programme and has been both practical and analytic. All projects were encouraged to work closely with users in their research sites to enhance validity and relevance, and also to develop links with appropriate bodies with high impact leverage.

On behalf of the Programme as a whole, the Directors' Team remained active in relation to the development of links with national bodies. Members of the Directors' Team maintained links with almost all designated 'key user' organisations in their sectors, most effectively through personal contacts. In particular, they negotiated the potential for cooperation and synergies and for the use of user dissemination infrastructures to maximise the impact of project findings.

In our work with senior representatives of key user organisations we experienced a warm welcome and receptivity for the contribution which research evidence can make to issues of policy and practice. However, the turnover of carefully developed contacts within key organisations was always a significant challenge.

Examples are provided in Part 5 of this report on Programme Impacts.

iv) Inputs to Public Policy Debates:

TLRP's explicit strategy has been to work with high levels of engagement with appropriate governments and agencies, whilst maintaining an independent, evidence-informed stance. It is believed that the constructive purposes of TLRP have been recognised in each part of the UK.

Examples are provided in Part 5 of this report on Programme Impacts.

v) Inputs to ESRC Policy Debates:

TLRP has contributed to policy debates within ESRC throughout the decade of its existence. For example, during 2004, the TLRP Director worked closely with the Chief Executive of ESRC on a number of matters. These included the relationship between ESRC, DfES and the National Education Research Forum and the establishment of a review of issues in the assessment of applied and practice-based research (resulting in Furlong and Oancea 2005). A substantive contribution to Council's review of 'Future Directions for Social Science' was made and a 'TLRP Commentary' on Personalised Learning was produced to contribute to ESRC's presentations at a scrutiny by the House of Commons Select Committee on Science and Technology.

TLRP's Directors' Team has regularly been consulted by ESRC officers in relation to Council responses to contemporary issues which arise in the media or in response to government requests for research-informed briefings. Examples include enquiries about Maths Education, Science Education, 14-19 Education and Widening Participation in HE. TLRP's Commentary on Science Education, produced in collaboration with the Chief Executive, was a formative influence on the development of ESRC's provision for STEM subjects.

As affirmed by ESRC's present Chief Executive, TLRP's stance on 'interactive social science' and user engagement was ahead of its time, being absolutely explicit in the policies of the TLRP Steering Committee from 1999. Having been implemented resolutely, particularly in respect of the opportunities generated for knowledge transformation and impact, these policies provided a decade-long case-study for ESRC of a particular form of applied social science. The 2008 British Academy advocacy of 'co-production', ESRC's new 2009 policies on impact planning at the point of grant application and the prominence of impact consideration in discussion of the new Research Evaluation Framework all attest to the power of this policy.

TLRP has also been innovative in respect of capacity building strategies. Thus it has developed itself through training provision to more embedded models of research in practice and to a balanced analysis of the need for constructive synergies between national policy, institutional provision, project management and researcher career plans. Extensive collaboration with NCRM has taken place and advice has been offered to ESRC about the development of no-cost capacity building activity through enhancement of the award application and evaluation process. It is hoped that these messages about capacity building, a form of learning on which TLRP is well qualified to comment, will contribute to increasingly effective provision in all parts of the UK.

TLRP's advocacy and development of the Strategic Forum for Research in Education establishes the value of thinking about national provision in applied fields in terms of national knowledge management systems.

vi) Providing a Channel of Communication between ESRC and the research community:

TLRP has been very well placed to act as a channel of communication between ESRC and the educational research community because of its scale and sectoral range across the UK. The Directors' Team has been geographically distributed and extremely well networked.

For example, during 2008 the Directors' Team accessed a wide range of networks. Andrew Pollard as a member of BERA's Executive Council facilitated the establishment of BERA's new website, VRE service and capacity building resources – all inherited from TLRP. He was also the editorial adviser of *Research Intelligence* and maintained channels of communication on ESRC capacity building policy. Mary James maintained her links within the Assessment Reform Group and with international assessment experts. She also provided important links to practitioner research organisations for schools. Miriam David was chair of the Academy of Social Sciences, editor of its journal *21st Century Society* and a member of the Council of SRHE. Alan Brown maintained his extensive links in workplace learning and career development both in the UK and overseas.

Previous members of the team had similar reach. For instance, John Siraj-Blatchford and the 'e-team' of five part time Associate Directors recruited to support TEL prior to the appointment of Richard Noss, ensured extensive contacts in relation to e-learning. Steve Baron, TLRP's Associate Director for Capacity Building served as the Coordinator of Scotland's Applied Educational Research Scheme. Kathryn

Ecclestone had extensive contacts in the further education sector, from which TLRP benefited enormously.

Relationships with researchers in Scotland, Wales and Northern Ireland were nurtured over the entire period. They were kick-started by TLRP Extension projects in these countries which brought both opportunities to conduct research and to engage in capacity building. These initiatives were facilitated by the Director and, at ESRC Concordat meetings with devolved governments, provided useful examples of constructive social science activity. Launched with support of Ministers in each country, the impact of TLRP engagement is believed to have been very significant.

These synergies and engagements between the TLRP Directors' Team and the UK educational research communities did not occur by chance. Rather, they reflect a strategic decision to support capacity building, infrastructural and academic development by progressively embedding TLRP's work in the culture, practices and forms of social organisation of the field. This strategy, based on collaboration, partnerships and communication, is believed to have maximised the probability of achieving sustainable, long-term development in educational research.

TLRP's Directors' Team has been regularly consulted by ESRC officers in relation to Council responses to contemporary issues which arise in the media or in response to government requests for research-informed briefings. For instance, in 2004 these included discussion of: UK and international nominations to Boards and user groups, relationships with educational associations and agencies, capacity building issues in relation to training requirements and various aspects of internet-based knowledge management and the development of virtual research environments. During 2008, TLRP commented extensively on ESRC's Strategic Review (including promotion of a new interface between neuroscience, psychology and education) and contributed to a number of ESRC publications, such as 'Britain in 2008', as a showcase investment. The Director was centrally involved in the negotiation of ESRC's capacity building strategy for education, produced an influential strategic paper on the subject and supported the two development projects which were subsequently funded.

The realization of the Strategic Forum for Research in Education, derived from TLRP as part of its sustainability strategy, also provides a major opportunity for ESRC to engage with the research community in education.

3 Programme objectives

3.1 The 1999 contract between ESRC and HEFCE set objectives which have been amended over time – for instance, in the 2002 contract for Phase 3 projects, the 2005 contract for projects on Widening Participation in HE and in the 2006 call for funding on Technology Enhanced Learning. Such changes reflected new public priorities and the movement of ideas within HEFCE, ESRC and elsewhere. Overall, objectives for the Programme have been significantly broadened over the period to reflect a more sophisticated appreciation of context and of the complexity and multi-level nature of factors affecting teaching and learning. There has been a renewed emphasis on diversity and difference, which was absent from the initial conception of TLRP. Such developments were welcomed by the research community.

TLRP's public statement of its objectives was endorsed by the Steering Committee in 2002 and has been used to frame the discussion below. These six objectives concern:

Learning
Outcomes
Lifecourse
Enrichment
Expertise
Improvement

Learning outcomes across the lifecourse

Substantive objectives in relation to 'learning', 'outcomes' and 'lifecourse' will be discussed together. They are:

Learning: TLRP aims to improve outcomes for learners of all ages in teaching and learning contexts across the UK.

Outcomes: TLRP studies a broad range of learning outcomes. These include both the acquisition of skill, understanding, knowledge and qualifications and the development of attitudes, values and identities relevant to a learning society.

Lifecourse: TLRP supports research projects and related activities at many ages and stages in education, training and lifelong learning. The Programme is concerned with patterns of success and difference, inclusion and exclusion through the lifecourse.

The goal of contributing to the improvement of outcomes for learners teaching and learning at all ages and locations within the UK was achieved through the strategy of producing synoptic TLRP statements which synthesize key project findings, accumulated knowledge and professional experience. This is the origin of the statements of TLRP's 'ten principles for effective teaching and learning' – which provide sectoral answers, with practical implications, to the major substantive challenge which the Programme was set. The priority placed on teacher expertise and on teaching/learning processes, rather than on institutional structures, was endorsed by the McKinsey report (2007) among other sources and a policy direction is apparent across the UK based on developing the professionalism of teachers and requiring less centralized prescription. We believe that TLRP has contributed to such developments.

Public recognition of the breadth of important educational learning outcomes has been strengthened during the past decade, and the Programme has actively contributed to this. Continuing work is needed on ways of validly measuring and/or developing sound indicators for some outcomes. Two thematic initiatives have worked on this, but more remains to be done.

In terms of learning across the lifecourse, this goal has been a partial victim of project commissioning procedures which prioritise project quality over Programme contribution. Despite the dozen rounds of commissioning, project coverage of very young learners and of post-retirement and the elderly remained

weak. This was compensated for by the engagement of some excellent, non-funded 'associated projects' (such as EPPE) and by some partnerships (for instance, with NIACE). The Director's Fellowship (2009/10) includes a specific focus on this issue and TLRP's lifecourse insights will be further enhanced by investigating their resonance with findings from the Centre for the Wider Benefits of Learning and the Centre for Longitudinal Studies. In other words, the findings of UK cohort studies will be related to the findings of its largest educational research programme. A Commentary with NIACE will promote the outcomes widely.

In relation to social differentiation in education, this was not an initial goal of the Programme and, indeed, was seen in the late 1990s as having been over-researched by educationalists. Early TLRP commissioning reflected such perceptions, with only one network explicitly focused on school inclusion. Later, thematic work was commissioned to harvest available insights across the Programme. The suite of seven projects on widening participation in higher education and leadership of Miriam David made a significant difference to coverage. Reflecting this history and notwithstanding the quality of some particular projects, TLRP is not as strong as might now seem appropriate in respect of cross-Programme analyses of race, gender, disability or social class.

The discussion above echoes the concern of the first TLRP Director, Charles Desforges, about whether the programme model could deliver coherently against its objectives. It would certainly have been stronger substantively had there been more early success at building a shared framework in relation to learning outcomes and if more explicit attention had been paid to social difference from the start.

A tension between maintaining the autonomy of project teams and the coherence of the Programme is inevitable with this model of funding. From 2002, TLRP developed a 'big tent' approach, combined with creativity and initiative through conferences, thematic activity, associated projects, etc to 'add value' and achieve as much coherence as possible. At the end of the day however, this always reflected principled pragmatism, as guided by the Programme's strategic and value commitments (see Part 4 of this report).

Enrichment and improvement

Enrichment: TLRP commits to user engagement at all stages of research. The Programme promotes research on teaching and learning across disciplines, methodologies and sectors, and supports various forms of national and international co-operation and comparison.

Improvement: TLRP develops the knowledge base on teaching and learning and contributes to the improvement of policy and practice in the UK. The Programme works to maximise the impact of its research.

The objectives set in relation to the enrichment of research through user engagement have been largely met, and the Programme has developed a strong reputation for its policy of twin engagement with practitioners and high-leverage national bodies. The British Academy's recent promotion of co-production in research endorses this approach. TLRP's work is well documented following thematic investment to take stock in this area. It appears that user engagement improved the validity of research, as well as providing partnerships for later impact and dissemination activity.

TLRP's commitment to 'improvement' represents the long-established Enlightenment ideal of the application of science for the public good – and provided a value-led, shared rallying point for the diverse communities of researchers and users who were engaged with TLRP. The Programme's Communication and Impact Plan was created in 2000/1 and was visionary in many ways, with its conception of impact as a collaborative, user-engaged process which is 'interactive, iterative, constructive, distributed and transformative'. This was built on in the Programme's Outputs Review and web-based Portfolio to convert aspiration into practical systems for producing outputs at scale. These outputs have, in combination with the face-to-face work of researchers and the Directors' Team, provided the necessary means of achieving impact. The permeation of research findings into taken-for-granted understanding is, however, a long process and it is too early to categorically assess impact.

The turnover of key contacts in user organizations was a long-running challenge for the Programme, but by far the greatest difficulty in achieving impact was the sheer scale and complexity of the education system. Despite its size, TLRP expenditure per annum has been only a tenth of the DCSF research budget and its research teams pale into insignificance compared with the thousands of education professionals at work. Further, a policy of 'constructive engagement' with government and required procedures on the issue of press releases meant that the Programme did not seek to provoke controversy in public debates. The prominence of the Programme within professional groups in each sector was not therefore significantly amplified through the media. The impact of some projects has certainly been direct (see Part 5 for some examples), but only time will indicate whether constructive engagement will turn out to have been effective. Knowledge and understanding develops incrementally however, and TLRP's contribution has been clearly expressed and is consistent with many contemporary trends. Provision has been made for sustainability.

Inter-disciplinarity has been an important focus for the Programme, along with encouragement of mixed-methods and cross-sectoral analysis. The latter are well reflected in the Programme's work, whilst inter-disciplinarity has been a continuing challenge. Routine academic incentives do not help here, with funding, publication and career prizes often being associated with disciplinary specialization. However, TLRP made progressively assertive efforts to encourage inter-disciplinarity, most recently and intrusively in the commissioning on Technology Enhanced Learning.

Enrichment of the Programme through international liaison has been very successful with large numbers of contacts at both project and Programme levels. The latter are well documented on the TLRP website. The Programme has been internationally recognized as an unusual model of a large-scale national intervention and has attracted many visitors and invitations overseas.

Expertise

Expertise: TLRP works to enhance capacity for all forms of research on teaching and learning, and for research-informed policy and practice. This work is the particular focus of the Programme's research capacity building strategy.

This objective is fully discussed in Part 6 of this report. In brief however, we believe that research capacity has been significantly enhanced. Perhaps the greatest contribution has been TLRP's success in establishing full endorsement by the academic community of the importance of capacity building. It is a considerable distance from the skepticism of 2000/1 to the prominence of 'capacity' within BERA's Strategic Plan and embedding of capacity building resources within its services to members. Much has also been learned about this issue, for instance in 'mapping the ripples' of embedded research experience, and this has been passed on through NCRM and in other ways (see Part 6).

The 'particular priorities' of TLRP's first capacity building specification included strengthening expertise in quantitative methods and in more systematic forms of research design. This has remained a high priority and many thematic initiatives and their publications relate to these issues. TLRP would claim success in building appreciation of the full range of methods which are available for educational research. However, when commissioning projects, the Steering Committee were unable to move this forward as far as had been hoped. More clearly remains to be done to increase quantitative expertise within the field.

3.3 Contributions of projects to the Programme

TLRP investments have been very wide-ranging in their scope and value to the Programme – from large team projects with budgets over £1m, to development projects of £50k, thematic investments at £10/15k, and individual fellowships funded by less than £500.

24 large project investments (over £250k) made particularly important contributions to the science underlying TLRP's work. This is indicated in formal ESRC evaluation data. Of the 24, 11 (46%) were deemed to be 'outstanding' and 13 (54%) were graded 'good'.

The smaller investments made particular contributions in respect of capacity building, developmental and thematic work. So for instance, there were almost 30 Meetings of Minds Fellowships; 7 TEL development projects (deliberately encouraging interdisciplinary risk) and over 20 thematic or impact initiatives.

Projects were commissioned in over a dozen stages. Contributions were therefore highly complex with significant overlaps of project starts and ends. Thematic work and other cross-Programme activity was essential to provide focus for the research teams and thus to build progression and knowledge accumulation. Briefly:

Phase I networks: Four networks were concluded early in the Programme, with four 'gateway' books produced in TLRP's *Improving Learning* series, production of research briefings, outcomes briefings and full participation in impact events.

Phase II projects: Nine projects were successfully concluded, and all projects produced their full range of required outputs, including books in the Routledge *Improving Learning* Series and/or the *Improving Practice* series, and participated fully in impact events.

Scottish Extensions: Four small Scottish projects were successfully concluded and continued with impact events engaging policy-making and practitioner communities.

Phase III projects: Twelve projects were successfully concluded, and all projects produced their full range of expected outputs. These projects engaged in a wide variety of impact events throughout 2008.

Welsh and Northern Irish Extensions: Four Welsh and three Northern Irish projects were successfully completed and again these projects had excellent links with their policy-making and practitioner communities and participated in both individual and collective dissemination strategies.

Associated projects: Five associate projects were a major success in extending Programme coverage to a number of important areas with foci on: early years and primary provision; older learners; teacher's lives and professional careers; identity and learning through schooling; skills strategies of multi-national corporations and the development of virtual research environments. The project teams also participated fully in impact events.

Widening Participation in HE projects: Seven English projects completed their work in 2008. They collaborated on various events to develop a commentary on Widening Participation in HE, including at the post-compulsory event at the November 2008 conference. An edited book in the *Improving Learning* series represents a major collaborative outcome.

Technology Enhanced Learning projects: Seven TEL development projects were funded in 2006, leading to three major projects from 2007. Five new projects were funded under a second commissioning round in 2008. A TEL Commentary was produced in 2008. There was also continuing discussion and interaction on the TLRP TEL Virtual Research Environment that was being used to support the TEL application cycle and a new project started in this area. From 2009, work on TLRP-TEL is being treated as and reported on as a distinct programme for ESRC administrative purposes.

3.4 Contributions to ESRC's key research priorities

In its 1998/9 Annual Report, ESRC announced its success in winning the contract to manage TLRP and presented this as an example of 'ESRC participation in national policy developments'. For much of the next decade, the resources from TLRP's HEFCE and UK governmental funders were to comprise some 4% of ESRC's total income.

ESRC's representation of substantive priorities has, of course, changed considerably over the period. In 1998/9, ESRC maintained nine 'thematic priorities' - including one on 'Knowledge, Communication and Learning'. When the *Learning Society* programme (led by Frank Coffield) ended in 1999, the most significant contributions to ESRC's strategic investment in relation to this theme were made by TLRP. By 2005, 'research themes' had become 'research challenges' as part of the ESRC goal of 'delivering world-class social science' and 'Education for Life' was one of seven such challenges. TLRP featured very strongly indeed in the associated description:

Our Teaching and Learning Research Programme is the UK's largest-ever research initiative in this field and is designed to produce findings which will directly improve education outcomes throughout life. It is producing research of value to teachers, learners, parents and employers, including actual improvements in classroom lessons, as well as outcomes of interest to policy makers and managers. This work involves a wide range of other stakeholders at every level from teachers to the devolved administrations of the UK. (ESRC Strategic Plan 2005-10)

Indeed, in relation to strategic and deliberative investment in education more generally, as one of the 18 'subject areas' recognised by ESRC in 1998/9 but with approximately £3m per annum of expenditure over the decade, TLRP provided much of ESRC's answer to the question 'what research in education is being supported?' In 2008 there were consultations for the 2009/14 Strategic Plan to which TLRP contributed actively - with particular reference to the strategic challenges on 'Understanding Individual Behaviour' and 'New Technology, Innovation and Skills'. In relation to the latter, TLRP's contribution was recognised in a listing of 'Achievements 2005-2008':

The promotion and support of world class theoretical, empirical, policy- and practice oriented research. ... Improving learning throughout the life-course by building capacity in high quality educational research and bringing different research methods together and by ... improving the quality of formal and informal learning. (ESRC Strategic Plan 2009-14)

Successive ESRC Chief Executives – Ron Amann, Gordon Marshall and Ian Diamond – have taken a significant interest in TLRP over the decade and, perhaps because of its managed and purposive character, the Programme has provided a good trial ground for emerging ESRC policies.

For instance, the notion of 'collaboration with research users' is buried on p32 of ESRC's Corporate Plan for 1993-8 but gradually achieved more prominence over the years. In 2009 it manifests as 'Impact', with 'Quality' and 'Independence' in the ESRC Mission, and is, of course, also becoming of great significance in broader forms of research assessment. TLRP endorsed, enforced and supported 'user engagement' from the inception of the Programme and can claim to have been innovative in exploring and documenting issues arising from co-production of research.

Similarly, in relation to capacity building, the Programme was a very early adopter with an explicit commitment to professionalisation and with expansive strategies for researcher, institutional and system development. Much has been learned within TLRP which has been passed on to NCRM and is being taken forward within BERA and elsewhere.

The Programme has also demonstrated the value of providing a specialist infrastructure for adding value to miscellaneous investments. Thematic development within TLRP has been theoretically informed and this has enabled knowledge accumulation, transformation and transfer in managed ways. TLRP's electronic repository and book, journal, research briefing, commentary and poster outputs are manifestations of this which, together with user engagement in various forms has facilitated influence and change in each of the sectors within which we have worked. In times of financial stringency, there appear to be significant lessons about value for money to be drawn here.

Such contributions were recognised by Ian Diamond in his speech at TLRP's 2008 Westminster conference. He stated:

“You should be very proud of TLRP’s pioneering nature in establishing ESRC partnership ventures to enhance knowledge and have impact. TLRP has been an absolute model of the way in which researchers, working closely in partnership with beneficiaries, can cross the dual hurdle of excellence in academic quality and wider impact. The TLRP is terribly important in demonstrating this. The approach is entirely normal practice for ESRC now, but was quasi-experimentally piloted through TLRP and has then been rolled out further. Additionally, TLRP has been a model of communication to a wider public. TLRP has also been great on capacity building, though we acknowledge that much remains to be done for the next generation of researchers. In summary, TLRP has been a wonderful programme – a flagship.”

4 Programme activities

This section provides an overview of TLRP's strategies followed by an account of user engagement, knowledge generation and thematic activities within each sector. The latter have been provided by the relevant members of the Directors' Team.

Strategy, actions and achievements

TLRP's overall development has been driven by the following strategic commitments:

- User engagement for relevance and quality
- Knowledge generation by project teams
- Knowledge synthesis through thematic activities
- Knowledge transformation for impact
- Capacity building for professional development
- Partnerships for sustainability
- International engagement for collaboration and comparison

Because of the duration, scale and complexity of TLRP, these strategies have been managed simultaneously. However, as the Programme matured, there was a progressive change in the balance of activity, with more emphasis being placed on knowledge synthesis, transformation and impact, together with explicit strategies to underpin post-Programme *sustainability*. A more synoptic strategy, though not reported on here, is the focus of an ESRC fellowship awarded to the Director for the period from May 2009 to December 2010:

- Innovative review to add value

User engagement for relevance and quality (www.tlrp.org/users):

Project teams worked closely with practitioners and others in their research sites and also to link up with key national organisations with potentially 'high leverage' for dissemination and impact activity. Such relationships were reflected in the membership of project 'Advisory Groups'. The Directors' Team maintained links with high-leverage user organisations in each educational sector and in each part of the UK. TLRP also worked directly with UK governments to maximise the use of its research and as represented on significant national bodies for the coordination of education research. TLRP led the establishment of the UK Strategic Forum on Research in Education.

Knowledge generation by project teams (www.tlrp.org/projects):

In 2000, TLRP started by funding four networks of projects. A second phase brought in nine larger projects and this was followed by funding of twelve more. At the same time, focused funding initiatives made specific provision for teams in Scotland, Northern Ireland and Wales – and for some high priority topics (such as widening participation in higher education and concerning technology enhanced learning). By the end of the Programme, funding had been provide for some 70 projects, many with teams of over a dozen researchers and budgets up to £1.5m. The portfolio included projects covering a wide range of theoretical and methodological perspectives and interdisciplinary collaborations.

Knowledge synthesis through thematic activities (www.tlrp.org/themes):

The Directors' Team provided critical friendship to project teams, encouraged collaboration, organised events and worked to build 'added value' across the projects. The main strategy for this has been 'thematic development' and provided a progressive focus for collective effort as the initiative matured. The portfolio of some 20 forms of cross-Programme analysis included consultancies, thematic groups, thematic seminar series, conferences, workshops, meta-tagging of outputs and sectoral reviews. A conceptual framework (see below) was used to organise and integrate this work.

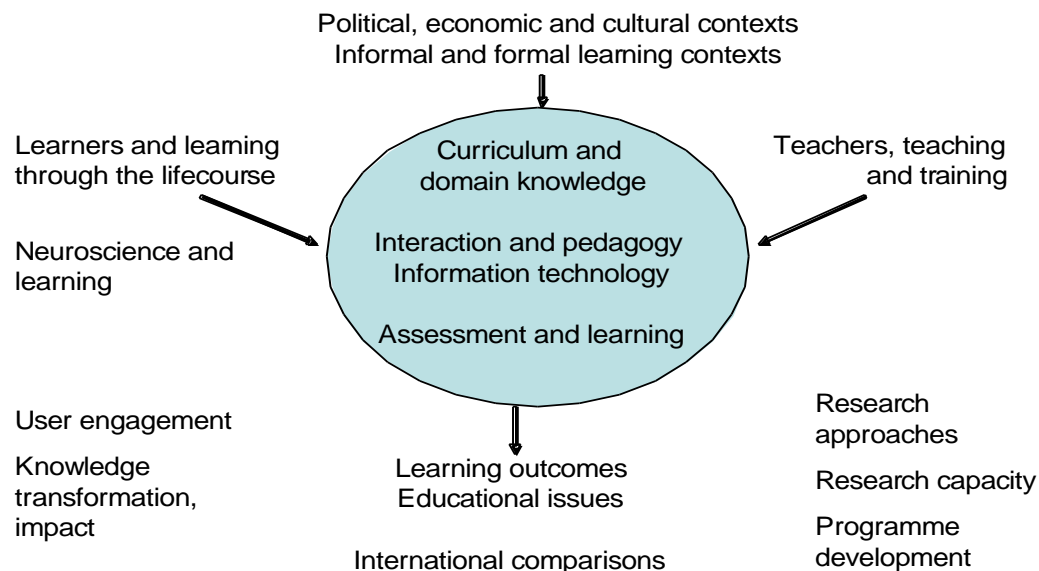


Figure: TLRP's conceptual model for cross-Programme thematic analysis

For example, analyses of user engagement, warrant, capacity building, knowledge transfer and impact are results of explicit thematic investments to reflect on and understand the TLRP experience and thus add value to the Programme. Cross-project analyses have also taken place in terms of topics such as contexts, learners, teachers, curriculum, pedagogy, assessment and learning outcomes. Such work has often led to special issues of journals.

Knowledge transformation for impact (www.tlrp.org/publications):

TLRP's impact strategy has been a multi-level one in which attempts have been made to produce research findings in forms which are tailored to specific audiences. We both produced many of our own publications and also worked extensively with user bodies to maximise impact. Outputs include 'Research Briefings' (summarising findings), 'TLRP Commentaries' (applying findings to contemporary issues), practitioner applications (classroom enquiry activities drawing on research), books (in two series with Routledge), journals (including almost 30 special issues), reports, etc. TLRP also uses an electronic repository and meta-tagging system called D-space with almost 1600 entries. This was adopted for deposition of all project publications and significantly improved the availability of outputs via the internet and major databases. Downloads from the website have considerably exceeded our expectations, with several TLRP Commentaries on public policy leading the way.

Capacity building for professional development (www.tlrp.org/capacity):

Capacity building has been an intrinsic part of TLRP's work. Indeed, in all phases of TLRP funding, it has been a criterion for project selection, and this work has been supported, monitored and reported on each year. Particular attention has been paid to skill and career development of contract research staff, with special events each year. Additionally, TLRP has enabled a significant number of senior practitioners to study part-time for PhD's in association with TLRP projects.

From 2002-05 the Programme's Research Capacity Building Network provided cross-Programme training services in the research methods which were felt to be particular priorities. These included research design issues, the use of large-scale data-sets and the combination of quantitative and qualitative methods. RCBN also initiated a journal, Research Capacity Building.

TLRP's later strategy for capacity building provision built on these lessons and was an explicit attempt to embed processes for the development of research expertise within the social practices of educational

researchers. It also complemented other provision being made by ESRC through the National Centre for Research Methods. A particular feature of TLRP's provision is the promotion of a range of e-resources for research training. These have now been transferred to BERA for sustainability reasons and will remain freely available to institutions and groups across the world.

Partnerships for sustainability:

Despite its size, TLRP was still small in relation to the challenge and range educational research. It was also understood that it would exist for a limited period. For such reasons, the Programme developed close working relationships with other organisations. A least five different forms of partnership can be identified.

First, we sought out expertise from which we could benefit. Such partnerships existed with the British Education Index (BEI) for electronic knowledge management, the Cambridge Centre for Applied Research in Education Technology (CARET) for development of an advanced ICT infrastructure, and Routledge for book and journal publications. Second, as indicated above, we worked with key user organisations which were generous enough to promote TLRP work through their communications systems, and thus lend us some of their leverage as we attempted to maximise impact. Third, we worked with partners where cooperation enables us to be more effective – for example, a special supplement for teachers was co-funded with the National Institute of Adult Continuing Education and the Learning and Skills Development Agency. We have also contributed to major national reviews, managed by others, on primary education, 14-19 education, work-based learning and lifelong learning. Fourth, as indicated previously, we have worked where we could with the government bodies which help to form policy regarding education research within each country of the UK. Finally, we have worked with BERA and other organisations which could take on some of the resources, assets or commitments of TLRP into the future. Indeed, one of our informal goals for many years has been to 'give everything away' by the end.

International engagement: (www.tlrp.org/international):

TLRP generated a great deal of international interest throughout its existence and there are now links to researchers from every continent. For example, during 2008, TLRP represented UK research at a wide range of conferences and special events in the USA, South America, Australia, Europe and Asia. Members of the Directors' Team spoke about the Programme in ten countries, often at the request of research councils or academies. The TLRP Director served on AERA's International Advisory Committee and was appointed to the Task Force on International Exploration which to investigate the establishment of a global research association for education. TLRP provided a virtual workspace to facilitate what became the World Educational Research Association. The major links for TLRP projects continued with projects in associated educational research programmes in Finland, the Netherlands and Norway, with more informal links to projects in Canada, France, Germany, Israel, Spain, Sweden, Australia and USA. Symposia, workshops and conferences were held to facilitate project-to-project interactions in order to facilitate mutual learning, with outcomes including publications, collaborative research design and exchange of information on methodology, data collection and data analysis. A UK coordinated study, funded as part of the European Lifelong Learning Programme, but initially supported through ESRC TLRP, investigated the implications of the changing patterns of career development across Europe for continuing vocational training in the light of the Lisbon 2000 goals. TLRP was also represented on the advisory committee of the European SINCERE project that sought to establish stronger links between educational research in Europe, Latin America and South East Asia.

Programme-wide activities with school project teams (*Mary James*)

a. Project activities/knowledge creation

22 projects within the TLRP portfolio, including 4 research training fellowships and 2 associate projects, have investigated aspects of teaching and learning in schools and pre-school settings. 2 focused on early years; 6 on primary education; 4 on secondary education; and 10 researched across school phases. Collectively these projects have 876 publications in the TLRP DSpace repository. The size, scope, focus and methodologies employed in these projects varied but all engaged with aspects of 1) educational values and purposes; 2) curriculum, pedagogy and assessment; 3) personal and social processes; 4) teachers and policies. Most schools projects were centrally concerned with aspects of pedagogy and many had a strong curriculum component, especially those with a specific focus on one or more subject domains.

Although the diverse nature of these projects did not permit meta-analysis using statistical procedures, it was possible to conduct a synoptic review of TLRP schools projects that led to the distillation of ten evidence informed principles of effective teaching and learning (see below).

b. User engagement

Project teams were very committed to engagement with school practitioners and to sharing such experiences through inter-project activities. In addition to academic outputs, schools projects all produced research briefings and a website, and most published books in the accessible *Improving Learning* and/or *Improving Practice* series. Members of schools projects also worked together on thematic work and contributed to seven publications in the highly successful TLRP Commentary series, including a magazine-type guide for teachers entitled 'Principles into Practice' and the accompanying poster and DVD. In addition they engaged with practitioners and other users in hundreds of face-to-face opportunities to disseminate the results of their work.

TLRP adopted a policy of constructive engagement with civil servants, politicians and representatives of civil society in each part of the UK. With regard to its schools projects, it has liaised directly with leading Westminster politicians of all the major political parties, contributed to Parliamentary enquiries and to national reviews on primary education, national curriculum and national assessment.

Overseas interest has also been strong, particularly as programmes of research, similar in some respects to TLRP, struggle with the same issues that TLRP faced in order to demonstrate the relevance of high quality research to policy and practice. For example, New Zealand's Teaching and Learning Research Initiative (TLRI), supported by the NZ Centre for Educational Research, has shown much interest in learning from TLRP and members of the Directors' Team have visited New Zealand twice to share experience.

c. Thematic work/knowledge synthesis

Major thematic work involving schools projects has focused on learning outcomes and teacher learning, both of which resulted in special issues of journals in 2005. Since 2006, the focus was on generating, refining and disseminating the TLRP Ten Principles for Effective Teaching and Learning. The development of principles recommended itself as a way of dealing with high quality evidence from different contexts, with different foci, using different methods. Principles engage with diverse forms of evidence whilst also calling for the necessary application of contextualised judgement by teachers, practitioners and policy makers. They also enable the accumulation and organization of knowledge in resilient, realistic and practically useful ways, as well as having the potential progressively to generate understanding and language for use within public debates.

The TLRP Commentary, *Improving teaching and learning in schools*, included the first formulation of the Ten Principles and a brief summary of the evidence for them. They were tested for validity in discussion with various audiences. Broadly, the attempt to present findings from school-based projects in the form of principles was welcomed. They were subsequently revised and developed into a version appropriate for

schools and another version for all sectors (see: <http://www.tlrp.org/themes/themes/tenprinciples.html>). The headlines of the schools version are as follows:

Effective teaching and learning:

1. equip learners for life in its broadest sense
2. engage with valued forms of knowledge
3. recognise the importance of prior experience and learning
4. require the teacher to scaffold learning
5. need assessment to be congruent with learning
6. promote the active engagement of the learner
7. foster both individual and social processes and outcomes
8. recognise the significance of informal learning
9. depend on teacher learning
10. demand consistent policy frameworks with support for teaching and learning as their primary focus

Dissemination of the schools version has been a major activity on which project teams have worked collaboratively. The thinking behind them continues to evolve and a book, commissioned in the Improving Learning series, will locate insights from TLRP's schools projects, thematic work and ten principles in the wider field of research and scholarship and draw out implications for education policy and practice.

Programme-wide activities with further education project teams (Alan Brown)

a. Project activities/Knowledge generation

There have been 7 projects, over the course of the programme, focusing specifically on further education, together with another 11 projects which were linked in some way to FE. The projects collaborated over a wide range of activities, including the production of two commentaries. The projects' overarching analysis emphasised the tutor-student relationship as crucial to the success of FE in helping disadvantaged, under-achieving and excluded people of all ages to develop their often fractured identities as learners. It also offered a critique of the policies which have resulted in colleges coming under pressure to concentrate on skills for employability, especially for young people, and to respond to employer demands. These new priorities have often been at the expense of lifelong learning programmes, during a time of considerable policy turbulence. In England, the Learning and Skills Council has been restructured prior to eventual abolition, colleges have been reorganised and money for adult learning has been reallocated. The TLRP projects have shown how tutors shield learners from the consequences of policy change. FE is entrepreneurial, but the audit culture is distorting the priorities of people working in FE. Partly as a result of the TLRP FE projects, the problems associated with targets and the audit culture have been recognised by policy makers. Considerable changes are still needed, however, and the research pointed to a limited understanding of learning by government agencies and policy makers, who often see it simply as a process of acquisition of knowledge and skills. This narrow approach does not link with our knowledge of effective pedagogy nor to the idea that learners are often engaged in a process of constructing identities for learning and work. FE is about learning how to become a learner and how to develop an identity across education, training and perhaps also employment. It is about learners changing aspects of their lives and also the way they relate to the world. TLRP research offers policy-makers tools to help improve FE. In common with other areas of education, FE needs to develop a learning culture, using research to examine ways in which teaching and learning in the sector can be enhanced. This will mean reframing the culture of audit and accountability to accept risk and encourage creativity among staff at all levels. While skills for employability may be the current focus, learners embarking on FE routes need doors kept open to wider choices

b. User engagement

All the projects involved users in every stage of the research process. As well as involving practitioners, sometimes as researchers, the projects engaged with a wide range of bodies with interests in the sector: these included DIUS; QCA; DELNI; SSDA (now replaced by CES); LSIS; LSC; LSN; LSRN. The projects also made presentations at a wide range of regional, national and international events aimed at practitioners as well as at more academic conferences.

c. Thematic work/knowledge synthesis

An agreement was reached by all projects to look for findings at a broader level of aggregation than the project level. Two commentaries have been produced to bring together key findings and issues: 14 - 19 Education and Training (May 2006) and Challenge and Change in FE (May 2008). These commentaries are based on the work of eighteen TLRP investments and on the wide-ranging expertise of many practitioners and researchers. The projects themselves have produced a wide range of output, but it is also worth drawing attention to Frank Coffield's consultation document 'Just suppose teaching and learning became the first priority...', produced for the Learning and Skills Network, which discusses the proposition that the most effective way to create a world-class Learning and Skills Sector would be to improve the quality of teaching and learning taking place within it.

Programme-wide activities with higher education project teams (Miriam David)

a. Project activities/Knowledge generation

There have been 14 projects, over the course of the programme, specifically identified as on, or about, higher education. Together with some of the teacher education and professional learning projects 60 UK higher education institutions, including specialist colleges, and new and old universities, have been studied. Given the expansion and transformation of higher education, seven of the projects have been clustered into a suite about widening participation in higher education, whilst the other seven from phases 1-3 of the programme have been large-scale projects about aspects of teaching and learning for undergraduate full-time and part-time students across diverse institutions of higher education. For example, the Enhancing Teaching-Learning Environments in undergraduate courses (ETL) covered an array of subjects in over 10 universities, whilst the What is learned at university? Social and Organisational Mediation of University Learning (SOMUL) compared and contrasted 3 subjects in 5 different UK institutions creating 15 case studies in all. ETL found that the importance of research amongst the teachers was vital to developing the ways of knowing and understanding necessary for university learning. SOMUL took a wider perspective and found a diversity of intellectual, social and personal learning experiences. The two complementary music education projects also focused on the specialist learning necessary to develop musical competence and skills, whilst the disabled students' learning project focused upon the importance of personal and social contexts for learning.

The suite of seven projects on aspects of widening participation in higher education were very diverse, ranging from studies of young people's academic progress through state schools and into higher education and beyond, to studies of specific subjects in access to HE, such as maths or vocational education, to studies within HE of different subjects, and ways of learning amongst working class and/or socially diverse students. Yet another project focussed upon the rapidly changing policy and institutional context, overlapping with some of our other further education projects in its focus on student learning in colleges and the diverse experiences of higher education to contrast with university experiences. Finally one project took as central the question of adult decision-making, amongst a group of men and women qualified to participate in higher education and who chose not to do so. They focused on the complexities of family, work and learning across the life course, linking with our lifelong and workplace learning projects.

b. User engagement

All of the projects involved users in complex ways. All projects had users on their advisory committees, ranging from academics and lecturers as practitioners, to education or academic developers, to managers and administrators in colleges and universities. For example, one of the WPinHE projects involved Estelle Morris, then recently resigned as Secretary of State for Education, on the Advisory committee. The Higher Education Academy (HEA) and its subject centres, especially for education (ESCALate), sociology and social anthropology (C-SAP) and social policy and social work (SWAP), were closely involved in the work of the projects. HEA has also jointly published research briefings, reports and commentaries from the HE projects (eg Effective Learning and Teaching in HE June 2009)

c. Thematic work/knowledge synthesis

Diversity and equity has been a major theme in relation to the projects on HE and has provided a focus for collaborative work. A seminar series on social diversity involved all these projects and resulted in a special issue of Research Papers in Education 2008.

Two commentaries have been produced to bring together key findings and issues, namely one on Widening Participation in Higher Education (June 2008) based on the suite of 7 projects; and one on Effective Learning and Teaching in HE (June 2009) bringing together the key findings from over 15 of the HE projects, including work on professional and problem-based or vicarious learning.

Programme-wide activities with workplace and professional learning project teams (Alan Brown)

a. Project activities/Knowledge generation

There have been 10 projects, over the course of the programme, focusing specifically on workplace learning and professional development, together with another 10 projects which had contributions they could make to understanding skill development at work. The projects collaborated over a wide range of activities, including the production of three commentaries. The projects' overarching analysis highlighted the importance of context in order to understand how people develop and apply skills, knowledge and understanding in different work contexts. It also focuses on the processes whereby skills, knowledge and understanding used 'at work' are developed in a range of education, training and other contexts, including employment. The overall approach outlines a fresh perspective on skills development at work, which emphasises learning through working, interacting and self-directed learning leading to contextual understanding interspersed with periods of more formal learning and development that allow for more considered reflection, a linking (and integration) of what has been learned by experience and informal means, and more rounded professional and personal development. Current obsessions with focusing on issues concerned with personal competence, assessment and qualifications as proxies for work-related skill development may come to be recognised as unhelpful and greater impetus given to promoting the more collaborative approaches to learning and development.

b. User engagement

All the projects involved users in every stage of the research process. Key users included practitioners, employers, trade unions, CBI, TUC, DIUS, QCA, SSDA (now replaced by CES), CIPD and LSC. The projects also made presentations at a wide range of regional, national and international events aimed at practitioners as well as at more academic conferences. The work on techno-mathematical literacies was taken up by major employers as it helped trainers, supervisors and employees engage in a dialogue about the operations of complete systems and statistical process control – complex topics that were difficult to get across to employees. The inter-agency learning projects engaged practitioners in new ways of working and development that went across organisations and disciplines

c. Thematic work/knowledge synthesis

The projects collaborated over a wide range of activities, including the production of three print commentaries and a set of twelve web-based thematic issues on workplace learning. The commentary on Higher Skills Development at Work focused on the processes whereby higher skills, knowledge and understanding are developed in education, training and employment. Rebuilding the UK's intermediate level skills base is also a pressing concern, and that was the subject of a complementary TLRP commentary on 'Towards Expansive Apprenticeships'. The third commentary on 'Education, globalisation and the knowledge economy' problematises how successful the policy of producing 'more highly skilled workers' is likely to be in the light of changing skill strategies of major companies and countries such as India and China. The projects also collaborated with a set of linked projects from the Netherlands, Finland and Norway and were involved in a number of joint presentations at international conferences.

The aggregated findings on work-related learning acted as a contribution to HEFCE graduate employability and workforce development agenda around the issue of developing expertise. WPL sectoral findings on development of expertise, the role of vicarious learning in professional development and technology-enhanced boundary objects were also powerful examples of the effective use of TEL to influence learner outcomes and learning processes. Sectoral findings also informed the production of 'Developing expertise – moving beyond a focus on workplace competence, assessment and qualifications' a contribution for Beyond current horizons: working and employment challenge for the DCSF scenario development programme on the long-term future of education. TLRP evidence and contributions also fed into the European Commission review of the 'Implications of changing patterns of individual career development for continuing vocational training' which was presented at a meeting of European Directors-General for VET in Prague in May 2009.

Programme-wide activities with lifelong learning project teams (Miriam David)

a. Project activities/Knowledge generation

Three specific projects can be identified as core to this theme, whilst many other projects link to, or work on related themes about learning across the life course, which of course was one of the central themes of the programme. One of the largest and richest projects from phase 3 was that directed by Gert Biesta on Learning Lives: learning, identity and agency in the life-course. Links can be made with other further and higher education projects in terms of methodologies – life histories and narratives – and rich, in-depth findings across the age range.

Two associated projects, on older people and lifelong learning, directed by Alex Withnall and one by the Programme Director, Andrew Pollard on Identity and Learning were recruited to enhance the findings in this sector so that the life-course aim of TLRP could be fulfilled. Each of these projects used in-depth or ethnographic methodologies for life history or narrative work, whilst Biesta's project also made extensive use of cohort data from the British Household Panel Survey.

b. User engagement

Given the emphasis on learning across the life course the key issues are not about formal education but informal learning in families, work and other institutional contexts. A range of users was identified and orchestrated by a strong pressure group for this kind of learning namely the National Institute for Adult and Continuing Education (NIACE). A joint commentary with NIACE is in the final stages of preparation, highlighting key issues about personal and social learning in informal contexts across the life course. Learning Lives also produced a video in association with the Scottish TUC and Information TV.

c. Thematic work/knowledge synthesis

Understanding learning across the life course was a core aim of TLRP and has been a key thread across our thematic work and knowledge synthesis. It also informed our conceptual apparatus and approach to

synthesis – for instance, thorough tracing of agency at different phases of life, as instantiated through diverse cross-sectoral projects and the two thematic investments on which colleagues worked together leading to a special issue of a journal and an edited book.

Listening to the voices of adults and to their meaningful biographies is amply illustrated through TLRP projects and provided a collaborative focus for project teams. Certainly, the theme is key to our evidence-informed principles for effective teaching and learning, whether in schools, in further, higher or tertiary and work-based or professional learning. This theme is to be taken up through the Director's 2009-10 Fellowship and is seen as providing a potential meta-narrative for the Programme as a whole.

Programme-wide activities with technology enhanced learning project teams

(Andrew Pollard)

TLRP worked extensively on TEL between January 2006 and April 2009 (see: <http://www.tlrp.org/tel.old/overview.html>). Major rounds of commissioning taking place in 2006 and 2007/8 and were supported initially by an 'e-team' of consultants (Josie Taylor, Lydia Plowman, Diana Laurillard and Richard Cox).

a. Project activities/Knowledge generation

In 2006, TLRP launched a Technology Enhanced Learning phase (TEL 1) and acknowledged the need for a specific research focus on digital technologies, and on the ways in which they shape (and can be shaped by) the demands of learning and teaching. With joint funding by the ESRC and the EPSRC, 7 development and 3 major awards in the field of TEL were granted, focusing on the need for interdisciplinary research that incorporates perspectives from the social, cognitive and technological sciences. The small-scale 'development' grants fed into a new round of commissioning during 2007/8 and were seen as a crucial support for the generation of authentic interdisciplinary collaborations. In 2008, 5 more major awards were made.

b. User engagement

As part of the process of developing the funding and commissioning specifications for TEL, there was extensive consultation and engagement work with national, high-leverage bodies. For example, applicants were encouraged to take account of recent e-learning initiatives by JISC, HEFCE, SFC, WAG, DENI, HEA, DfES, BECTA, NESTA, AHRC and the EU as well as EPSRC and ESRC. Links were made with the e-Learning research programmes of JISC, BECTA and the UK e-Science community.

c. Thematic work/knowledge synthesis

The e-team produced a valuable report on 'Developing Research Capacity in TEL' as an output from TEL 1 commissioning. The TEL 2 specification benefited further from the appointment of Richard Noss as an Associate Director and was more highly developed in thematic terms. It led on Personalisation, Inclusion, Flexibility and Productivity and reflected almost two years of prior consultative activity by working groups.

From May 2009, TLRP-TEL become independently managed (see <http://www.tlrp.org/tel/>) by Richard Noss with the Office Management from James O'Toole. As TLRP-TEL moves forward towards 2012, we are confident that the potential of its earlier foundations will be realised.

5 Programme impacts

Introduction

TLRP's 2001 Communication and Impact Plan states:

'We conceive of impact not as a simple linear flow but as a much more collaborative process: *interactive, iterative, constructive, distributed and transformative*. Working for impact is embedded in everything we do.' (TLRP, 2001, p.1)

This position was reflected in seven components of the TLRP impact strategy:

- Working with networks of practitioners, learners and others
- Engaging with a wide range of user organisations and other stakeholders
- Raising the profile of evidence-informed teaching and learning
- Contributing to strategic debates about teaching and learning
- Communicating conceptual, methodological and practical ideas effectively through a targeted range of outputs
- Supporting capacity building activities, including knowledge transformation
- Facilitating discussion within the Programme on transformation and impact

User engagement is discussed throughout this report and the position will therefore only be summarized here. TLRP worked throughout to transform and disseminate research knowledge in partnership with others. Key users, such as the UK General Teaching Councils, the National College for School Leadership, the National Institute for Adult Continuing Education, DCSF, DIUS and government bodies in Wales, Scotland and Northern Ireland were extremely helpful in the dissemination of results through their communication systems. Excellent working relationships were also developed with the Higher Education Academy in relation to pedagogy and widening participation in higher education.

The Programme then needed to be able to represent and disseminate its findings effectively, and this was the rationale behind its 'outputs infrastructure' and expectations. It was also essential to engage, induct, support and encourage its research teams in knowledge transformation and impact activity.

Only by combining user engagement with excellent science and accessible outputs, and by targeting these at contemporary issues, were we able to be confident in our 'impact' activity, and even then, there were always many serendipitous and contextual factors in play. Building on 'Taking Stock: ESRC's summary of work to evaluate the impact of research on policy and practice' (ESRC, February 2009), we have tried to document examples of impact episodes and to offer them as narrative examples and case studies of TLRP's impact work.

This argument structures the section overall:

- User engagement (permeating the report as a whole)
- Outputs infrastructure and expectations
- Illustrations of specific impacts achieved (9 narrative examples and 8 case studies)
- Concluding discussion about impact in the longer term.

TLRP's outputs infrastructure and expectations

The representation of TLRP's findings was carried forward through a portfolio of outputs. In particular, these comprised:

- Initial and Outcomes Posters
- Research Briefings
- *Improving Practice* book series
- *Improving Learning* book series
- Special issues of journals
- TLRP Commentaries
- Websites and electronic resources

All significant TLRP investments were formally inducted into output and impact expectations and the 'outputs portfolio' at <http://www.tlrp.org/manage/admin/outputnew.html> provided the major hub for templates, guidance, support and strategic papers on impact matters. Induction meetings after commissioning and the 'outputs summit meeting' with each project as it reached completion was an important aspect of this, as was the foregrounding of 'key findings' in all annual reports. Specialist Media Fellows, coordinated by Martin Ince, also offered journalistic expertise.

All major investments produced 'Research Briefings' providing concise summaries of project findings for use at impact events and for targeted distribution. Almost 80 have been produced.

The TLRP '*Improving Learning*' and '*Improving Practice*' series, published by Routledge, have continued to expand with almost 30 now published and more in earlier stages of the development and publishing process.

The use of 'special issues' of journals has been an especially strong feature of TLRP, with twenty two published and others in the pipeline. These remain a major means for TLRP projects and thematic groups to communicate their findings.

Over 450 articles have been published in refereed journals so far, and more are expected, particularly from the disproportionate number of projects that completed in 2007 and 2008.

TLRP Commentaries, based on the work of Policy Task Groups or other special initiatives, have been particularly successful at bringing the expertise of researchers to bear on contemporary issues at speed and in accessible ways. Sixteen are expected to have been published by the end of the Programme (with NIACE and UK GTCs taking the final two into 2010). The success of the Commentaries can be gauged from the fact that two have been downloaded over 200,000 times.

Though more advanced technology is now available, the TLRP website as developed since 2002 is relatively sophisticated with provision for particular audiences, news, features and advanced search tools. Hits on the website averaged over 650,000 per month during 2008 and continue to grow. They exceeded 1m for the first time in the month of April 2009.

The website has *News* and *Features* sections which are available on RSS feeds. News is also archived. A review over several years gives an excellent impression of the wide range of activities which TLRP has supported, both within the UK, internationally and across every educational sector - see: http://www.tlrp-archive.org/cgi-bin/tlrp/news/news_log.pl

Within the website lies an electronic repository, DSpace, for which the Programme is an advanced application. By mid-2009, total items deposited in Dspace reached almost 1700, including 426 TLRP papers in refereed journals. These items have been harvested daily by ESRC Society Today and by the British Education Index in automated processes. BEI has created a special 'TLRP Collection' of particular

academic interest and, in August 2009, this contained 1064 records. In relation to practice and policy audiences, there are many links to Dspace from other databases, such as the HEA's Evidence Net, EEP and TTRB (see: <http://www.tlrp.org/pub/index.html>). We have worked to ensure that the most important entries on DSpace have been reproduced in such environments.

Guidance on ways of accessing TLRP outputs is provided in Annex C to this report.

Illustrations of specific impacts achieved

Nine short narratives offer an impression of the range of impacts by projects and by the Programme itself – drawn across the lifecourse portfolio. These are followed by eight more extended case studies.

- *Consulting pupils on teaching and learning*
TLRP's Phase 1 Network, led by Jean Ruddock, engaged hundreds of primary and secondary teachers in classroom enquiry and development work. This led to cultural change in practitioner perception of the significance of 'pupil voice' and to professional confidence in constructive classroom practices which recognize it. The work was influential in teacher associations, GTCs and the National College for School Leadership. Contemporary school inspection frameworks, for instance, from OfSTED, now require pupil consultation as part of inspection activity.
- *On teaching and learning policies for schools* TLRP has been active throughout the period and across the UK. For example, in England, the Programme contributed to public discussion of the 2004 DfES policy on 'Personalised Learning' through '2020 Vision', promotion of 'Principles into Practice' and moderating the 'magic bullet' of neuroscience in education in 2006/7, constructive critique of the Children's Plan in 2008 and a review of primary education in 2009. TLRP does not claim direct leverage on schools policy, but it has undoubtedly contributed to the climate in which decisions have been taken. For the improvement of standards, TLRP has consistently pressed for teachers to be given more opportunity to develop and exercise professional judgement. The Programme therefore welcomed the 2009 DCSF announcement of withdrawal from National Strategies in England. This decision is entirely consistent with TLRP's contributions to public debate. Significant contributions have also been made in support of pedagogic initiatives in Scotland, Wales and Northern Ireland. Publication in August 2009 of a TLRP Commentary in association with the Assessment Reform Group is an important final contribution to public debate on this vital issue concerning school education.
- *On contributions to 14 – 19 education and training policy* four members of TLRP were involved in the Tomlinson Review of 14 – 19 education and training, as members of the main committee or its specialist sub-committees, arguing the case for greater coherence of provision. The Tomlinson Review highlighted the need to reform many aspects of education and training for 14-19 year olds, but government pursued a more cautious approach of attempting to make the current system operate more effectively. However, the Nuffield 14-19 Review, in which nine colleagues associated with TLRP were involved, continued to argue the need to implement a broader and more radical vision for 14 – 19 education and training. TLRP, together with the Nuffield Review of 14-19 education and training, have continued to articulate the choices on how 14 -19 education and training might be developed in the future.
- *On the Learning and Skills Sector* a number of projects made written and oral submissions to the Foster Review on the future role of further education; the Leitch Review of skills; and to the House of Lords Education Committee. Sir Andrew Foster also read and commented favourably upon a TLRP project report on the structure and operation of the new learning and skills sector in England. The report explicitly acknowledged the TLRP recommendations of the importance of seeking to build a learning and skills system; the need to move away from a target-driven culture; and the problems associated with over-centralised decisions on curriculum delivery and implementation.

- *On apprenticeships* the government's Task Force on Modern Apprenticeship commissioned Fuller and Unwin to explore the applicability of TLRP's expansive-restrictive framework with employers and training providers throughout the UK. Their commentary on 'Towards Expansive Apprenticeships' was distributed to all apprenticeship providers and they gave both written and oral evidence to The House of Lords Select Committee on Economic Affairs on the 'Employment and Training Opportunities for Low-Skilled Young People.'
- *In relation to STEM*, Williams' maths education project has been critical in demonstrating the importance of appropriate pedagogies to support students who want to continue with maths into university, especially for STEM subjects. The team has shown the importance of connectionist or inclusive pedagogies rather than transmissionist approaches for both achievement in maths in sixth forms and for continuing into HE. Targets for maths education are better achieved through inclusive than instructionist approaches.
- *On widening participation in higher education* TLRP has been active both across the UK and internationally. For example, in England contributing to a high level policy seminar for the Learning and Skills network at the Work Foundation in celebration of the 10th anniversary of the Helena Kennedy Foundation 2008 and 2009 the 1994 Group's annual conference on research. We have also contributed to the UNESCO report on 'Trends in Global Higher Education: Tracking an Academic Revolution' prepared for the UNESCO 2009 World Conference on Higher Education July 6th-8th in Paris.
- *Inter-agency learning*
In response to the Children's Services policy imperative of finding effective forms of inter-professional work to support vulnerable children, the two projects on *Learning in and for Interagency Working* worked alongside practitioners as they were developing new inter-professional practices. They identified what practitioners needed to know to work across professional boundaries for children's wellbeing, and how their organisations were adapting. The project team focused on working with local authorities and Children's Trusts to assist them in recognising and responding to the systemic transformations necessary for the accommodation and sustaining of new ways of working. This work has been influential in Northern Ireland and promoted by the LGA in England.
- *On strategies for development of research in the field of education*
Discussions with the Secretary of State for Education, the Director and Chairman of the National Educational Research Forum (NERF), the Chief Executive of ESRC, BERA Council members and many others, contributing to a 2004 reconstitution of NERF and a progressive re-orientation of its relationship to the education research community. Later, TLRP led the establishment of the Strategic Forum for Research in Education. Liaison with government representatives in Wales, Scotland and Northern Ireland, contributing to events and deploying TLRP resources in support of the capacity building objectives in each country.

Case Studies: Impact based on outstanding science and on reaching non-academic groups

The first four case studies below illustrate the impact of high quality science in *projects* in relation to key TLRP goals. The first two are directly concerned with practice and the improvement of learning in schools, whilst the second pair has been influential in relation to public policy in FE and HE.

- 1) Improving learner outcomes in primary education (Nunes et al)
- 2) The improvement of practice in secondary education (James et al)
- 3) Developing critical dialogue and partnership in further education (Coffield et al)
- 4) Informing higher education policy through quantitative evidence (Vignoles et al)

The second group of four case studies illustrate *Programme* impact initiatives or resources which have been wide-ranging in their impact on non-academic groups.

- 5) Neuroscience and Education: public debates
- 6) Principles into Practice: practitioner resources
- 7) Improving Teaching: Enhancing Learning: Westminster showcase
- 8) TLRP Website and Electronic Resources

It has been challenging to select these case-studies and there are many alternatives. For instance, our seven projects on Widening Participation in Higher Education made coordinated contributions to public debate and Workplace Learning analyses on apprenticeship and skill development have been extremely influential. We also have very high hopes for the future impact of our portfolio of projects on Technology Enhanced Learning, which were nurtured within TLRP from 2006.

Impact Case Study 1: Improving Learner Outcomes in Primary Education The role of awareness in teaching and learning literacy and numeracy in KS2

Project description

This project (2001-2004), led by Terezinha Nunes, Peter Bryant, and Jane Hurry, investigated pupils' and teachers' implicit and explicit knowledge of advanced aspects of literacy and numeracy, and the ways in which making implicit knowledge more explicit can contribute to improved learning outcomes for all learners. The research involved large-scale surveys, interview and observation studies, and an extensive programme of intervention studies and correlational studies. The research identified important aspects of numeracy and literacy, which pupils had difficulties grasping and applying, but which were not taught explicitly and systematically in school. These aspects included conditional phonological and morphological spelling rules (in literacy); and intensive quantities (ratios) and fractions (in numeracy). The findings and outcomes of the project contributed to the development of new ways of approaching pupils' difficulties with literacy and numeracy in KS2.

Practice-relevant knowledge

1) *Relevant findings and recommendations:* The project generated innovative findings of great practical importance. It showed that explicit teaching of the advanced aspects of literacy and numeracy under study can enable better learning outcomes for many groups of learners, including learners from deprived socio-economic backgrounds, learners with English as an additional language, and learners with disabilities. The practical implications of these findings were carefully teased out and transformed into evidence-based recommendations and materials over the duration of the project and beyond. The study also noted that current curriculum policy and practice did not encourage the explicit teaching of the aspects identified. Thus it recommended changes in curriculum design and materials and classroom practice, as well as targeted initial and in-service teacher training.

2) *Development of curriculum materials and classroom strategies* by the project team in collaboration with practitioners. For example, the findings about differential outcomes of contrastive versus non-contrastive (or "block"), and explicit versus implicit, methods of teaching and learning of linguistic and mathematical rules were embedded in the elaboration of innovative classroom and professional development materials (including the production of three CDs, two on literacy and one on numeracy, drawing on the observation studies). The materials on morphological interventions were used directly, with researcher support, by practitioners from the Hillingdon Cluster of Excellence in their work with about 1000 pupils and in their individual practice-based projects. They were also made available to many others, together with practitioner guidelines and research briefings explaining the benefits of systematic and consistent use.

3) *Take up of the analysis* was excellent in England with the National Strategies proposing to incorporate recommended practices based on the project's findings into its advice to all schools. Impact in Brazil has also been very significant, with superb dissemination work by the project leaders (see: http://www.tlrp-archive.org/cgi-bin/tlrp/news/news_log.pl?display=1235740818).

Synergies between research and practice

1) *Practitioner engagement in assessing interventions, follow-up, and replication*: Some of the changes proposed were tested out in the small group experimental interventions included in the study, and strategies were developed, in collaboration with practitioners, in order to transform them into methods that could be used in the classroom. These were replicated in larger, whole-class interventions and follow-up studies, which involved practitioners, at different stages of the research. For example, a whole-class intervention study on the teaching of morphemic spelling rules replicated the findings about the effectiveness of their explicit teaching. Findings about the higher effectiveness of early teaching of ratios rather than of fractions were also replicated, in a Scottish extension of the project. Finally, a Nuffield Foundation funded follow-up project developed findings in relation to the teaching of deaf children.

2) *Practitioner research*: Other findings and recommendations were voluntarily taken forward and refined by individual teachers and schools involved in the study, and beyond. Several teachers involved in the study obtained Best Practice Scholarships to enable their continued contribution to the project and practical refinement of the issues arising from its findings. The teachers who participated in the dedicated six workshops, four INSETs, and two masters modules, developed by the research team, later became involved in designing further ways in which to assess the classroom interventions developed through the study. For example, teachers from Lauriston Primary School developed further questions, based on their practice, to be addressed through the extended use of the teaching methods and learning tasks developed through the intervention component of this project.

Capacity for engagement in and with research

One of the aspects that are central to the improvement of capacity for good quality research in the UK, a major aim of the TLRP as a whole, is the quality of the partnerships established through and around research and of the connections established across sectors, disciplines, and types of activity. The “Role of awareness” project had major contributions towards the attainment of this aim, as illustrated below.

1) *Enabling exchange and impact through partnerships*: despite structural barriers mitigating against teachers’ substantial involvement in research, the project team established strong working partnerships with individual teachers, schools, clusters, and other actors (such as the QCA and regional co-ordinators of the National Literacy Strategy and the National Numeracy Strategy). The partners engaged in the project not only as gatekeepers and respondents, but also as agents of change and development, partners in decisions about research and its use, and co-authors of publications.

2) *Practice-oriented knowledge generation and exchange*: arguably the considerably impact of this project on classroom practice was facilitated by the practice-oriented forms of exchange which it enabled. These exchanges comprised not only conventional forms of dissemination (such as publications, presentations, and meetings), but also hands-on sessions, including masters-level modules, and creative articulation between the main project and associated practice-based research.

3) *Student and practitioner research*: a final example of the project’s contribution to improved capacity and quality to engage in and with research (on a broader scale than through the capacity gains resulting from further training and experience of existent research staff) consisted of its role in developing students’ and practitioners’ ability to carry out practice-based research and to contribute to further research projects. The number and quality of student and practitioner projects taking further this study surpassed expectations. In addition, the project contributed to the development of the capacity to identify and use research findings in the development of practice and to design systematic ways in which different types of interventions could be assessed.

Impact Case Study 2: The Improvement of Practice in Secondary Education Learning How to Learn – in classrooms, schools and networks

Project description

Directed by Mary James and co-directed, from 2002, by Robert McCormick, the Learning How to Learn project (2001-2005) pursued three main questions: 1) What can teachers do to help pupils to learn how to learn? 2) What characterises the school that successfully manages how teachers create the knowledge and skills of learning how to learn for both teachers and pupils? and 3) How can the knowledge and skills of learning how to learn be effectively transferred within educational networks? The investigation was structured on three levels (classrooms, schools, and networks) and involved a mixture of quantitative and qualitative measures and indicators. A rich corpus of data was constructed from lesson observations (including 29 video recordings), two-stage staff and pupil questionnaires, teacher interviews, document analysis, case studies, administrative datasets, and the use of responsive electronic technologies. 40 infant, primary and secondary schools in five local authorities and two Virtual Education Action Zones were included in the original sample. 20 of these schools (the main sample) engaged more closely with the development and research processes introduced by the project. The project confirmed that deep principles, more than specific techniques, are central to teacher development and to the outcomes of teaching and learning in classrooms. It found that schools that best supported teachers in promoting learning how to learn were those that developed a clear sense of direction and supported networking, collaboration, teacher development, and active management of knowledge resources.

Responsive design

1) *Electronic tools*: the project team developed innovative electronic tools to support large distributed research projects in ways that made development and research materials accessible to various audiences and that enabled interaction, collaboration, and dialogue (see <http://www.learntolearn.ac.uk>). The tools included, for example, a “knowledge base” and a dedicated “conversation space” on the project website, which enabled school progress logs to be developed jointly by participants and researchers. Some of the technological tools and community resources developed for the project were made freely available to stakeholders, such as LEAs, who were encouraged to continue to develop the work of the project after the end of its funding. Also, some of these tools were subsequently used more widely by the TLRP as a whole. Several project outputs analysed in detail the development and impact of these tools.

2) *Feeding results back to participants*: the research instruments used in the project were also “interventions”, as the results were fed back to respondents at different stages of the project. For example, the baseline results were fed back to the schools staff to stimulate reflection. Also, participants had opportunities to engage with the outcomes of the different stages of analysis; for example, the network maps produced on the basis of a mapping exercise (with headteachers and school, LEA, and VEAZ co-ordinators) and of a sub-sample of survey returns were used in follow-up interviews in schools.

Enabling development for better outcomes

1) *Developmental “interventions”*: development was central to the aims of the project, to the extent that it was described as “development and research”. The team deliberately refrained from using a control-group design to evaluate the effectiveness of specific project interventions. Rather, the “interventions” were developmental, of a similar scale to what a school might carry out as part of its development plan, and reaching the classroom level through INSET activities and network development (e.g. through meetings and web resources), rather than through direct involvement of the research team. Thus teachers and school leaders were encouraged to take responsibility for developments in their school, while the research team gained insights into the conditions that promoted effective practice and innovation leading to enhanced outcomes for the learners.

2) *Better outcomes for learners*: Four of the schools that had been highly engaged with the project had reported higher than expected value-added in 2004. The headteacher of one of these schools said:

“The LHTL project has enhanced the learning of us all. I have no doubt that our children are now better taught than ever before. It has been the best educational development of my career”.

3) *Improvement of teachers’ learning and practice and of school management practices*: evidence of change over time in the sample schools, gathered through questionnaires in 2002 and 2004, showed increase in teachers’ promotion of learning autonomy in their classroom practice; increase in teachers’ interest in classroom-focused “inquiry”; and, at school level, increase in the level of practices that supported networking, collaboration, and professional development.

Transferring knowledge and skills in educational networks

1) *Reaching people*: in total, the LHTL project involved approximately 1580 teachers and over 20,000 students. Further groups of people engaged with the project and its resources through the project’s website, at dissemination events, through media coverage (e.g. in *The Guardian*, 22 February 2005; *The Times Educational Supplement*, 25 March 2005), and through dissemination of projects’ outputs, including contributions to two TLRP commentaries (*Improving Teaching and Learning in Schools*, March 2006, and *Principles into Practice Teachers’ Guide to Research Evidence on Teaching and Learning*, June 2007). The project was instrumental to the development of TLRP’s 10 Principles into Practice, which were mailed on multi-media support to all schools in the UK.

2) *Understanding networks*: an important contribution of the project was the conceptual and theoretical development of knowledge about the overlapping networks in which a school and its staff take part. A specific set of questions addressed in the project concerned effective transfers of knowledge and skills about learning how to learn within educational networks. The project found that schools were embedded in multiple, overlapping and interacting networks, many of which were transient and informal. Successful schools supported the development of networks as mechanisms for enhancing teaching and learning.

3) *Practical resources*: the project team developed a “Knowledge Base”, i.e. a large collection of thematic resources for practitioners, managers, and policy-makers, including texts (e.g. accounts of classroom practice, transcripts, children’s writing), images, audio and video content, and metadata records of relevant published and unpublished research reports. Further practical resources were included in the TLRP “Improving Practice” book based on the project (*Learning How To Learn. “Tools for schools”*, James et al, 2006). An “Improving Learning” book was also produced.

4) *Use and follow-up*: the instruments used in the project and its results were made available on the website. They were subsequently used in policy evaluations, further research projects (including international projects), and development activities. For example, Welsh Assembly Government’s Evaluation of the Developing Thinking and Assessment for Learning Development Programme explicitly drew on the LHTL project. Also, the Cambridge Primary Review commissioned a report from Mary James and Andrew Pollard, which drew on the LHTL project, alongside other TLRP Schools projects. In the USA, Professor Eva Baker, Director of the Graduate School of Education, UCLA, obtained federal funds to carry out collaborative work with the project’s team. She was also a TLRP visiting international fellow in 2004/05, taking up issues emerging from the LHTL work.

Impact Case Study 3: Developing Critical Dialogue and Partnership in Further Education Impact of policy on learning and inclusion in the new learning and skills system

Project description

Between 2003 and 2007, a team led by Frank Coffield, Ian Finlay, Ann Hodgson and Ken Spours carried out an extensive, independent investigation of the impact of governance and policy changes, affecting the learning and skills sector (LSS), on structures and practices at different levels of the system, and on learner outcomes. Main aims included mapping and understanding the system and the policy levers acting on it, exploring the ways in which policy was translated and mediated by different actors,

developing ways to facilitate creative and critical dialogue between the different actors, and gauging the perspectives of key actors at all levels of the system (individual learner, classroom, course, department, institution, local, regional, national, international). The project described the model of governance in the LSS as a top-down one that had shifted from an “area planning” approach towards a “market model”, with signs of further moving towards a “demand-led” model. Detailed analysis of the system and of its governance, and of the views of all actors involved, warned against excessive focus on efficiency and contestability, to the detriment of equity and collaboration. A “new settlement” between the different levels of decision-making was recommended, based on a “devolved social partnership” in which all players agreed on priorities and share responsibilities.

Democratic sharing of knowledge and expertise and developing joint critical reflection on policy

1) *Bringing together a plurality of voices*, from those of officials at different levels, to those of categories of staff in learning sites, and to those of learners, in particular disadvantaged groups such as unemployed adults in adult and community learning, employees in work-based learning, and younger learners on level 1 and 2 courses in further education. These different actors were involved in various ways over the course of the project, as respondents, partners and collaborators in research decisions, validators of approaches and findings, users, and beneficiaries.

2) *Promoting dialogue*: the importance of dialogue was both a substantive finding of the project, and a principle for designing and trying out innovative activities (e.g. “reflective fora”, policy “feedback loop” models) as well as more conventional exchanges (e.g. through nine regional seminars, institution-level events, and publications for different audiences).

Supporting better policy-making processes

1) *Contributing evidence to policy-making processes and increasing awareness of relevant research evidence*: the research team presented evidence to, for example, the Foster review of further education, the LSDA Board, the DfES/ DCSF, and the House of Commons Select Committee on Education and Skills.

2) *Active engagement with current policy issues and processes*: the members of the research team actively sought to use research evidence in order to influence the future development of the sector. These efforts included meetings with the Prime Minister’s strategy Unit team, the DfES Strategy Unit, national and regional events (the Association of Colleges, the London Mayor’s Skills and Employment Board, the QIA), and institution-level events and addresses around the country.

Enabling discursive change and percolation of knowledge

1) *Developing concepts that resonate with current debates*: such concepts included, for example, local and regional “ecologies”, “devolved social partnership”, and inclusive and equitable system. Their development emerged at the interface of research with policy, practice, and learner perspectives, in ways that were explicitly designed to enable joint reflection and assessment of a range of aspects of the current system and of its modes and instruments of governance.

2) *Actively opening channels for the percolation* of such concepts and theoretical insights into public discourse, for example through spelling out and further refining them for and with small groups and individual actors at different levels of the system, through media interventions, and through publication plans that addressed a wide range of audiences.

Impact Case Study 4: Informing Higher Education Policy through Quantitative Evidence Widening participation in higher education: A quantitative analysis

Project description

Led by Anna Vignoles, Alissa Goodman, Stephen Machin and Sandra McNally, this project (2006-2007) studied the patterns of entrance to, experience of, and progression through and beyond higher education, in relation to students' socio-economic and ethnic backgrounds, gender, and Sprior educational achievement. Regression-based quantitative modelling made use of linked-survey administrative data from the DCSF, HESA, and LSC, covering the entire cohort of Year 11 (in 2001/02) state school students in England, and supplemented with 2001 Census data, graduate earnings surveys, PISA data, and Ordnance survey data. The research documented a number of persistent educational inequalities, for example, the lower likelihood of state school pupils from deprived backgrounds to go to higher education, in comparison to more advantaged groups. The findings challenged what appeared to be current assumptions in policy-making and recommended new foci for future policy initiatives.

Direct relevance to current and medium-term policy

1) *Informing short- and medium-term policy decisions:* an explicit aim of the study was to produce robust quantitative evidence to inform policy-makers' design of strategies to widen access. The choice of topic and research questions reflected this aim. On the basis of the evidence generated, the research team recommended that policy continued to focus on reducing inequalities in participation in higher education, but that it shifted attention towards interventions to improve the performance of disadvantaged children pre-16, and towards the types of higher education provision that were accessed by different groups of students. Similar recommendations were made in the report of the National Council for Educational Excellence, for which the research team collaborated with the Sutton Trust, and which referred to the "Widening participation" project.

2) *Assessing policy interventions:* for example, the study included an assessment of the effectiveness of introducing the Education Maintenance Allowance, suggesting positive effects of the intervention at pilot stage.

Partnerships between policy, research, and administration

1) *Joining data:* the project is an excellent model of how different administrative datasets, from a range of public bodies, can be drawn upon coherently and effectively to answer policy-relevant research questions. This process involved several partners over the duration of the project, particularly in its early stages. The main dataset was linked by statisticians at the (then) DfES; data access and use was also negotiated with a number of other institutions (HESA, LSC), with support from the ESRC. Further collaborations around data exploitation involved, for example, the National Audit Office.

2) *Two-way exchanges and working collaboratively:* the project benefited from direct input from policy-makers from its early stages, via the advisory group, which included representatives from HEFCE and DIUS, alongside academic advisors. Additional direct interaction with policy-makers included contributions to DCSF/DIUS events and oral and written evidence to the Education and Skills Committee.

Effective non-academic dissemination

1) *Policy- and user-oriented publications* included a policy commentary, jointly with other TLRP HE projects, a research summary for non-academic users ("Centrepiece" magazine), and coverage in publications specifically targeted at policy-makers ("ePolitix"). Additional publications, aimed at a wider user community, included a research briefing and a piece in "Graduate Market Trends", both in 2008.

2) *Media impact*: a remarkable feature of this project was the extensive interest that it generated and maintained in the media. For example, from July 2007 to July 2008, coverage of the project's findings and recommendations included over 14 national newspaper articles and BBC news items and 8 regional newspaper articles.

Impact Case Study 5: Neuroscience and Education: public debates

Public interest

The TLRP Seminar Series "Collaborative Frameworks for Neuroscience and Education" consisted of six seminars organised between April 2005 and June 2006 and building on an earlier report, commissioned by the TLRP (S.J. Blakemore and U. Frith, *The Implications of Recent Developments in Neuroscience for Research on Teaching and Learning*, 2000). The series reviewed the latest advances in the knowledge of the brain, identified examples of how neuroscience (as opposed to "neuro-myths") had already informed educational theory and practice, and indicated practical ways in which these findings may influence and inspire future approaches to education practice and policy. In addition, the series evaluated the validity of different approaches to developing and applying a brain-basis for learning and drafted an agenda for future interdisciplinary research. Over 400 teachers, educational researchers, psychologists and neuroscientists attended one or more of the events in this series. The outputs, including transcripts of discussions, were published on the series' website, as well as on the TLRP website.

The series attracted media attention - see e.g. national press coverage in *The Guardian*, 27 January 2006; the *Daily Mail*, January 2006, focused on cognitive function-enhancing drugs. Paul Howard-Jones (convenor of the series) was cited in *The Guardian* to have said: "This is science fact not science fiction. There is likely to be a big market for these drugs and as educators we need to be more informed about it. What are the ethical implications and questions? Will there be pressures to use them in the future?".

In March 2006 the seminar series was the subject of a question by Baroness Susan Greenfield in the House of Lords (6 Mar 2006: Column WA115). The question related to Government's assessment of the implications of the seminar series and to possibilities of future collaboration between education and medial researchers in the neuroscience arena.

In April 2006 the seminar series was mentioned again in the House of Lords, as part of a debate initiated by Baroness Greenfield. In her opening speech, she commented: "initiatives such as the Economic and Social Research Council-funded seminar series, Collaborative Frameworks in Neuroscience and Education, have been a catalyst for bringing together neuroscientists and educators to help us start to understand learning and create an evidence base on which 21st-century education can be built". She urged efforts "to ensure public engagement in the process" by "co-ordinating on a nationwide scale within both the public and private sectors the best of science and technology initiatives" (20 Apr 2006 : Column 1220). Several speeches were made as part of the debate that expressed belief in the importance of this emerging area. Baroness Greenfield also discussed the issues on the *Today* BBC Radio 4 program (20 April 2006).

Wide dissemination

The impact of the seminar series lasted beyond 2006 and was sustained through the publication of the TLRP commentary *Neuroscience and Education: Issues and Opportunities* authored by Paul Howard-Jones, with a preface by Ian Diamond, ESRC's Chief Executive. The commentary, which challenged "folk neuroscience", was launched in May 2007 at Portcullis House, in the presence of MPs and Peers from an All Party Group led by Baronesses Susan Greenfield and Estelle Morris and Phil Willis, as well as of teachers, policy-makers, educational researchers, and neuroscientists. Baroness Morris said at the event: "dialogues such as these today set the scene for improved collaboration between education and science in the future, which are necessary to help reshape our education system around the need of our children".

The commentary was part of the TLRP Commentaries series, which was aimed primarily at non-specialist audiences, including practitioners, other decision-makers, and the general public. As evidenced, for example, by requests for electronic and hard copies and by references in the media, parliamentary debates, policy documents, and practitioner publications and websites, the commentaries were an effective way of reaching these audiences. The commentary on neuroscience and education illustrated this clearly. It highlighted the ways in which “education may have much to gain from greater cognisance of the workings of the brain and improved dialogue with those working in the neuroscience and psychological communities” (p.4). It introduced and made accessible for non-academic users up-to-date evidence about brain development, developmental disorders, and brain care (including topics such as the effects of sleep habits, water intake, and food supplements, e.g. Omega-3 and, caffeine). It translated this evidence into implications for teaching and learning, but recommended caution in the transfer of concepts between neuroscience and education and in scrutinizing future developments with potential impact in the area (e.g. the development of “smart pills” or neurofeedback techniques). The message was repeated in TLRP’s impact leaflet: “popularised neuroscience is seductive, but can be dangerous when prematurely applied in the complexities of classrooms” (p.2).

The commentary was widely discussed and disseminated. For example, from May 2007 until the end of May 2009 the Commentary received 213,170 downloads on the TLRP website. Over 2000 hard copies were also distributed through ESCalate, the ESRC, the Neuroscience and Education network, universities, and also to the All Party Parliamentary Group and at events, including TLRP and BERA conferences.

Impact Case Study 6: Principles into Practice: practitioner resources

Distilling research findings for practitioners

In 2006-2007 a stock-taking exercise that considered the findings of TLRP’s 22 research projects looking at all levels of school education led to the distillation of 10 complementary principles, which aimed to put research findings in concise form for practitioners. According to the principles, effective teaching and learning (or “pedagogy”) should: (1) equip learners for life, in its broadest sense; (2) engage with valued forms of knowledge; (3) recognise the importance of prior experience and learning; (4) require the teacher to “scaffold” learning (support pupils as they move forward); (5) make assessment congruent with learning; (6) promote the active engagement of the learner; (7) foster both individual and social processes and outcomes; (8) recognise the significance of informal learning; (9) depend on teacher learning; and (10) demand consistent policy frameworks, with support for teaching and learning as their main focus.

Targeted multi-support resources reaching all institutions

The ten principles were first introduced in the *Improving Teaching and Learning in Schools* TLRP Commentary, published in March 2006 and prepared by Mary James and Andrew Pollard, (http://www.tlrp.org/pub/documents/TLRP_Schools_Commentary_FINAL.pdf). The commentary suggested that the principles could be of use not only to classroom practitioners, but also to evaluate policy proposals for reforming school education. In the first six months after the release of the commentary, over 8,000 hard copies were distributed and 45,000 electronic copies were downloaded from the website.

The principles subsequently formed the core of the *Principles into Practice Teachers’ Guide to Research Evidence on Teaching and Learning* (launched in June 2007 as a practice-oriented TLRP Commentary <http://www.tlrp.org/pub/documents/Principles%20in%20Practice%20Low%20Res.pdf>). The publication also featured the *TLRP 10 Principles of Effective Teaching and Learning staffroom poster* in A2 format. A DVD of classroom activities and interviews illustrating the research was also produced. The “Principles into Practice” TLRP commentary and DVD were mailed out to all UK schools in September 2007 and also made available on the TLRP website. The mail out received media coverage in, for example, *The Times Educational Supplement* (21 September 2007) and the *Herald* (Glasgow, 25 September 2007).

The *Improving Teaching and Learning in Schools* and *Principles into Practice* Commentaries continue to be popular online, having received 225,399 and 85,352 web downloads respectively from their release until the end of May 2009.

The ten principles were at the core of a Westminster DCSF/ TLRP workshop in October 2007, entitled 'Reviewing what we've learned about pedagogy from TLRP and what we need in the future'.

In Spring 2008, a bilingual version of the poster, produced by the Welsh Assembly Government, was circulated to all Welsh schools in their termly newsletter, with an accompanying article by TLRP Schools Director, Mary James.

Wide relevance

Although initially developed for schools, the ten principles resonated with evidence from projects working in other sectors – pre-school, FE, HE, workplace learning, adult learning. Thus they have been developed, through consultation and debate between researchers, practitioners, policy-makers and the TLRP Directors' Team, into cross-sectoral *TLRP's Evidence-Informed Pedagogic Principles*. A dedicated thematic resource page has been created on the TLRP website (<http://www.tlrp.org/themes/themes/tenprinciples.html>). Taking this further, the 2009 TLRP commentary on *Effective Learning and Teaching in UK Higher Education*, prepared by Miriam David in collaboration with colleagues following discussions at the 2008 TLRP Westminster conference, transposed the principles to the higher education context (<http://www.tlrp.org/pub/documents/UKHEfinal.pdf>). The Higher Skills Commentary produced by Alan Brown (September 2009) applies the principles to workplace learning.

Lasting outcomes

At the 2008 TLRP Westminster conference, Jill Martin, Chair of the National Teacher Research Panel, emphasised that "the development of TLRP's ten principles [is] an important starting point for engaging more teachers in taking risks and challenging accepted practice". The TLRP publications featuring the principles repeatedly pointed out that collaboration among a range of communities was crucial for the development of the principles, and that this very development was a continuous, rather than one-off, process. Thus, TLRP's 10 principles are an example of how the links between research and practice can develop organically, for the benefit of learners in all sectors.

Impact Case Study 7: Improving Teaching: Enhancing Learning: Westminster showcase

Bringing stakeholders together

TLRP's Westminster conference on 24-25 November 2008 was the fourth (after conferences in Belfast, Cardiff and Glasgow) in a series of major UK events showcasing and reporting findings across the different strands of the TLRP. Seven displays of TLRP's work and sixteen explanatory sessions led by TLRP researchers were complemented by workshops and exhibitions led by partner organisations and by other opportunities for formal and informal communication among the range of stakeholders, including over 30 partner and exhibitor organisations and over 800 practitioners, researchers and policy-makers from all sectors of education.

The programme and organisation of the event encompassed all sectors. The first day focused on major new challenges facing education for children and young people in schools, 14-19, and further education. The day was co-organised with the National Teacher Research Panel (NTRP) and the Learning and Skills Improvement Service (LSIS). The second day, co-organised with the Higher Education Academy (HEA)

and JISC (Joint Information Systems Committee), provided opportunities to contribute to the major issues currently being considered for post-compulsory learning, including higher education, adult education, workplace learning, and lifelong learning. Positive assessments of the event were made by representatives of all sectors. The major foci of the substantive sessions are indicated in TLRP's downloadable impact leaflet (<http://www.tlrp.org/pub/documents/ImpactLeaflet.pdf>). At the event, TLRP also launched Commentaries on School Experience, Further Education, Technology Enhanced Learning, Widening Participation in Higher Education, Apprenticeship and Globalisation.

Event materials

For a photo-narrative of this event see:

http://www.tlrp-archive.org/tlrp/upload/assets/1228316460_TLRP08confpics.pdf

Full information on the conference, including video of plenaries, is available at:

<http://www.tlrp.org/conference/2008/>

<http://www.tlrp.org/conference/2008/papers.html>

Enabling take-up of findings

The Westminster event and the parallel showcase events elsewhere in the UK, were important elements in TLRP's strategy for enabling take-up of findings, ranging from stimulating awareness, to enabling dialogue and partnerships, and to supporting use. In the words of Jill Martin (Chair of the NTRP), a major outcome of the TLRP is that "barriers have now been removed which previously might have been obstacles to the widespread take up of research findings". She added that the TLRP had been "specifically designed to include practitioners in their work and teachers have felt that research findings now have more relevance with an emphasis on teaching and learning". The conference was an example of progress towards "the worlds of research and practice getting their relationship right". Paul Ramsden (Chief Executive, Higher Education Academy) also commented that TLRP had made a major contribution to the evidence available about effective teaching and learning, and that he and the HEA would be using its evidence and theoretical insights to improve the quality of student learning and to engage students.

The Westminster conference offered many opportunities for participants' direct engagement with research findings and their application. These included direct communication with researchers, both formal and informal, in the shape of a research café (where delegates attended surgeries with practitioner and academic researchers to discuss findings and network with colleagues over coffee), an interactive zone (where delegates used research-based tools, games, protocols and materials to understand and apply key findings), workshops run by the partner organisations and TLRP researchers, and exhibitions about research and the use of evidence from key UK organisations. Further resources based on the event – presentations, video recordings, images, news items, publications – were made available to download from the dedicated webpage of the conference on TLRP's website.

Feedback on the impact of the TLRP

The presentation of TLRP findings and outputs at the event was also an opportunity to obtain feedback from stakeholders about the whole of the TLRP.

The comments offered included David Eastwood's, then Chief Executive of HEFCE, who suggested at the event that TLRP had achieved "very high quality research projects and very substantial levels of impact", and thus it had "justified HEFCE's long term commitment".

Impact Case Study 8: TLRP Website and Electronic Resources

Comprehensive resources

The TLRP has developed an extensive electronic infrastructure and a wide range of resources designed to support the work of networks, projects and individual researchers. The TLRP website (<http://www.tlrp.org/>), developed over the lifetime of the Programme, includes news; details of the Programme, of its management, strategies, and investments; details and outputs of all events; all Programme outputs; thematic resources; user and capacity building resources and tools; access to tools for collaboration and communication and to bibliographical tools; and a network of hyperlinks and cross-references mapping the wider context of teaching and learning research, policy, and practice.

The *news feature* on the website (http://www.tlrp-archive.org/cgi-bin/tlrp/news/news_log.pl) serves as a diary of the main notable points from the years 2000 to 2009. Images and short headlines are used to make the news section easy to browse and more in-depth information is provided via hyperlinks within news stories. RSS Feeds enabled syndication of news, publication lists and content from projects within and beyond the Programme.

The *D-Space digital repository* (<http://www.tlrp.org/dspace/index.jsp>) contains all publication outputs of the TLRP, including those from projects, thematic groups and research training fellowships. It also contains programme-wide publications such as reports, research briefings and press releases.

The *project database* enables users to search for TLRP projects and investments by sector and by funding phase, and gives them access to project summaries, up-to-date catalogue and/or repository of all project outputs, including full reports, and links to project websites.

The *user and audience-specific pages* provide targeted information, detailed thematically-organised practitioner applications, and support for the engagement of users in different roles throughout all stages of research (and beyond), from design to transformation of findings for practice and policy.

Extensive usage

In the period 01/04/07 to 31/05/09 the website received a total of 20,313,259 hits. Total downloads of TLRP Commentaries now exceeds 750,000 and has been growing by over 20,000 per month.

Interactive technologies

The website and electronic infrastructure reflect the general development of the Web, over the lifetime of the TLRP, from a flat data source to a more dynamic interactive environment, using Web 2.0 technologies. Web 2.0 technologies are not purely “broadcast”-oriented, but interactive and aimed at social participation. Various types of “social software” make possible user-generated and shared content and collaboration between users. With these technologies, play, expression, personal reflection, and exploration become “socialised” (see TLRP commentary “Education 2.0?” , http://www.tlrp.org/tel/publications/files/2008/11/tel_comm_final.pdf, p. 8) .

The *VRE (Virtual Research Environment - <http://www.tlrp.org/discussion.html>)* developed by TLRP and its partners is one example of how such technologies were researched, developed, incorporated and adapted by the Programme. It has been used by TLRP research projects for project management and communication and as part of innovative designs allowing recurrent online engagement of participants. In addition, it has been used, for example, by seminar series convenors and contributors to allow communication between events; by small groups of researchers to enable collaborative work and the sharing of research resources and working documents; by training networks as virtual learning environment; and by communities of enquiry to support agenda-setting, discussion, collaborative writing, analysis and engagement of research ‘users’ in and with research activities.

TLRP's VRE services were adopted by Scotland's AERS with exceptional use in one of the networks in particular. They have been incorporated into BERA's infrastructure (see <http://www.bera.ac.uk/community/>) and, in particular, to support its Special Interest Groups and administration. VRE services have also been provided for the World Education Research Association (WERA) during its formative years and it seems possible that similar services will be provided for the European Education Research Association.

Sustainability

TLRP's contribution to developing electronic resources for the education community will be perpetuated through at least two means. First, further substantive research will explore the use of new technologies to support educational practice, policy, and research. Second, arrangements have been made or are in the process of being made to transfer the storage, maintenance and development of some of the electronic resources to the British Educational Research Association. In addition, project websites will continue to be hosted by individual departments in universities across the UK.

Exploring the educational potential of Web 2.0 and 3.0 technologies is a central aim of the Technology Enhanced Learning phase of the Teaching and Learning Research Programme (TLRP-TEL). This phase was launched in 2007 with funding for eight interdisciplinary projects from the Economic and Social Research Council and the Engineering and Physical Sciences Research Council. The TEL phase of the programme is working with the British Educational Research Association and other partners to continue to support the development and use of the electronic resources developed through the TLRP. A pilot project funded by ESRC is exploring how social software could be combined with existing VRE functions, and resources from the TLRP, the Applied Education Research Scheme in Scotland, and the Research Capacity Building Network, to form the nucleus of a sustainable Social and Professional Network for Education Researchers. The initial focus of the network will be on early career researchers. Using a participatory design process, the project aims to "identify the most useful features of existing Virtual Research Environments and Social Software platforms, and the customised 'gadgets' which would add most value and make the work of education researchers easier and more productive" (see http://groups.tlrp.org/access/content/public/new_network.html) .

Contemporary and longer term impact

The seventeen illustrations above are relatively specific and many more of this sort could have been provided. TLRP's formula - of combining authentic user engagement with high quality science and appropriate outputs which are then targeted onto contemporary issues - has appeared to be productive in its own terms.

More broadly, we note the direction of major trends in the last decade and would claim that the Programme has both contributed to these and benefited from them.

- *Government education policy* in each UK country has been developing in ways which are broadly, though not consistently, consonant with the findings and key messages of TLRP. Both the Children's Plan and Widening Participation agendas, for instance, require awareness of context, social and informal learning. TLRP's projects and Directors' Team have maintained a policy of 'constructive engagement' with policy makers and we believe that the Programme has exerted some influence at many levels.
- Commitment to *evidence-informed practice* as a way of improving professionalism and standards has grown in all sectors. TLRP has worked assiduously with government agencies, teacher associations and councils to support this development and has produced many specifically tailored sets of practitioner materials derived from its research.
- TLRP has benefited from a decade of prosperity and optimism, from growing commitment to evidence in policy and practice, from the need to establish new foundations for 21st century education and from the pressure of international competition. It has also attempted to harness the energy and commitment of the research community, to form respectful alliances with other stakeholders and to take available opportunities.
- In relation to educational research and the social sciences generally, there appears to have been a cultural and political shift. The 'moral panic' and critique of educational research as it was understood in the 1990s shaped the initial focus on 'teaching and learning' and the terms of reference of the Programme. By 2006, HEFCE was specifically commissioning sociologically and contextually informed analysis of widening participation in education. There was, quite simply, a more balanced understanding of complementary forms of research and development. We believe that TLRP demonstrated the responsibility and commitment of educational researchers, and that this was one reason for TLRP's total funding of £43m ending up four times greater than initially planned.

In November 2008, at TLRP's Westminster Conference, Ian Diamond, Chief Executive of ESRC, said:

"TLRP has been an absolute model of the way in which researchers, working closely in partnership with beneficiaries, can cross the dual hurdle of excellence in academic quality and wider impact. ... TLRP has been a model of communication to a wider public."

Such statements are very gratifying. However, TLRP researchers recognise the complexity of social, political and professional change and hope to achieve long term impact in relation to enduring educational issues. The real test, perhaps in 2020 or so, will be whether default assumptions in UK cultures which guide policy and practice on teaching and learning have continued to develop in ways which are broadly consistent with the Programme's 'ten principles for effective teaching and learning'.

Recent developments in each of the four UK countries are encouraging – but there is a long way to go and there will be many other factors in play.

It is worth noting one particular major issue upon which TLRP has not, it appears, made a sustained impact. This concerns the political focus on school and other institutional *structures*. New Labour once

recorded a commitment to focus on educational *processes* but the overall thrust of policy, by both Labour and Conservative politicians, has tended to revert. Findings from TLRP, OECD and McKinsey have all demonstrated the overriding importance of the quality of teachers and teaching in enhancing outcomes. However, that there should be greater choice between competing institutions appears at present to be a more politically attractive policy.

In any event, TLRP has created, promoted and recorded an analysis and practical suggestions for the future development of policy and practice in education sectors of the UK. As we move through the 21st century, evidence-informed foundations of this sort are likely to become increasingly valuable and we hope that TLRP's work will be actively used.

6 Capacity building

Capacity building was an intrinsic part of TLRP's work and the Programme has been wide ranging in its influence. With an estimate of some 700 researchers having engaged in TLRP activities at some point over the decade, the Programme has influenced a significant proportion of the 1696 'research active' staff who were submitted to the 2008 RAE in Education.

The broad objective for capacity building, endorsed by the Steering Committee in 2002, stated:

Expertise: Working in partnership with other relevant organizations, TLRP works to enhance capacity for all forms of research in teaching and learning, and for research-informed policy and practice.

The first award, a Research Capacity Building Network (RCBN) (2001-05), was held by Stephen Gorard and then Gareth Rees at Cardiff, both ably supported by Chris Taylor and others. It was independently evaluated and is not directly reported on here.

The second award (2005-09) was held by Andrew Pollard and represented a decision by the Steering Committee to increase the integration of capacity building within the Programme as a whole. This award is the focus of this report. All members of the Director's worked on capacity building issues in their sectors, with Steve Baron providing particular linkage to Scotland and AERS for a period and Mary James making a crucial contribution on the commissioning of on-line resources.

The overall achievement of the Programme is simply conveyed by the seriousness with which this issue is taken within the field today. TLRP has trialed many approaches to capacity building and there is now a measured appreciation of the complexity of needs and of the complementary forms of provision which are possible. Whereas researchers once felt that something restrictive was being imposed on them, capacity building provision in education is now being led by the British Educational Research Association as part of its commitment to the professionalization of the field (see:

<http://www.bera.ac.uk/blog/category/about/strategic-plan/>). Similarly the Society for Research in HE (SRHE) has developed capacity building provision, for instance, at its annual conferences.

Capacity building strategies

TLRP's capacity building strategy evolved over time as the issue became progressively better understood and in response to needs and commitments within the field. Three main stages may be identified:

- *Training* - From 2002-2005 the Programme's Research Capacity Building Network provided cross-Programme training services in the research methods which were felt to be particularly appropriate in the study of teaching and learning. RCBN also initiated a journal, Research Capacity Building, and a website offering advice and resources.
- *Social practices* - From 2005, an explicit attempt began to be made to embed processes for the development of research expertise within the social practices of educational researchers. This was done as a complement ESRC's provision through the National Centre for Research Methods and Research Methods Programme. Additionally, close working relationships were established with the Applied Research in Education Scheme (AERS) in Scotland (which ended in January 2009) and, for sustainability purposes, with relevant UK learned societies such as the British Educational Research Association. This strategy was evaluated through the Mapping the Ripples project (Fowler and Procter, 2008).
- *Resources* - From 2007, particular effort was directed towards the development of on-line capacity building materials and resources to be available to the field as part of the TLRP legacy. Structured by ESRC's research training requirements, UK experts were commissioned to provide 'walk through' guidance on topics and issues that have an explicit capacity building dimension. These were originally developed on the TLRP website but then merged with AERS material by

TLRP and transferred to the BERA for long-term sustainability and development. NCRM resources are also to be presented through a single search interface.

Activities and achievements

The following listing of activities and achievements is based on the specific goals of the 2005-09 capacity building award. The rationale for these activities is conveyed at:

http://www.tlrp.org/themes/themes/research_caps.html

Research Training Fellows/Career Development Associates

TLRP supported seven personal development investments, which mostly enabled senior practitioners to study part-time for PhD's in association with TLRP projects. These investments have been very successful in some cases, supporting, for example, colleagues who have now undertaken roles as the Director of Primary National Strategies, Associate Director of the EPPI Centre, editor of the report of the Cambridge Primary Review, Headteacher and member of the National Teacher Research Panel. All other fellows have completed or are on track to complete their PhDs. See: <http://www.tlrp.org/proj/rtf.html>

TLRP Fellowships – 'Meetings of Minds'

This scheme offered a modest award to enable researchers with potential to seek the advice of highly experienced colleagues, proved both popular and cost effective. Twenty five awards were made in total and a conference to review these experiences was held during 2008. The scheme has now been adopted by BERA. See: <http://www.tlrp.org/capacity/mind.html>

Capacity building events

Workshops and conferences were held regularly for research staff on the Programme. Attendance was, in later years, broadened to embrace other early career researchers. These events were very positively evaluated and became the seed-bed of a commitment by BERA to continue the association with TLRP researchers by organising a set of five capacity building events during 2009/10. TLRP's largest capacity building event took place in London in March 2009 and provided an opportunity to take stock of what had been learned about methodological issues during the previous decade. See, for instance:

<http://www.tlrp.org/conference/2009/>

Quantitative research

The development of skills in the design, conduct and management of quantitative studies, and their linkage to qualitative work, has featured in many TLRP projects. Learning Lives, led by Gert Biesta, and the Group-work project, led by Peter Blatchford, are particular examples. Other projects, such as those led by Anna Vignoles and Mark Newman, have been exclusively quantitative. However, the Steering Committee was undoubtedly hampered at commissioning by the availability of high quality quantitative applications. The Programme, with its AERS partner, invested in many on-line resources to support training in quantitative methods. Its thematic investments on the measurement of learning outcomes, the use of large-scale data-sets, project design, research quality and reviewing reviews were all ways of engaging constructively with issues associated with quantitative data and with structured research designs. The Programme was particularly pleased to have developed close relationships with economists, statisticians and cohort-study specialists following its re-location to the Department of Quantitative Social Science within the Institute of Education. Whilst significant UK growth and spread of quantitative expertise was noted by the 2008 RAE sub-panel for Education, there is undoubtedly a long way to go. However, TLRP has contributed by producing practical resources to support this and by engendering receptivity within the culture of the field. A new generation of researchers appears to embody a wider range of research capabilities than existed in the 1990s.

Virtual Research Environments

This unique online space or 'VRE', was originally developed by TLRP in partnership with the Centre for Applied Research in Educational Technologies (CARET) in Cambridge with JISC funding of Norman, Carmichael and Pollard (see: <http://www.caret.cam.ac.uk/jiscvre/>). It was then trialed by TLRP groups and projects and has gone through many upgrades. The resource was made available to support the development of AERS and became extremely important to one of its networks. VRE facilities were also

provided to the emergent World Education Research Association for use as an international repository and communication system. The facility has now been transferred to BERA to support the association and its special interest groups (see: <http://www.bera.ac.uk/blog/category/networks/vre/>) and, it appears, may be taken up by EERA. In 2008, ESRC funded a new project to explore how the VRE might be used to support academic networks more broadly, with particular reference to early career researchers. A review of this is expected in the Autumn of 2009.

Project capacity development

At all phases of TLRP funding, it has been a criterion for project selection that capacity building was addressed, and this work has been supported, monitored and reported on each year. Particular attention has been paid to skill and career development of contract research staff and individual projects report on achievements in this area and links have been established with the ESRC Researcher Development Initiative (see: <http://www.rdi.ac.uk/>). The emphasis on development through the activity of engaging in project research was particularly strong in the second phase of TLRP's capacity building work.

Mapping the Ripples

This study of the experience and impact of TLRP's project based capacity building activities successfully illuminated dimensions of tacit research processes and their consequences for career and skill development among researchers. As such, it was an important contribution to the evaluation of the 'social practices' model of capacity building – particularly for the theorisation of expansive/restrictive research development work contexts. A summary of the report was distributed to all BERA conference attendees in 2008 and a symposium on the topic was very popular. The full report was distributed widely and discussed at a 2009 NCRM Advisory Committee. See: <http://www.tlrp.org/mappingtheripples/>

Contributing to ESRC provision on capacity building for education

TLRP has been consulted regularly on ESRC provision for education, within and beyond formal periods of consultation. A series of Town Meetings was held in 2007 at the culmination of which the Director provided a synoptic paper on strategic possibilities. This identified two major goals of educational research and enquiry (enhancing educational outcomes through the improvement of practice, and developing new knowledge and understanding about education) and argued that the primary responsibilities of national bodies, including ESRC, needed to be clarified.

Developing Networks in the Learned Societies

Liaison was developed with BERA, LSIS, SRHE, HEA and UCET to discuss capacity building issues and, in particular, the development of on-line resources. Having become custodian of these resources in 2009, BERA has now made specific organizational provision to maintain engagement of these organisations and others in long-term development of the resources. In 2006 and 2007, TLRP provided small bursaries to doctoral or early career researchers as awards to attend the early career researcher event as part of the SRHE annual conference.

TLRP on-line resources

Resources for the methodological development of researchers showcase the expertise of leading researchers in the field. They also provide links to complementary resources in the social sciences more generally, especially AERS, NCRM and RDI. TLRP's resources were designed to celebrate the diversity of forms of research and scholarship in a complex field like education. They include, for example, work on philosophical enquiry as well as on more conventional social scientific research methods. The main resource bank has two points of entry and this user-friendly feature may be developed further within the BERA web provision. The resources are freely available for educational use in the UK under a Creative Commons license. HEIs and others can use the material to support teaching, submissions to the ESRC and other capacity building activities. TLRP commissioned capacity resources until December 2008 after which they were combined with AERS material and bequeathed to BERA for further development on behalf of a consortium of potential users. See:

<http://www.bera.ac.uk/blog/category/development/resources/>

Strategic Forum for Research in Education

SFRE was initiated by TLRP in recognition of the need for UK and national strategic planning in education research. This had been the ambition of NERF in the late 1990s and was a function which was partially provided by the TLRP Steering Committee. However, the example of OECD CERI assessments of national 'knowledge management systems' suggested how a process of self-review could be constructed within the UK. The main partners in the forum are ESRC and BERA, with financial support from CfBT and DCSF. TLRP has been the pivotal promoter of the concept as part of the Programme's sustainability effort in relation to providing opportunities for strategic thinking in the field. The TLRP Director was nominated to chair SFRE. The website has been developed and is at:

<http://www.sfre.ac.uk/http://www.sfre.ac.uk/>. The first meeting took place in Harrogate in October 2008 and the second in June 2009. A final meeting will take place in March 2010 with a report in the summer of 2010. An excellent range of stakeholders from across the UK is being attracted to SFRE and there are indications of tangible developments in some countries as a result of these deliberations.

Capacity building impact

TLRP's KPIs on capacity building included a measure (achieved through annual project reports) of the proportion of researchers reporting a broadening of their knowledge, skill and understanding through Programme participation. The cumulative figure was almost 95% of respondents.

A second capacity KPI recorded the proportion of researchers leaving TLRP work who subsequently obtained other research posts in HE and elsewhere. A survey of TLRP researchers (n=92) showed that 76% were working in HE as research staff or lecturers. Indeed, qualitative data from 'Mapping the Ripples' shows that many expansive projects have provided an excellent launch-pad for researchers' career progression.

TLRP and RAE 2008

Reflecting back on the RAE, the Sub-Panel for Education concluded that: 'the *quality of research* activity reported in the submissions was high and significantly improved from 2001' (Subject Overview Report, UOA 45, January 2009). They stated: 'it is clear that the best departments can compete on equal terms with the strongest departments anywhere in the world'. There was also growth in the range of institutions submitting for the RAE in education, with 41 institutions achieving new funding. These outcomes suggest that the field has been significantly strengthened since 2001.

Regarding research capacity itself, the sub-panel reported:

There was evidence of significant attention being paid to capacity development. Postdoctoral fellowships, from the ESRC and other sources, have had some impact. Submissions indicated a good level of support for staff and especially for early career researchers.

At a national level the development of research capacity has been strongly supported by the TLRP networks, by the ESRC more generally, and in Scotland by AERS. Clear evidence of success is demonstrated, for example by rising numbers in quantitative research, spread among more centres.

TLRP was also prominent in the institutional research rationales submitted to the RAE 2008. Where it was appropriate to do so, institutional returns almost always featured participation in TLRP as a high status indicator of quality and esteem, with implicit endorsement of its goals in combining high quality science and high relevance for policy and practice.

However, when it came to the selection of outputs, there are signs that institutional decision-makers feared that inclusion of TLRP material might involve more risk than they wished to take.

Two particular issues appear to have been of concern.

- The Programme's goal of promoting large-scale, interdisciplinary team work was addressed by a sub-panel statement on 'jointly authored outputs'. However, most institutions preferred to 'play safe' by submitting *single* authored publications as had proved expedient in previous RAEs.
- The Programme's commitment to impact and to user-orientated publications was only partially reinforced by the RAE requirement to describe 'significance' and the sub-panel's statement that it would 'take an interest' in impact.

The latter point was taken up by the sub-panel in their post-RAE Subject Overview Report (January 2009). They stated:

Much government investment has explicitly been directed towards attempting to secure a stronger evidence base for decision-making in policy and practice, with a concomitant investment in research access and dissemination activities. We know that the Teaching and Learning Research Programme (TLRP) and Applied Educational Research Scheme (AERS) have supported and funded a wide variety of research-based activities and outputs for different user audiences, but we noticed that only a small proportion of these outputs seem to have been submitted to this RAE. We accordingly wonder whether clear signals about the relationship between quality in research as measured by RAE and the greater UK investment in research-for-use have yet to be given. At this stage, it appears that the risk institutions perceive of submitting research-based user-focused outputs has led to limited submission of this work. (2009, p 8)

There is one other possible explanation for the relatively modest number of TLRP outputs cited in the RAE and that is simply that the cut off point for publication of research outputs, of 31st December 2007, came a little early for the Programme. For example, of some thirty books now in TLRP's Routledge series, only six volumes were available by that date.

Overall, there seems to have been some tension between TLRP's commitment to team-based, user-oriented publications combining both scientific quality and high relevance and the need of institutional RAE strategists to 'play safe' in selecting more 'academic' outputs by individuals. However, in citing TLRP as a signifier of a strong research base and of esteem and in celebrating the outcomes of capacity building activity, there seems to have been no uncertainty whatsoever about the contribution of the Programme to institutional profiles and achievements.

7 Management

Particular challenges, problems or unexpected events etc

Political challenge to the field of Educational Research

The most obvious 'particular challenge' facing TLRP was the crisis of confidence in educational research from which the Programme originated. Concerns expressed by Ministers and MPs on both sides of the Westminster Parliament and by senior civil servants and other staff in UK government departments and agencies were very strong in the early days. It is believed that confidence has gradually increased in the field generally over the decade and greater confidence in TLRP itself seems indicated by the quadrupling of its overall budget from initial expectations. Nevertheless, in the early years there were critical questions within the House of Commons which had to be managed and the Directors' Team therefore worked to liaise with senior Westminster politicians of each of the three major parties and also with other UK governments. The presentation of the Programme was revamped in 2002 (using a corporate identity consultant) to convey an engaged, positive message through its Identity Guidelines. The Directors' Team complemented this by sustaining an active programme of backstage engagement with government departments and agencies in England and with other UK governments. The potential vulnerability of the field and the Programme to the 1990s moral panic was one reason too why constructive engagement was preferred to a more combative stance in relation to public policies – although the latter was in some ways encouraged by media outlets. A HEFCE/DfES requirement to have 24 hours notice of the text of all press releases and the Steering Committee's wish to consider significant policy statements made it hard to engage in the cut-and-thrust of unfolding events. Highlights of TLRP activity were sustained engagement with one of David Cameron's Policy Review Groups and meetings at the Treasury and No 10 Policy Unit.

Diverse cultures within the field of Educational Research

In 2002, as described in Charles Desforges' End of Award Report as the first TLRP Director, the Programme reflected many of the problems within the field generally. It was rather fractured with epistemological differences, was prone to taking rather combative positions in discussion, and seemed relatively defensive and inward looking. Many researchers felt bruised and misunderstood. RCBN, at Cardiff, became a particular focus of internal debate in the early days of the Programme. In response to this situation, the 2002 Directors' Team sought shared value commitments ('academic challenges for moral purposes'), organized collaborative activities (conferences, thematic work, inter-project funding, Directors' Forum on policy, Bulletins, etc.) (see: <http://www.tlrp.org/pub/bulletin.html>) and promoted various forms of 'reflexive activism' (see Pollard 2006) to support change to which colleagues could subscribe. In a spirit of reciprocity, project researchers were also annually invited to evaluate the performance of the Directors' Team. Gradually the Programme developed a greater sense of collective intellectual purpose, more tolerance for difference and a more constructive sense of purpose in meeting contemporary research challenges. By the end, the Westminster showcase of substantive findings (November 2008) and the synoptic Capacity Building conference (March 2009) suggested that a lot of cultural change had taken place.

In a sense then, the most fundamental of TLRP's 'particular challenges' was to simultaneously manage the external and internal faces of the Programme.

Foundations

The programme faced considerable pressure at initial commissioning in 1999 and there was also a wide range of views among the participants. Some crucial issues, such as how learning outcomes were to be defined, measured or otherwise indicated, were not resolved at this early stage and this meant that later accounts of outcomes were less coherent than might have otherwise been possible. There were also some fruitful directions on which the first Director began work, such as in relation to design research, which were not followed up because of resistance within the field at the time. Many were taken forward subsequently.

The ambition of the overall aim

The substantive aims of TLRP were extremely wide-ranging. Indeed, in strict scientific terms, they were probably impossible to achieve in the form stated. The aims were interpreted in terms of creating appropriate conditions and opportunities for the improvement of learning. Further, the risk of generating a holistic

statement of 'ten principles of effective teaching and learning' was accepted. This was seen as a specific way of addressing the range of the substantive challenge which had been set.

The form of a programme

Research investments may be made through projects, centres, programmes, initiatives and in no doubt many other ways. At each of the many funding competitions for TLRP participation, projects were primarily selected on quality grounds in their own right, with 'fit to programme' being a very secondary condition. There were a few instances when Steering Committee decisions, perhaps reflecting the views of influential members, appeared to the Directors' Team to be against the interests of the Programme as a whole. Further, evaluation of 'contribution to the Programme overall' was declared to be a defined element of ESRC procedure in the early years but was completely absent from evaluation procedures by the end of the programme. Overall, such commissioning and evaluation circumstances were unsatisfactory from the point of view of maximising coherence, coverage and progression but were offset by use of 'associated projects', thematic commissioning and other forms of creativity to fill gaps. Whilst most TLRP research teams remained engaged throughout, there were a few for whom the Programme seemed to have been little more than a convenient source of short-term funding.

The scale of the Programme

TLRP started with a budget of under £10m and by 2009 had commissioned over £40m of funding. Over a dozen major funding opportunities were managed (see: <http://www.tlrp.org/manage/fund.html>), and this of course resulted in projects being involved in simultaneous commissioning, induction, development, analysis, evaluation and follow on activities across the whole portfolio. £12m from EPSRC and ESRC for two rounds of projects on Technology Enhanced Learning was incorporated at the Research Councils' request and was managed to ensure that the new investment complemented and did not detract from the main 'generic award'.

Systems and partnerships

In managing the scale of the Programme, there was significant investment in infrastructural development in ICT, in codifying various forms of output and into partnerships with providers such as CARET, BEI and Routledge and with user organizations such as the HEA, JISC, NIACE and UK GTCs. Similarly, the TLRP Office and Directors' Teams worked on a number of special initiatives in relation to media networks (LB), a database of contacts (SF), journalism (KE), events (JoT), publications (SD), ICT infrastructure (JSB/RP), DSpace (JP/ME), European liaison (AB), international liaison (JS/ME), outcome indicators (MJ), archives (HH) and strategic negotiations with UK government departments and other potential allies and development of the impact and dissemination infrastructure (AP). The management of systems and partnerships has been a challenge, but they have been absolutely essential to the Programme's productivity.

Changes over time

The duration of the Programme over the ten year period has been challenging in itself. Sadly, three esteemed Principal Investigators died over the period and there were many career changes and other life events which had to be appropriately managed. User liaison has been very time consuming activity because of the churn of both organisations and individuals within them. For example, Education Ministers and front bench teams have changed regularly, particular in England. HEFCE's priorities also altered over the period, with the focus for the Programme on teaching and learning developing to embrace policy and practice in relation to widening participation. ESRC has also changed considerably, with much greater emphasis on impact and capacity building. Change creates both opportunities and challenges, and TLRP has benefited from many of the former as they have occurred in key user and funder organizations.

Management of the Programme

The Office Teams

We have been extremely fortunate to have an excellent group of people at work on TLRP. The TLRP Office Teams at both Cambridge and London have been very dedicated and unfailingly constructive.

At various times, these were, at Cambridge:

- Suzanne Fletcher
- Lynne Blanchfield
- others on a more ad hoc basis.

And at various times in London:

- Sarah Douglas
- James O'Toole
- Mabel Encinas
- Joanna Penty
- Richard Procter
- Bernadette Ryder
- Jehan Saleh
- Hameed Hakimi
- others on a more ad hoc basis

An indication of the roles played by such colleagues is provided in the table overleaf:

Programme, Outputs and Internal Communications Manager (1.0)	Events, Media and Engagement Manager (1.0)	IT Support and Development Manager (0.5)	D-space and International Researchers and occasional staff (PT TTO)
<p>To work with the Directors' Team in supporting, managing and reporting on the progress of research projects, cross-Programme thematic initiatives and task groups.</p> <p>To manage the organisation of the design, editing, printing, distribution of Programme outputs, working with colleagues in the <i>Institute's Publications and Marketing Department, Routledge, ESRC and Media Fellow/s</i> as appropriate.</p> <p>To manage the Programme's internal communications infrastructure, including the Programme's termly Bulletin.</p> <p>To manage and supervise the work of researchers or clerical staff, ensuring clear communication of tasks and good relationships.</p> <p>To manage the supply, security and maintenance of equipment, consumables and space within the TLRP Office, in liaison with the <i>Institute's Estates and Facilities, Purchasing and Information Services Departments</i>.</p> <p>To liaise with the <i>Institute's Research Administration Department</i> and to monitor and report on monthly expenditure against budgets.</p>	<p>To manage the organisation of programme activities and communication events.</p> <p>To manage the production of current and retrospective news items, retrospective event records, RSS content and other appropriate elements of the Programme website and paper records as requested.</p> <p>To manage the representation of current and future event records and other related elements of the Programme website and paper records as requested.</p> <p>To contribute to the dissemination of projects and the Programme as a whole to appropriate media and users working where appropriate with Media Fellows and others.</p> <p>To manage the application of contact information to disseminate the work of projects and the Programme as a whole to appropriate media and users, working where appropriate with specialists in external communications.</p> <p>To administer the production of Capacity walkthrough materials for the TLRP website, assist in development of Capacity web resources and administer the Meetings of Minds fellowship programme.</p> <p>To contribute to the development and maintenance of the TLRP website and the transfer of appropriate materials to BERA.</p>	<p>To develop and maintain all TLRP website services and CARET-based ICT systems including:</p> <ul style="list-style-type: none"> • TLRP web site • Search facilities • News and Events functions • DSpace and meta tagging • VRE in Sakai, incl AERS take-up • BEI and Society Today feeds • User web services • RSS feeds <p>To offer regular training and support in the above.</p> <p>To liaise with the Directors' Team and CARET and Institute specialists as appropriate.</p> <p>To continue research and development work on the JISC funded research project on Virtual Research Environments.</p> <p>To contribute to research journals and other academic publications and events, reflecting TLRP's development and research work in new technologies</p> <p>To attend ICT and other relevant meetings.</p>	<p>To maintain the Programme's 'Presentation Room' including stock control and display of outputs.</p> <p>To manage the electronic deposition of Programme outputs in D-Space, and related forms of retrieval and to liaise, as appropriate, with <i>BEI</i>.</p> <p>To promote the international work of the Programme, including sustaining VRE services and the website.</p> <p>To maintain accurate and up-to-date records on the Programme database, drawing on the expertise of the Directors' Team and specialist ICT resources.</p> <p>To administer expenses, invoices, purchasing, travel, accommodation and other non-staff financial transactions. (cf Sarah)</p> <p>To monitor and administer stocks of office consumables.</p> <p>To maintain filing systems and records, arranging travel, internal meetings, contacts and hospitality.</p> <p>To support the Programme Managers in promoting outputs, events and engagement.</p>

The Directors' Team

Individual members of the Directors' Team have brought complementary forms of expertise and have each made major contributions to the Programme. The full team, in post at different times from May 2002, has been:

- Andrew Pollard, Director
- Mary James, Deputy Director (Schools Sectors and Capacity Building)
- Miriam David, Associate Director, (Higher Education and Lifelong Learning)
- Alan Brown, Associate Director, Warwick (Work-place Learning and Further Education)
- John Siraj-Blatchford, Associate Director, Cambridge (ICT)
- Kathryn Ecclestone, Associate Director, Exeter (Post-16 and Further Education)
- Steve Baron, Associate Director (Capacity Building)

It is also not perhaps surprising that there are enormous demands on the Directors of a programme attempting to address teaching and learning throughout the UK and across the lifecourse. There have been particular challenges in achieving a satisfactory balance between academic contributions and various forms of project support and user liaison.

The Directors have produced, shared and reported their activities via termly 'Action Reports and Rolling Plans' (ARRPs). These enabled us to plan and monitor use of time and to set priorities. In the early years, such exercises showed the extent of DT over-commitment from 0.4 fte appointments. These fractions were adjusted upwards in subsequent years.

The distributed model adopted for the Directors' Team had many advantages in the initial development phase of TLRP but the balance of advantage shifted as the Programme moved towards its conclusion with a growing for more integrative conceptualisation and coordinated impact activity.

Issues or problems with the Director's budget

The budgets for two main awards and one capacity award were set at levels that enabled the creation and efficient management of a strong Programme infrastructure. This made it possible to develop targeted initiatives and to follow them through. ESRC, through the Troika and Steering Committee, were also unfailingly helpful in relation to virement, thus enabling the Programme to adapt to circumstances and respond to opportunities.

The provision of timely and accurate financial accounts on this complex award, to cross-check with the Programme's own records, was a long-running institutional challenge. We have nevertheless been very grateful indeed for the support of the University of Cambridge and the Institute of Education, University of London, as the award-holding bodies, through-out the period. The Director's main and capacity awards were both fully spent at the end of the period. The overall TLRP budget, managed by ESRC was 1.44% underspent at the end of the period, with the balance of some £420k being returned to HEFCE.

An issue raised in the end of award report of the first Director, back in 2002, remained prominent *throughout* the decade. This concerned the difficulty faced by ESRC's financial administration in processing awards on schedules which reflected the practical needs of projects (particularly those needing to start at the beginning of a school or academic year) or, indeed, the Programme (the Institute of Education generously maintained TLRP without a formal award on several occasions). This risked the quality of project science and seriously disrupted Programme planning, thus causing a loss of effectiveness.

Funding and co-funding arrangements

From 1998 to 2007, TLRP was *funded* by HEFCE and the government departments of the devolved UK, whilst being *managed* by ESRC in return for a 5% fee. From that point on, ESRC became a co-funder, with EPSRC also, by supporting projects on technology enhanced learning. Almost 2/3 of TLRP's total budget of some £43m came from HEFCE.

Phases I and II provided some £9m each of HEFCE and UK government funds for project investment.

£10m of HEFCE funding for Phase III of TLRP was secured by the first TLRP Director but implemented after he had left office. Phase III ring-fenced investment in projects for post-compulsory sectors. There was no ESRC financial contribution to this but the management arrangement was maintained.

In 2003/4, co-funding was secured for eleven Scottish, Welsh and Northern Ireland 'extension projects' by securing new investment from the three governments and matched funding from ESRC's Research Priorities Board. This rekindled interest in TLRP within the devolved administrations and enabled the Programme to 'showcase' its portfolio with events in each country and to build engagement with policy-makers and research communities.

In 2004 JISC funded (without an ESRC contribution) a CARET/TLRP team to develop the application of virtual research environments (VREs) in education. Benefits of this development work were subsequently used by AERS, WERA, BERA and in ESRC capacity building awards, in addition to providing cutting-edge facilities to TLRP projects.

In 2006/7 new priorities at HEFCE brought about a further investment in TLRP, again managed by ESRC under contract, to fund seven projects on Widening Participation in Higher Education.

In 2006, ESRC began collaboration with EPSRC to establish a £6m programme on what was to become Technology Enhanced Learning. Agreement was reached with the TLRP Steering Committee that it should be managed by the TLRP Director with specialist support. An 'e-team' of consultants was appointed to assist in working up a specification. In 2007, after commissioning of 'development projects', an additional £400k was awarded by JISC. ESRC and EPSRC also both doubled their investment bringing the total fund to £12.4m and extending the duration to 2012. TLRP-TEL became supported by an Associate Director from September 2007 and became fully independent in leadership and management from 1st May 2009.

Funding in kind was secured from a wide range of user organisation with whom TLRP has collaborated – often through co-funding of specific outputs. These have included: General Teaching Council for England, National Institute for Adult and Continuing Education, British Education Index, Routledge, Science Education Association, National Foundation for Educational Research, British Educational Research Association, National Centre for School Leadership, Department for Children, Schools and Families, Higher Education Academy, JISC, Centre for Applied Research in Educational Technologies, Learning and Skills Information Service.

8 Reflections on ESRC support for the Programme

There is a risk of repetition here, and the report will not dwell further on comments made in Part 7 on particular challenges in respect of:

- The ambition of TLRP's overall aim
- The form of a programme

HEFCE

There is no doubt that TLRP would not have existed were it not for the imaginative and principled determination of Sir Brian Fender, Chief Executive of HEFCE (1995-2001), to support the re-development of research in education. HEFCE maintained this support in an extremely responsible and constructive way for almost a decade. Many opportunities were created and we believe that the Programme demonstrates the value of long term strategic investment to achieve both improvement and impact in research. At TLRP's Westminster Conference in November 2008, HEFCE's then Chief Executive, David Eastwood, suggested that TLRP had achieved: 'very high quality research projects and very substantial levels of impact'. He went on: 'It has been a striking and unusual programme. Its duration has enabled it to be ambitious and this has justified HEFCE's long term commitment'.

ESRC's Strategic Research Board

The Programme reported through SRB (formerly the Research Priorities Board) and benefited from regular linkage through the SRB liaison member (Sally Brown, Maria Slowey, Caroline Gipps and John Ireland). The opportunities for the Director to make occasional presentations at SRB were appreciated and enabled the Board to engage with the Programme in a more tangible way than through the annual report, and vice versa.

The TLRP Steering Committee

This committee, chaired successively by David Watson and Bob Burgess, was a huge help to the Director and his team. Whilst maintaining procedural proprieties and good governance, the committee also provided an enormous resource of wise advice and practical support. Policies established in the early days of TLRP stood the test of time.

ESRC staff

The Programme has benefited from the interest taken by successive ESRC Chief Executives, and in particular by Ron Amman whose persistence secured the initial managerial arrangements and by Ian Diamond whose later interventions created a number of valuable initiatives. For most of the period under review, the lynch-pin for TLRP's interaction with ESRC was Gary Grubb, Associate Director, Research, Training and Development. He was extremely knowledgeable both about the field and the history of Programme, and often complemented this with insightful strategic advice. Subsequently, other ESRC Case Officers have each brought special knowledge and skills to the role and made important contributions. TLRP has also received a great deal of very welcome support from a wide range of other ESRC staff over the period. The Programme has a high regard for ESRC staff. We have found them to be unfailingly helpful, despite the heavy workloads which they appear to experience.

ESRC's internal organization

For most of TLRP's existence, ESRC evidenced a strong commitment to the health of each field and maintained specialist teams who had, or built up, appropriate disciplinary expertise. Our experience has been that the recently introduced ESRC structure appears to be less effective in this respect. Whilst this may be off-set by other benefits, we suspect that the emphasis on organizing to achieve impact can only succeed if sufficient care and expertise is devoted to achieving research quality within each discipline. We recognise that there are some tricky dilemmas here and that TLRP may have unusual needs. It is nevertheless appropriate for us to note a degree of uncertainty in relation to the efficacy of the new arrangements.

Supplementary ESRC support

Above and beyond the contributions from ESRC which might have been expected for the 5% management fee, TLRP has benefited from generous support within ESRC systems. For example, the Programme's impact has been enhanced many times through ESRC publications and by being drawn on for case studies of good practice at social science events. Support of a Media Fellow over the entire period was another very tangible investment, and was only exceeded by provision of two Programme Fellowships which were awarded to the Deputy Director and Director.

Administrative resources

On recurring occasions the Programme experienced severe delays in the production of minutes of the TLRP Steering Committee, appointment of new Steering Committee members and processing of project contracts. We have not been in a position to interpret the causes of these difficulties, but they seem to be related to workload within ESRC and to the lack of a risk-management system to cover illness or other absences. If ESRC wishes to make a case to increase the resources devoted to the administration of its investments, TLRP would be able to provide examples of the consequences of not doing so.

ESRC policies

TLRP has been strongly committed to ESRC's mission of quality, impact and independence, and to the policies through which it seeks to fulfil these commitments. It has particularly appreciated ESRC investments in capacity building for social science, knowledge transfer and consideration of the health of disciplines such as education. TLRP has benefited from the Training and Development Board's clear awareness of the significant threats to research in Education, as highlighted by the Demographic Review. We have also been very aware of the relationship of the educational research base and the quality of UK teacher education, and of the broader responsibilities which this brings. ESRC has a significant leadership role in relation to the many stakeholders in this field and TLRP has appreciated the seriousness with which this is approached. Initiatives which systematically tackle the structural problems of capacity building such as NCRM and RDI are very valuable, and we are pleased that BERA is now both drawing on these and building on TLRP/AERS resources. ESRC's support for new capacity building initiatives is extremely encouraging and commitment to the Strategic Forum for Research in Education UK will strengthen longer term strategic coordination within the field. The senior representation now being provided to SFRE is very welcome.

ESRC procedures

TLRP has advocated a number of improvements to ESRC commissioning procedures over the years. To summarise the two most significant:

- If funding programmes, centres, initiatives or any other form of group investment, commissioning procedures should be designed to enable overall goals to be considered in addition to consideration of the quality of specific projects.
- Capacity building is likely to be effective when explicitly provided for through the social practices of research experience. ESRC could use this fact by including a capacity building requirement within its funding application and evaluation processes for all investments – just as it has now begun to do in respect of impact considerations.

In relation to the processing of research outputs, we were pleased to innovate by establishing and sustaining a smooth interface between our DSpace repository and the ESRC Society Today database. With efficient 'one point' data entry, this provided an excellent service to projects. There are many other TLRP services to projects, such as in relation to virtual research environments, which have potential value for other ESRC investments.

The Programme was not routinely sent the outcomes of project evaluations, which weakened our ability to 'take stock' on an on-going basis in relation to collective objectives. Further, the early procedure through which projects were rated on their 'contribution to the Programme' as well as on overall research quality – a dual rating scale - disappeared in later years. From the Programme perspective, this was a pity because it reinforced individualization of the projects rather than affirming a collective purpose.

Expressed more generally, ESRC procedures provide quality assurance of specific elements, but as implemented in practice were not always congruent with the Programme's more holistic goals. If collections of projects are to be commissioned in any form in the future, then this issue would be worth thinking about. Thankfully, the helpfulness of ESRC staff normally enabled any difficulties to be at least mitigated.

9 Forward look

Partnerships for sustainability

Maximizing the potential for sustainability has been one of TLRP's strategic priorities for some years see Section 4 of this report). For this reason, TLRP developed close working relationships with many organizations.

Some organizations had particular expertise which the Programme needed. Such partnerships were developed with the British Education Index (BEI) for electronic knowledge management, the Cambridge Centre for Applied Research in Education Technology (CARET) for development of our ICT infrastructure, and with Routledge for book and journal publications.

- **Website:** CARET is contracted to maintain the TLRP website until December 2015. The situation will then be evaluated.
- **Electronic repository:** BEI are contracted to harvest and catalogue any further TLRP publications during the next three years and to maintain public access going forward through a special 'BEI TLRP Collection'. ESRC Society Today will be providing a similar service. The DSpace repository within the TLRP website will be maintained by CARET until December 2011. This will enable organizations such as HEA, LSIS, EEP, TTRB and the GTCs to capture any valuable outputs which they don't already have.
- **Print publications:** Routledge are publishing over 30 TLRP books and will maintain these in print and ebook form for many years. Some 400 academic papers will be sustained in refereed journals (and can be accessed via DSpace, BEI or ESRC Society today).

We also, as indicated elsewhere in this report, established relationships with key user organisations which were generous enough to promote TLRP work through their communications systems, and thus lend us some of their leverage as we attempt to maximize impact. The UK governments and their agencies are particular examples of this and joint funding during 2008/9 of Placement Fellowships in Scotland, Northern Ireland and Wales showed a commitment to the future use of TLRP outcomes. Welsh take up seems particularly promising and, interestingly, downloads of TLRP Commentaries continue at a little over 20,000 per month. We also worked with partners where cooperation enabled us to be more effective – for example, through co-funded Commentaries. Excellent examples of this, which we expect to make an impact over the next few years, are the Commentaries produced during 2009 on Widening Participation in HE (with HEA), Effective Learning and Teaching in HE (with HEA) and Higher Skills Development, School Assessment (with the Assessment Reform Group). TLRP partnership work during the Director's Fellowship are expected to yield further Commentaries in 2010 on School Pedagogy (with the four UK GTCs), and Lifelong Learning (with NIACE).

The integration of TLRP's substantive outputs into the repositories and web-resources of other organisations has been extensive – high users, in particular, are HEA's Evidence Net, TTRB, EEP and the UK GTCs.

Many relevant user organizations are now aware of TLRP's 'ten principles' for effective teaching and learning and we expect them to provide a future point of reference. For instance, they have been translated into both Welsh and Gaelic and the TDA have indicated an interest in using them in relation to

the Masters in Teaching and Learning. They also now form a core element of the Director's established textbook on Reflective Teaching. As part of the Directors' Fellowship work, UK GTCs have agreed in principle to launch a joint initiative in relation to the application of these principles to pedagogic development. The Director and former Deputy Director will also be publishing a book on these principles. Conceptually and practically therefore, they are an important TLRP legacy.

TLRP's aspiration to apply its findings through sectoral reviews was also developed in partnership with others. It progressed through the Cambridge Review of Primary Education, the Nuffield Foundation's 14-19 Review, co-funded work with the Institute for Employment Research on workplace learning and the NIACE Inquiry into Lifelong Learning. The Director has now been commissioned by the Esmée Fairbairn Foundation to convene leaders of these reviews to consider cross-sectoral linkages and applications in the context of the forthcoming election.

TLRP's sustainability concerns led us to work with organisations which could take on some of the resources, assets or commitments of TLRP into the future. The most important legacy organisation is BERA – selected as the largest professional association for education in the UK. There are many areas where cooperation has been established, including joint capacity building activities and the transfer of much of TLRP's IT infrastructure. Other associations with which we have collaborated closely include SERA and SRHE. We are particularly pleased to have been able, through the Mapping the Ripples report, to distill important insights on capacity building and to have offered them back to the social sciences through NCRM. Organisations such as the HEA, EEP, GTTB, GTC, and LSIS have also taken other TLRP assets with capacity building potential and made them available to their members through their own systems.

Mindful of the focal role which TLRP has informally provided for some years in relation to educational research policy, TLRP led the establishment of the Strategic Forum for Research in Education UK, with ESRC and BERA as core partners. The Forum, chaired by the TLRP Director, involves all UK governments and engages research and user organizations in reviewing country provision in terms of an OECD knowledge management system model. The Forum will report in 2010 and this report is likely, in part, to reflect the insights and experience of TLRP's UK-wide development activities. In terms of posing policy questions about the organization of educational research, SFRE will pass on the baton.

Through these strategies, TLRP has attempted to sustain availability of its specific outputs (in various forms for different audiences), its conceptual, integrated core message on effective teaching and learning, its capacity building understanding and resources, and the opportunity to facilitate strategic UK thinking on educational research. This work is expected to continue to attract international interest and the Director's Fellowship is configured to assist in following this up.

Future research priorities

Capacity for knowledge production, transformation and application in education

There has been real progress in the expertise of education researchers since 2000, but the issues move on. With the parallel growth of evidence-informed policy and practice, questions are raised about the overall effectiveness of the 'knowledge management systems' within the countries of the UK. This is the agenda of the Strategic Forum for Research in Education (www.sfre.ac.uk).

To improve *knowledge production*, education researchers need to continue to explore interdisciplinary working, test new research designs, deepen their quantitative and qualitative expertise, sustain user-engagement and actively use theory to assist in knowledge accumulation, synthesis and redirection.

To improve *impact and knowledge transformation*, many of the initiatives recently piloted by ESRC could helpfully be scaled up and rolled out by other bodies – for example, the encouragement of co-production and other forms of user engagement, the use of journalists to mediate findings and of knowledge transfer fellowships to achieve direct interchange of research and policy. In terms of databases, libraries and other sources of knowledge, despite the efforts of those involved in BEI, C4EO, EEP, TTRB, ARRTS,

ROM, HEA, LSIS, EPPI, NFER, EST etc, the overall service provided to users is incoherent. Whilst a simple, authoritative accessible source of accumulated evidence on education in the manner of the Educational Evidence Centre which NERF once proposed may not be possible, the present plethora of provision is in dire need of coordination in the public interest.

To improve the *application of knowledge*, there are developmental and capacity goals which could be set for those that use, interpret and commission much education research. Such processes often seem relatively unsophisticated and pragmatic, with political or institutional imperatives driving decision making. The accumulation and synthesis of understanding about teaching and learning through TLRP, combined with comparison internationally, suggests that a great deal of practical value is now known about education – though only a proportion of this is directly applied by policy-makers and practitioners. Having said that, there appear to be processes through which, over time, policy and practice do progress in ways which are broad echoes of research-based understanding. The fruits of this ‘percolation of ideas’ appear somewhat unpredictably when favourable circumstances arise. That such circumstances have so much to do with political expediency, is a consequence of our open and democratic society – so the challenge moves to creating more effective means of distilling, communicating and demonstrating within the public domain the value of the knowledge which is available.

Substantive priorities

1. In the view of the Directors’ Team, the major contemporary public concern is the persistence of *inequality and educational under-performance* within contemporary UK societies. Cohort studies clearly document how weak attainment at school is reflected in NEET statistics and in subsequent life-chances. A great deal is already known about these issues in relation to almost all sectors of education. TLRP research reinforces international evidence on the primary role of teachers and teaching in enhancing learning outcomes. Public policy however, continues to focus on reform and development of institutional structures to provide ‘choice’. This rhetoric appears to mask the socially differentiating effects of such policies. A high priority for substantive research may therefore be to investigate why, despite the understanding which exists, more radical policies are not adopted and implemented to address inequality - and to investigate how a coalition of interests to achieve more significant change might be assembled. This is not educational research as such, but the issue clearly demonstrates that aspirations for education (or teaching and learning) cannot be separated from policies for, and circumstances in, society more generally.

Other priorities at the frontier of knowledge can also be identified.

2. A topic with great potential involves interdisciplinary research drawing on neuroscience, psychology and education to provide new insights on learning. However, the TLRP Directors’ Team affirms the concerns which have been expressed in relation to over-simplified public expectations of contemporary developments in, for example, human genomics and neuroscience. It is therefore of great importance that the applied social sciences actively engage with, and mediate as appropriate, new forms of biological research. This priority has been proposed over some years by the TLRP Director and is reflected in ESRC 2009 Strategic Challenge on ‘Understanding Individual Behaviour’.

This topic is not only of considerable scientific interest and importance in terms of the public application of powerful new forms of science. Such interdisciplinary work would also support a further stage of development in the field of education research, providing a focus for realignment with the psychological and biological sciences which have been, historically, significant contributors to educational understanding.