

Teaching and Learning

June 2003 Schools Edition

Teacher learning - vital for pupil learning

First findings from
TLRP research
networks

Mary James, Deputy Programme Director

The first findings emerging from the Teaching and Learning Research Programme show that enhanced learning by pupils is closely bound up with the learning of their teachers. This is the strong message from the accumulated insights of the four research networks now concluding their work. As the articles in this newsletter illustrate, there is evidence of this crucial relationship in a variety of school settings, across stages, subjects and with different pupil groups. There are significant implications for policy and practice.

Four research networks were established as Phase I of the TLRP in 2000 and have been at work for three years. Each comprises three to six linked projects. ESRC funding enabled researchers and practitioners in the projects to form networks and to add value to their individual efforts. Three of the networks focused on aspects of school education: consulting pupils, science teaching and inclusive practice. The fourth investigated aspects of adult education in the work-place, one site for which was secondary schools. In this issue of the Newsletter, members of these networks provide a short account of some of the insights from their work which will be of interest to schools and teachers. Information about more substantial publications and dissemination events is also included for readers who wish to know more. We also include a short piece from Robin Bevan, a deputy headteacher in a secondary school, who has been awarded one of the TLRP's five research training fellowships.



Members of four TLRP networks in discussion

A common theme through all of these accounts is the importance of teachers' willingness and effort to develop their own professional practices through thoughtful examination of their teaching and the learning experiences they provide for pupils. In short, enhanced learning by pupils requires sustained learning by teachers and schools. Sometimes this presents them with serious challenges but, as Robin Bevan calculates, the benefits for pupils can be considerable. In turn this increases teachers' job satisfaction and helps to create a learning culture in schools.

The messages from these networks, and the practical but evidence-based strategies that inform them, are important for both policy-makers and practitioners. Recent government initiatives to support teacher engagement in research in the UK have built on established traditions in many teacher education institutions, local education authorities and professional associations. In England for example, Best Practice Research Scholarships and Networked Learning Communities are increasing the range and scale of practitioner enquiry. The establishment of a National Teacher Research Panel also recognises the significance of research. It met recently to discuss TLRP and its contribution (see below).



The National Teacher Research Panel

However, although school-based research by teachers has been growing, it is also insecure. Quality is sometimes variable, particularly where LEA, higher education or alternative support is unavailable. It is mainly funded on a project basis, rather than as an integral element of national provision, and the commitment of higher education institutions is being undermined by the unintended consequences of university research accountability.

If teacher learning is vital for pupil performance, then opportunities to engage in and with research need to be available in all parts of the UK and throughout teachers' professional careers.

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T·L·R·P
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Pupils learning to talk about teaching and learning

Some findings from the *Consulting Pupils about Teaching and Learning* research network

Helen Demetriou and Jean Rudduck, University of Cambridge, on behalf of the team: Madeleine Arnot, Sara Bragg, Nick Brown, Michael Fielding, Julia Flutter, John MacBeath, Donald McIntyre, Kate Myers, David Pedder, Diane Reay and Beth Wang.

The purpose of this network is to investigate the ways in which pupils can be more directly involved in their learning and to monitor the impact of such consultation.

Schools in the UK are recognising that pupils are the expert witnesses in discussions of learning. Here are three examples, taken from our research data, of ways in which pupils have been engaged in such discussions. Each represents a different approach to talking about learning.

The headteacher of a small primary school developed, over time, a conversational rapport with her combined class of year 5 and 6 pupils. This involved talking to them in lessons about their progress and listening sensitively to their views. She established an adult, non-patronising tone for the conversations. Pupils were increasingly comfortable in talking, individually and collectively, about their successes and their problems and about things that would help them to learn better.

In this school, such conversations had become part of the natural order of things.



Primary headteacher consulting year 6 pupils

In another primary school, consultation was a way of opening up particular problems and consequently was used more sporadically. Here, the starting point was concern about disengagement.

In exploratory discussions pupils identified things that prevented them from doing their best; noise was mentioned most often. The headteacher then invited pupils from each year group to work with him on solving the problem and they came up with a colour-coded 'voice system'. It described voices for different occasions which ranged from pale blue ('We talk only if we really have to so that we don't disturb other people') and red ('We can use this voice to call each other when we are outside'). Copies were printed on cards

and posters. Because this was seen as the pupils' own system, it was easier for them to persuade their peers to respect it.

In our third example a secondary teacher involved her year 11 pupils in planning their work together, although it had taken her a long time to build up their skills of negotiation and their belief in her willingness to trust their judgment.

I've actually handed far more over to them in lessons than I would have done a year ago. I hear myself saying, 'Right, this is what we need to learn in the next nine weeks, this is what you need to revise, these are the number of sessions – what do you think we need to do first? What do we do next?'

However, not all pupils feel able to contribute on equal terms. There are some difficult issues of inclusion and marginalisation and the teachers with whom we are working are having to think these through. Michael Fielding argues that to judge the potential of student voice for change we need to know, not only who is talking and who is listening, but also whether the listening is authentic.

Madeleine Arnot and Diane Reay have investigated which voices actually get heard in the acoustic of the school. Working with teachers in a socially and ethnically diverse school, they found that it was the middle class pupils, especially the girls, who felt that they were listened to, whilst working class pupils felt excluded. They concluded that 'students have widely differing possibilities and potential for social inclusion within schooling. These possibilities relate directly to their social class

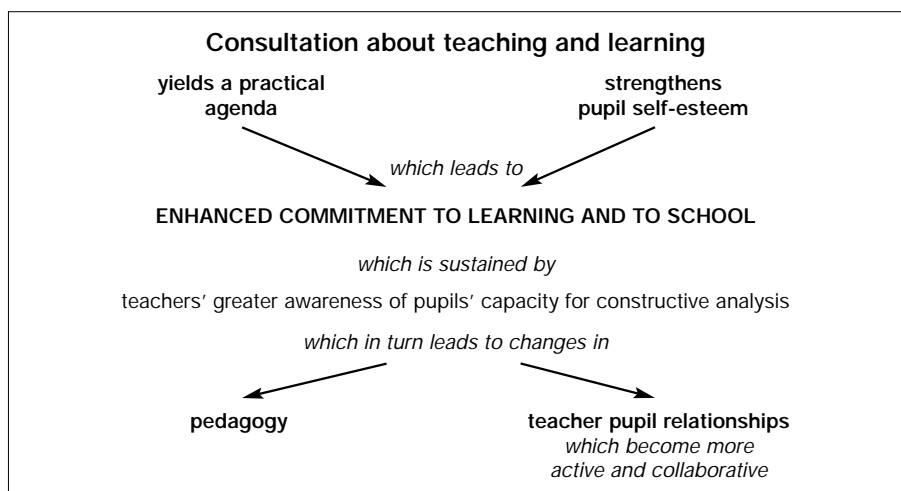
positioning, but are also dependent, to varying degrees, on gender, ability and ethnicity'. Such observations suggest that some voices are often overlooked, with consequences for pupils' self-esteem and for a fair representation of the views of all pupils in the class. Consultation is not just about who in school can speak, when, where and with what authority, but also about what can be said and thought. We have found that the most risky

aspect of consultation is talking not just about learning but about teaching.

Engaging in pupil consultation presents teachers with uncomfortable prospects. There may be concern about being on the receiving end of personal criticism. Anxiety can be allayed by hearing accounts from teachers in other schools who have tried giving pupils a voice, who have survived the experience and become excited by the possibilities it opens up.

Staff that you thought wouldn't ever listen who'd say, 'Fine, yes, but that's not for me' – once they see the students reacting and hear what they're saying (and they may be saying in a lesson, 'Well would you mind if I did that a slightly different way, would that be all right?') they're suddenly thinking, 'Well, maybe they do know what they're talking about'. And that brings more staff in.

Confidence in the process builds up as groups and individuals begin to experience a sense of common purpose and shared responsibility. These teachers have successfully engaged with pupils in discussions of teaching.



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Pupils learning to talk about teaching and learning

We've learned a lot ... about how students rapidly improve in their learning and their self-esteem and their motivation through dialogue with staff, through feeling important, feeling cared for, feeling their views matter. I think it's had a really, really significant effect.

We've had some very clear pointers from students about how they like to learn and I think it's given quite an encouragement to different ways of teaching ... We've modified things or developed things further – and had the courage of our convictions.

Below opposite is a diagram of how we think consultation about learning and teaching works and what it offers.



Secondary pupils working with John MacBeath

On one level consultation enables teachers better to understand what learning is like from the pupil perspective. However, on another level, some schools are managing to make it a two-way process: where pupils understand more about what teaching and learning look like from the teacher's perspective. As one teacher said: *'It only works when you have effective relationships, when there's mutual respect between staff and pupils, when pupils know that we are committed to listening, and when we treat pupils with unconditional positive regard'*

Publications:

- Rudduck, J. and Flutter, J. (2003, in press) *Involving Pupils, Improving Schools*, Continuum.
- Flutter, J. and Rudduck, J. (2003, forthcoming) *Pupil Consultation and Supporting Teachers what's in it for schools?* Routledge/Falmer
- MacBeath, J. Demetriou, H., Rudduck, J. and Myers, K. (2003, in press) *Consulting Pupils: A Toolkit for Teachers*, Pearson Publishing (Books and CD-ROM).
- Fielding, M. and Bragg, S. (2003, forthcoming) *Students as Researchers: Making a Difference*, Pearson Publishing.
- Bragg, S. and Fielding, M. (2003, forthcoming) *Pupil Participation: Building a Whole School Commitment*, Pearson Publishing.
- Arnot, M., McIntyre, D., Pedder, D. and Reay, D. (2003, forthcoming) *Consultation in the Classroom: Pupil Perspectives on Teaching and Learning*, Pearson Publishing.

Forthcoming event:

A conference for policy-makers will be hosted by QCA on 9 July, 2003.

Project website:

www.consultingpupils.co.uk

Research-informed science teaching?

- Some findings from the Evidence-based Practice in Science Education (EPSE) research network

John Leach, Centre for Studies in Science and Mathematics Education, University of Leeds.

The focus of the EPSE network is on how practice might be influenced by research about teaching and learning science.

The science education research literature is rich with evidence about the scientific content that learners find most difficult to understand. However, there are far fewer examples of studies which attempt to understand how insights about learning science might be drawn upon to inform practices such as designing science curricula and teaching materials, or teaching specific topics effectively. This was our aim and we tried to do it in such a way that pupils' learning improved against stated goals.

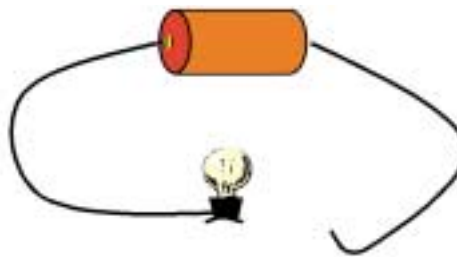
During the Development Phase of the project, we worked with nine secondary school science teachers to develop three short

teaching sequences lasting around six hours. The teaching sequences addressed conceptually demanding areas of the early secondary school science curriculum where both research evidence and practitioner wisdom suggest pupils have difficulties. These are plant nutrition, modelling change in terms of particles, and explaining the behaviour of electrical circuits in terms of a charge-carrying energy model.

The design of the teaching sequences was informed by published research. We drew upon empirical findings about pupils' difficulties in learning the content in question, and upon published accounts of the design and evaluation of teaching addressing this content, to identify specific, detailed teaching goals for lessons. You can find an example of how we did this in Box 1.

BOX 1: Research-informed teaching goals

Have a look at this question:



When the second wire from the battery is connected up to the bulb what will happen?

There is clear research evidence that most people who are not educated in physics – including school pupils – tend to answer assuming a 'source-consumer model': electricity leaves the battery (the source) and travels to the bulb, where some is used up lighting the bulb (the consumer). The remaining unused electricity returns to the battery. You might therefore expect a short delay between connecting the battery and seeing the bulb light. (Some fairly advanced physics students answer in this way, too!)

However, when a circuit like this one is connected, the bulb lights instantaneously. The physics explanation is not based on a simple source-consumer model. One of our teaching goals was therefore to get pupils to recognise that some of their assumptions about the behaviour of electric circuits were not correct, creating the need for a new explanation. The first lesson of the electricity teaching sequence begins with an activity called The BIG Circuit. The teacher prepares a circuit with a bulb at one end of the room and a battery at the other end, with wires stretched right the way around. When asked to predict what will happen when the circuit is connected, many pupils expect a significant time delay before the bulb lights, due to the length of wire involved. This allows the teacher to create amongst pupils the need for a model to explain the instantaneous lighting of the bulb.

[If you want to know how the bulb can possibly light immediately – have a look at the teaching materials on our website or ask a physicist!]

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Research-informed science teaching?

We also drew upon scholarly perspectives on teaching and learning science to plan for different kinds of teacher-pupil talk, for different purposes, at various points in the teaching. You can find an example of how we did this in Box 2.

The design of the teaching sequences was also informed by the professional expertise and wisdom of the nine teachers in the development group, and our own professional expertise as former science teachers.




The nine teachers in the development group then implemented one of the teaching sequences with at least one group of their own pupils. We tested the pupils' understanding of the target content before and after teaching. The teacher also identified another group of pupils in the same school of about the same ability, but taught by a colleague. Those pupils completed the same tests before and after studying a module using the school's usual method of covering the same content. We video-recorded all the lessons, in order to determine the extent to which the lessons as enacted followed the planned approach, in terms of the treatment of conceptual content and the patterns of teacher-pupil talk. Then we interviewed the teachers about their reactions to the teaching.

All the data from the development phase are now analysed. We have fairly convincing evidence that the teaching sequences addressing plant nutrition and electrical circuits resulted in significant improvements in important aspects of pupils' understanding, as measured against stated aims in the national curriculum, compared to the schools' usual approaches. It was not possible to make such a comparison in the case of the teaching sequence addressing particle modelling, due to difficulties in identifying where other pupils in the school studied similar ideas. In any case, some aspects of this teaching sequence did not work in practice in the way that had been planned.

A critic might argue that, given time and effort, a small group of nine teachers working with several researchers on a funded project ought to be able to achieve improvements in learning, compared to their schools' usual approaches. We would have stronger evidence that research-informed teaching sequences can result in learning gains if other teachers, not involved in the design process, could use these and also achieve the same improvements. We are currently investigating whether this can be done. We have restricted this Transfer Phase of the research to the plant nutrition and electrical circuits teaching schemes. We are asking teachers not involved in the design of the materials to attempt to implement them, and collecting similar interview, video and test data as in the development phase. The teachers have no, or minimal, training to support them in their implementation – as this is typical of the circumstances in which teachers usually implement new teaching approaches.

BOX 2: Planning teacher-pupil talk

The sociocultural literature characterises different kinds of classroom talk, and considers their purposes. Drawing upon this literature, we identified three different patterns of talk that teachers might encourage to support pupils' learning. We introduced these in the notes to the teaching materials, then used icons throughout the lesson materials as 'prompts' to teachers:

	The purpose of the talk	How and When it happens
Presenting	 You are introducing or reviewing new ideas relating to the analogy and to the scientific model.	This may be through a presentation by you or by whole-class discussion led by you.
Discussing / probing	 You are finding out about the pupils' ideas and understandings relating to the analogy and to the scientific model.	This may be through asking open questions, "what do you think?" in whole-class or small group situations.
Supporting	 You are supporting the pupils as they talk about their developing ideas, using key questions and offering appropriate responses to their questions.	This is likely to be achieved as the pupils are working on paired or small group activities.

Although data are still being collected and analysed, early indications are that there are statistically significant learning gains by pupils following the implemented teaching, in comparison to pupils following the schools' usual approaches.

National initiatives such as the Key Stage 3 strategy, as well as future developments such as the National Network for Science Learning Centres, place science teacher development at the centre of an agenda to raise standards of science learning. Our evidence supports this emphasis. Although this study is relatively small, the findings suggest that investment in programmes of curriculum development by groups of teachers and researchers, working collaboratively, has a good chance of resulting in improvements in science learners' understanding of difficult conceptual content. We are currently using the classroom and interview data to identify factors that tend to support or impede teachers in developing and adopting teaching approaches that are informed by research evidence. Such insights ought to be helpful in informing a national strategy for the continuing professional development of science teachers.

Note: The Evidence-Based Practice in Science Education Research Network is co-ordinated by Professor Robin Millar (University of York), and involves groups led by Professor John Leach (University of Leeds), Professor Jonathan Osborne (King's College London) and Dr. Mary Ratcliffe (University of Southampton). The Leeds group, whose work underpins this article, includes Jaume Ametller, Andy Hind, John Leach, Jenny Lewis and Phil Scott.

In addition to the work described in this article, the EPSE Network is investigating diagnostic assessment in science, and the teaching of ideas about science. We have also conducted an interview and focus group study of the views of the research-practice interface held by science teachers and other stakeholders in science education. Information about the network, including the teaching materials described in this article and those developed in the other EPSE projects, can be found at the EPSE website (see box).

Publications:

- *Improving Learning in Science: an evidence-based approach to teaching* (working title), RoutledgeFalmer.

Forthcoming events:

The network has arranged a day conference for key policy-makers on 24 June at the Royal Society in London.

The findings will also be presented at Association for Science Education meetings in Bristol, Ormskirk, Guildford and Cambridge.

Project website:

www.york.ac.uk/depts/educ/projs/EPSE

Learning from difference

Some findings from the
*Understanding and
Developing Inclusive
Practices in Schools*
research network

Mel Ainscow and Andy Howe, University of Manchester, on behalf of the network team:
Tony Booth, Alan Dyson, Peter Farrell, Jo Frankham, Frances Gallannaugh, Roy Smith

In March 2003 over 70 representatives of LEAs, schools and universities met for the fourth national conference of the inclusion network. Participants heard about ways of increasing the presence, participation and achievement of pupils in the schools.

Many delegates argued that the current reform agenda can open up possibilities for moving schools in a more inclusive direction. However, some elements of this agenda exacerbate difficulties, through unintended effects of the accountability culture and the fragmentation caused by competing priorities. Delegates talked of the values which sustained their commitment to change in this context. Significantly, increasing the learning and participation of all learners was seen to require wide-ranging and ambitious change: changing practice, changing schools and thus transforming the education system.

Changing practice

Recent years have seen an explosion of publications that make practical suggestions as to how lessons can increase learners' participation. This literature points to techniques that teachers will find useful. However, the experience of schools in the network is that the development of inclusive practice is much more about processes of learning by adults within schools. It is about those within a school working together more effectively, using evidence about existing practices to think about how to address the barriers experienced by some learners.

Teaching is a complex business that involves practitioners in making hundreds of fine adjustments in their lesson plans in the light of the responses of class members. Their plans and decisions are linked to assumptions that are built by groups of colleagues. Becoming more inclusive involves both experimenting with aspects of practice and revising the thinking that underpins these practices. We have found that such changes require the development of a common language with which colleagues can talk to one another about detailed aspects of their practice. Without such a language teachers find it very difficult to experiment with new possibilities. Much of what teachers do, during the intensive encounters that occur in a typical lesson, is carried out at an automatic, intuitive level, involving the use of tacit knowledge. Furthermore there is little time to stop and think. This explains why the opportunity to see how colleagues work is crucial to developing inclusive practice. It is through such shared experiences that colleagues can help one another to articulate what they

currently do and define what they might like to do. It is also the means whereby taken-for-granted assumptions about particular groups of pupils can be subjected to mutual critique.

*Example:
Observing practice*

Observing practice has been a key to challenging assumptions about children's abilities. In one school, an adviser provided training on 'thinking skills approaches', modelling approaches alongside teachers in their classrooms. As a result, the teachers introduced a series of techniques for helping children to organise their thoughts in foundation subjects. Teachers in the same school were also enthusiastic about using drama techniques that a colleague from a local secondary school had demonstrated in their classrooms. In addition to bringing about improvements in writing, teachers found that these new approaches offered an alternative route to success for children whose abilities might not otherwise be recognised.

We have identified certain ways of engaging with evidence that seem to be helpful in encouraging such dialogue. Our observation is that these can help to create space for reappraisal and rethinking by interrupting existing discourses, and by focusing attention on overlooked possibilities for moving practice forward. These approaches include:

- Mutual observation of classroom practices, followed by structured discussion of what happened;
- Group discussion of a video recording of one colleague teaching;
- Data from interviews with pupils

We have found that under certain conditions approaches such as these can provide 'interruptions' that help to 'make the familiar unfamiliar' in ways that stimulate self-questioning, creativity and action.

*Example:
Listening to children*

A primary school focused on the poor performance of boys. The recently-introduced circle group sessions provided opportunities to learn more about pupils' perspectives. The results confirmed anxieties about boys, when, for example, six boys and one girl in a Year 1 circle indicated that they did not like reading. One teacher noted: 'That's amazing isn't it, in Year 1, that they don't like reading... I

think that's disturbing, really... it's not natural for a five year old'. Another member of staff commented of circle time: 'I get a lot out of it with my children... To get to know the children well and to get the children to talk. On the social side, to get to know their problems...'

Changing schools

The research carried out in the network indicates that, although these kinds of actions may create space and encourage discussion, they are not in themselves straightforward mechanisms for the development of more inclusive practices. The space that is created may be filled according to conflicting agendas, as a result of pressures to 'drive up standards'. We have also found that deeply held beliefs within a school can prevent the experimentation that is necessary in order to foster the development of more inclusive ways of working. So, for example, at the end of a lesson in a secondary school during which there was a very low level of participation, the teacher explained what had happened with reference to the fact that most of the class were on the special educational needs register.

Faced by such explanations it is necessary to question the assumption that some students are incapable of learning, or that they require a different form of teaching from that offered to the majority of students. The experience of schools in the network is that through such assumptions, leading to a search for separate arrangements for children perceived as different, vast opportunities for the development of more inclusive practices may be overlooked. Expectations are vital. It is important, therefore, to develop capacity to reveal and challenge deeply entrenched deficit views of 'difference', which define certain types of pupils as 'lacking something'. Specifically, it is necessary to be vigilant in scrutinising how deficit assumptions may be influencing perceptions of pupils. All of this draws attention to the importance of school leaders encouraging their colleagues to gather and interpret information to create an open and inquiring stance. Such a stance can provide a challenge to assumptions about teaching and learning.

Determining impact

In almost all of the schools in the Network there is strong evidence that attempts to foster inclusive practice have been associated with significant improvements in achievement, as measured by test and examination results.

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Learning from difference

At the same time, involvement in these activities has encouraged a broadening in the concept of outcomes beyond the confines of narrow performance measures.

*Example:
Checking the outcomes*

The impact of the initiative on learning in one school was apparent in the most recent national test results for KS2, where writing scores had matched those for reading for the first time. The greatest impact had been on a particular group of underachieving children. The headteacher's view was that this was because they were the ones in whom the project had managed to 'unlock some flair that wasn't apparent'. At the same time, there was an increase in the number of children achieving level 5 in writing. The success of

the project in improving outcomes was said to hinge on the effect that implementing new approaches had had on children's attitudes to learning.

Comparing conversations between staff at different stages in the life of the network shows that a culture of critical reflection has developed in most of the schools. There is strong evidence, for example, that questions from other teachers in the course of school-to-school visits have fostered this commitment to self-questioning. As a result, many teachers are more enthusiastic and confident in the value of asking questions about outcomes for pupils, and about involvement in working out how their school can be organised better to promote learning and the learning of their pupils. One headteacher summed up these changes when he commented:
Before this project we spent too much time talking about how certain children could be moved somewhere else; now we talk about what else we might do to help the child learn.

Publications:

- David Fulton, *Frameworks for Inclusive Learning* (working title)
- *Improving Learning through Inclusive Practice* (working title), RoutledgeFalmer

Forthcoming events:

Conference in Bolton, 2 July, 2003: *Making Classroom Support Effective in Mainstream Schools.*
Conference for policy-makers in the Autumn in London.

Project website: www.man.ac.uk/include

TLRP's work goes on

The findings reported in this newsletter come from the first phase of four networks within the TLRP. They started in 2000 and will be sharing their results with practitioners, policy-makers, journalists and the public generally through 2003/4. Each will be summarising their work within the Programme's book series, *Improving Learning*, published by RoutledgeFalmer.

Whilst some projects are starting to report their results, others are deep into their work. With the help of many research users, Phase II projects are busy gathering and analysing new evidence. Topics include literacy, numeracy, home-school, group-work, ICT, thinking skills and learning to learn. However, many other cross-cutting issues come up when project teams share their work together and this adds significant value to the Programme.



The TLRP steering committee at work (Left: Vice-chair, Professor Sally Brown. Right: Chair, Professor Sir David Watson)



Teachers and researchers from four TLRP projects meet

Sixteen new projects are also about to start. Four of these have been funded to extend existing TLRP work in the Scottish context. Twelve other teams have come through a gruelling process of selection to secure the opportunity to work on various aspects of post-16, further, higher, adult, workplace, continuing and lifelong education. From 256 initial applications, this was a significant achievement. We should also pay warm tribute to all those research teams who offered so many excellent ideas for inclusion in the Programme, but who could not be funded from the available resources.

The photograph above shows the TLRP's steering committee about to begin the final selection process. Most of these new projects will not make their final reports until 2007/8, though we will no doubt hear from them before then.

Visit the TLRP website for information on new projects...
www.tlrp.org

Expanding learning environments for secondary school-teachers'

Some findings from the *Improving Incentives to Learning in the Workplace* research network

Heather Hodkinson and Phil Hodkinson, The Lifelong Learning Institute, University of Leeds

Government approaches to teacher learning are often designed to impact on teachers as individual learners, and focused on meeting predetermined targets. Our findings, from a network project on 'The School as a Site for Work-based Learning' highlight the value of an alternative strategy. We suggest the creation of more expansive learning environments.

Though courses can be valuable, most teachers' learning takes place through their everyday work. If we wish to improve that learning, we have to enhance the practices that influence it. They include:

- Judgement-making about preparation, teaching and assessment
- Observation and role modelling
- Collaboration
- Working with student teachers
- Using books and teaching materials
- Meeting external challenges (for instance curriculum or assessment change)
- External examining
- Seeking creative ideas, inside and outside school
- Deliberately seeking new skills.
- Long and short courses

Our findings indicate that two main factors affected which teachers engaged in which learning practices. First, individual teachers had their own ways of working, linked to their values and beliefs as teachers and as subject specialists, developed over their careers. Secondly, the department to which they belonged made a big difference. Two of the four departments we studied were strongly collaborative, whilst two were much more individualist. In one case, there was an explicit focus on teacher learning, led by the head of department. In another, a lack of internal collaboration was balanced, for some teachers, by networking with teachers from other parts of the school. The concept of learning environments, which can be more expansive or more restrictive, helps utilise the interrelationships between these and other factors, to improve teacher learning.

Constructing more expansive learning environments improves teachers' learning by enhancing their opportunities to learn, rather than imposing and controlling specific learning activities. This enhancement should be based

Expansive and Restrictive Learning Environments for Teachers (This is based on work by Fuller and Unwin, in a linked network project on apprenticeship.)	
< Expansive	Restrictive >
Close collaborative working with colleagues	Isolated, individualist working
Out of school educational opportunities, including time to stand back, reflect and think differently	No out of school educational opportunities, only narrow, short training programmes
An explicit focus on teacher learning, as a dimension of normal working practices	No explicit focus on teacher learning, except to meet crises or imposed initiatives
Supported opportunities for personal development, beyond school or DfES priorities	Teacher learning dominated by government and school agendas
Colleagues mutually supportive in enhancing teacher learning	Colleagues obstruct or do not support each-others' learning
Opportunities to engage with other working groups, inside and outside the school	Work restricted to departmental teams, within one school
Opportunity to extend professional identity through experience in other departments, school activities and schools	Such opportunities only come with a major change of job
Support for variations in ways of working and learning, for different teachers and departments	Standardised approaches to teacher learning are prescribed and imposed
Teacher disposed to use a wide range of learning approaches	Teacher only disposed to use narrow range of learning approaches

upon the recognition of what teachers want, need and would respond to positively, in a particular department or school. Such approaches are likely to have a variable impact, for changes will affect different teachers and departments in different ways, and will produce a range of responses. Our research shows that all efforts to improve teacher learning impact unevenly, across schools, departments and individual teachers. We need to accept that as a reality and develop provision accordingly.

The advantage of supporting teacher learning through expansive learning environments is that new practices are more authentic, embedded and sustainable.

Note: Further details of this research can be obtained from Heather Hodkinson, School of Continuing Education, University of Leeds, Leeds, LS2 9JT; tel: 0113 343 3598; email: h.d.hodkinson@leeds.ac.uk.

Forthcoming Publications:

- *Improving Workplace Learning*, RoutledgeFalmer.
- Hodkinson, p. and Hodkinson, H (in press). 'Individual, communities of practice and the policy context: school teachers' learning in their workplace', *Studies in Continuing Education*.

Forthcoming events:

A one-day event for key policy-makers will be co-hosted by the DfES and ESRC in early September.

TLRP Research Training Fellow: Robin Bevan

An account from one of the TRLP's five research training fellows: practitioners studying for higher degrees in association with a TLRP Project.

To a practising educational professional (in my case a secondary school deputy headteacher) a profound tension always arises from the pressures of the job. There is a requirement to sustain the best of what is currently done in schools. There is an imperative to innovate: to bring approaches that are fresh, original and pertinent. There is a necessity to constrain: not everything can, will or should be done!

How might the senior practitioner respond? Ill-informed judgements lead to schools sustaining all manner of poor practices – often characterised by short-term gains and long-term loss of learning. New initiatives are embraced because they are new, or required: accepted and discarded as novelties or imposed on reluctant teachers, whose instincts are often well attuned to the value (or otherwise) of a new development. The senior manager becomes swamped: unable to judge what is effective, appropriate, and necessary.



The role of educational research as applied to live educational settings is clear. It allows informed recognition of best practice, so that schools can identify what should be preserved and what is ultimately worthless. The process of innovation becomes rooted in 'what is known', and proceeds on the basis of continuous reflective evaluation, not blind implementation and delivery. The capacity to determine what needs to be done, what can be done, and what should be done, emerges from an understanding of the factors that give rise to effective influences in education.

No-one asserts that one tightly-focused educational research project provides all the answers to every question posed by practitioners in their work. The claim is a softer one. Each project which infuses the work of practitioners - and this is the essential test - allows teachers to progressively modify their practice. In a typical secondary school, if the deputy headteacher becomes aware of the issues affecting lessons in his school, and is conversant with what is known from research about best responses, the impact is considerable. A typical teacher will teach 1,000 lessons in each year of employment. If

the insights of educational research give rise to marginal changes spread over ten years of twenty teachers' work, in one school, 200,000 lessons will have been enhanced.

As a Research Training Fellow (RTF) with the Teaching & Learning Research Programme the previous paragraph is my story. The funding has allowed me to maintain my current employment (with some modified duties), to remain primarily a practitioner, and to begin to undertake a specific PhD research project. The process has already led to the more explicit articulation of good classroom practice in my own school, and has been drawn upon in providing highly-rated inset training on assessment to sixty teachers from ten neighbouring secondary schools. As the project unfolds, the specific benefits arising from the use of concept-mapping software will begin to take hold. It is a mistake, however, to see the benefits solely in terms of the defined project outcomes. Involvement as a RTF allows me to offer better advice to colleagues, and to make better judgements regarding our future plans as a school. These are permanent benefits that will carry through the next 25 years of my anticipated professional career.

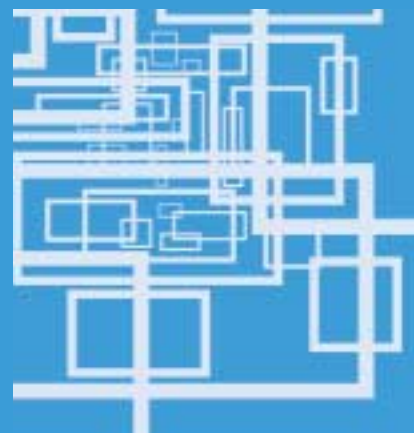
It is however a challenge to fit it all in. There is no doubt that the competing pressures of school work, of RTF study, and of TLRP involvement are substantial. This is the inevitable *quid pro quo* of being funded at an appropriate level. Few opportunities for educational research recognise the long-term benefits, and so they offer low-level funding on the grounds that someone else will do it! The RTF initiative represents a landmark change, recognising the true financial cost of involving practitioners and in bridging the gap between higher education and school communities.

As the programme moves forward to embrace a broader constituency, the long-term benefits must be measured across the thousands of lessons that will be enhanced.

Note: Robin Bevan's project (2002-2006) is entitled: *From Black Boxes to Glass Boxes: Computerised Concept Mapping in Schools*. His email is: RBevan@kegs.org.uk His work is associated with the Phase II project *Learning how to Learn - in classrooms, schools and networks*.

Associated website:
www.learn-to-learn.ac.uk

Teaching and Learning Research Programme



TLRP is the largest education research programme in the UK, and benefits from research teams and funding contributions from England, Northern Ireland, Scotland and Wales. Projects began in 2000 and will continue to 2007/8 – with dissemination and impact work extending through 2008/9.

Learning: TLRP's overarching aim is to improve outcomes for learners of all ages in teaching and learning contexts within 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.

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

Expertise: TLRP works to enhance capacity for all forms of research on teaching and learning, and for research-informed policy and practice.

Improvement: TLRP develops the knowledge base on teaching and learning and collaborates with users to transform this into effective policy and practice in the UK.

TLRP is managed by the Economic and Social Research Council. Its research mission is to advance knowledge and to promote its use to enhance the quality of life, develop policy and practice and strengthen economic competitiveness. ESRC is guided by principles of quality, relevance and independence.

TLRP Directors' Team

Professor Andrew Pollard ■ Cambridge
Dr Mary James ■ Cambridge
Dr Kathryn Ecclestone ■ Newcastle
Dr Alan Brown ■ Warwick
John Siraj-Blatchford ■ Cambridge

TLRP Programme Office

Dr Lynne Blanchfield ■ Lsb32@cam.ac.uk
Suzanne Fletcher ■ sf207@cam.ac.uk

TLRP

University of Cambridge
Faculty of Education
Shaftesbury Road
Cambridge CB2 2BX UK

Tel: +44 (0)1223 369631
Fax: +44 (0)1223 324421

