NERF Bulletin
Evidence for Teaching and Learning

Issue 1 - Summer 2004

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Using Evidence to Inform Practice

How do teachers know that what they are doing will work?

Even if our students are learning well, might they do even better if we tried out new approaches? We would all like to think that our GPs, nurses and consultants act on the best evidence of what works to treat our particular ailments, and many of them do. Yet how many of us in all phases of education base our practice on good evidence?

There are some things we can learn from medicine but in education we *know* we have a much tougher job interpreting and applying evidence in practice. Teachers and lecturers aren't dealing with just one patient at a time but with large groups of students who affect each others' learning – all with different needs and all at the same time. Researchers have the luxury of freezing the frame and looking at particular parts of this mix. Teachers have to interact with it all dynamically and quickly. So research evidence is only one kind of knowledge and it has to be integrated with our own, equally important, practical skills and knowledge.

Eight years ago one of the top educationists in the UK, David Hargreaves, said that a lot of education research was second-rate and irrelevant to practice. That may have been fair comment then; in 1994, only 24% of education research focused on teaching and learning. But there were some good studies around then and there are more today.

If we look hard enough we *can* find evidence about effective interventions in a whole range of different fields of education. In the past few years, especially, more and more research *reviews* have been looking for really hard evidence about what works in education.

That's what this journal will be doing: we'll be doing the looking (and offering tips on where and how you can look, too) and testing (to see just how reliable the evidence is) the educational issues and topics you have said you want to know more about. Evidence comes in different formats too. We can learn a lot from statistics. Have a look, for example, at the ones on page 8; and at the pointers to the growing sources of student and teacher data. Finding our way around all these can be tricky, so our aim is to help you navigate and enjoy getting to grips with research.

How can you start to use some of the evidence in this bulletin?

You can:

- **use the evidence to support new initiatives.** "I've been trying to persuade my head to introduce peer observation in our school for ages. Now I've got some proof that it can help us in our teaching and raise our students' achievement." (Secondary CPD co-ordinator)

  OR

- **use the links to find out about the classroom processes in more detail.** For example, to find out how effective literacy teachers put their practices to work with real students in real classrooms, you could check out the GTCE Research of the Month (ROM) website (see page 12) for a much more detailed summary of the evidence. There are links to this website and to The Research Informed Practice Site (TRIPS) (also on page 12) throughout the bulletin.

  OR

- **see if what you do already is supported by evidence of what works.** "I knew most of the stuff about literacy teaching anyway – but it was good to have what I do intuitively spelled out and confirmed by research as good practice." (Primary school teacher)

  OR

- **think about what isn't working.** There is evidence of too little diagnosis of students' misconceptions and errors in numeracy teaching for example. If mistakes are getting in the way of formative assessment, you could brainstorm with colleagues how to use students' misconceptions as a potential building block for developing better strategies. Positive and thoughtful responses to students' mistakes can stimulate sustained classroom conversations about the range of possible explanations for incorrect answers and the range of possible strategies for reaching the right one.
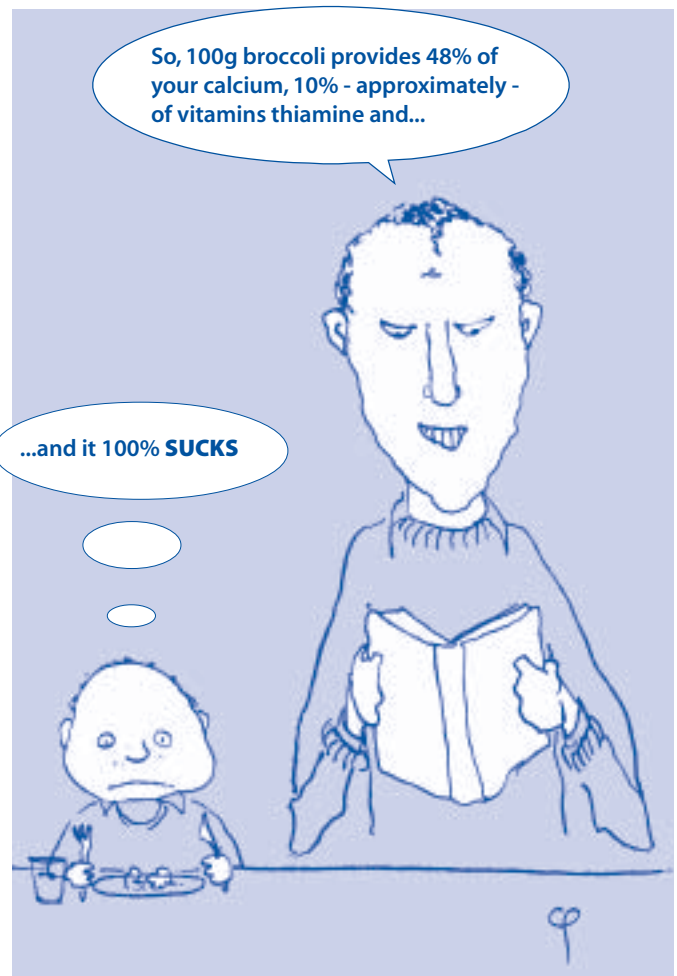
This bulletin is published by the National Educational Research Forum (NERF) for professionals working with learners from the very young to adults. The aim is to enable people from all phases of education to inform their practice with sound evidence. Its success will depend on its value for practitioners. To make sure it covers the right topics and is helpful, your thoughts are needed. You can contact the editorial team with ideas for future topics or different types of article by emailing info@nerf-uk.org

Behind the hype

When does ICT really make a difference to learning?

The more Information and Communication Technology (ICT) equipment is poured into schools, colleges and universities, the better the students will learn. At least that's what we have been hearing for some years now. ICT evangelists have even been predicting the eclipse of teachers and lecturers by computers as if all teachers do is stand in front of a class and talk at students. Then there's the school of thought that argues that teachers are dinosaurs – reluctant to use ICT because they are suspicious about anything new. There is a heap of so-called research that makes large claims about the benefits of ICT which just don't hold up – when you look closely. This research contains very little hard evidence about impact on students

The truth is, of course, much more complicated. A recent review of ICT research and student learning found cumulative evidence that ICT can have a positive impact on students' learning and attainment across the curriculum and with all age ranges. The review also tells us (what most of us knew intuitively anyway) that simply having and using computers in school will not guarantee improved student learning. The research evidence suggests that it is how ICT is used by students and teachers that can make the difference – and that, yes, the teacher does have a critical role to play.

The review found that:

- using computers in a structured way can encourage students to spend more time on tasks, so they get more practice and engage more with an activity;

- the automatic processing power of computers can be harnessed for better matching of tasks to students' individual learning needs;

- ICT is a powerful medium for presenting or representing information in different ways - through different forms (text, pictures, tables and graphs etc), by enabling changes to be shown dynamically (such as mathematical modelling) or by helping students visualise processes (such as scientific simulations); and

- students can learn from the feedback they receive from the computer, for example, voice input and text feedback can improve students' reading and writing.

But the review also found that many of the ways in which ICT is very commonly used do not increase learning because they are inappropriate or superficial. Such tasks include using computers for low level thinking tasks, like typing out a 'best copy', or drill and practice activities which just encourage students to 'win' the game without understanding how.

Here's where the teacher comes in:

The evidence suggests that ICT resulted in increased student learning when teachers:

- used ICT to teach students how to interact with each other and work collaboratively around a common focus so that effective learning could take place. Using ICT to promote discussion has been found to develop a range of approaches to students' thinking (mathematical and higher order thinking, reasoning and conceptual change in science) together with creativity (through e.g. LOGO programming);

- used computers as tools to help students make changes to their work and evaluate the effect of the changes. Manipulating text in word processing packages, experimenting with numbers in spreadsheets or exploring the effects of changing data in tables on the shape of graphs, are

all practical examples of effective ways of helping students to understand patterns and consequences and to achieve control over work through use of technology. In particular, experiencing the effects of such change quickly provides a context for effective discussion which can help students to develop mathematical understanding, picture scientific ideas or to develop conceptual understanding;

- monitored feedback provided by the computer, to ensure students had the information they needed to take the next steps. For example, in mathematics tutoring programs, although efficient computer feedback is usually given as to the number of correct responses, this type of feedback does not help the students to correct their errors other than by trying again. Effective, formative feedback requires the teacher to intervene to complement automatic assessments made by the computer;

- gave students experience of a range of ICT resources and applications –but at the same time widened the scope for learning. For example, by using word processors to teach ICT skills alongside writing skills such as editing/redrafting;

- planned an intervention using ICT that targeted a particular area of learning, such as using talking books to improve the phonological awareness of beginning/new readers; and

- helped students make connections between the learning they did with ICT and learning in other situations, so that the learning did not occur in isolation.

Whether ICT can become an effective learning tool for students depends on the way in which the teacher selects and organises the available ICT resources, the level of guidance and intervention given to students and the level to which ICT is integrated into teaching. In other words, computers cannot usurp the teacher's role; rather, like students, they need to be complemented by the skill of a teacher to realise their full potential.

How do we know this?

This review of UK research was undertaken in 2003. Evidence for the review was drawn from a range of sources, including 200 research reports and articles reviewed for the Teacher Training Agency in 2003, 215 articles and reports selected from the British Education Index and ERIC (a US database of educational research) published since 1999, and the database of articles collected for the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI Centre) systematic review of the impact of thinking skills programmes and approaches on teaching and learning.

Higgins, S. (2003) *Does ICT improve learning and teaching in schools?* British Educational Research Association

Jargon Buster

Information and Communication Technology (ICT): *this refers to the integrated use of computers and communications facilities such as the Internet, email, CD-ROMs and video-conferencing within the curriculum to support teaching and learning.*

LOGO: *this is a simple computer programming language which was developed originally as a teaching tool. It is noted for its ease of use and graphics capabilities. Logo is not limited to any particular topic or subject area. However, it is most useful for exploring mathematics.*

The Numbers Game

Is numeracy teaching better than it used to be?

The Tomlinson report this February painted a grim picture of our students' basic numeracy (and literacy) skills despite good A-level grades. Yet there is some evidence that numeracy teaching is now increasingly adopting the characteristics which researchers have found to enhance student learning effectively.

Back in 1997, prior to the implementation of the National Numeracy Strategy (NNS), a research study identified what made some teachers of numeracy – teachers whose classes made greater gains in numeracy – more effective than others. Highly effective teachers were found to be those who:

- made the development of mental skills a high priority;

- connected different areas of maths and different ideas in the same area of maths;

- regarded it as important that students were aware of different methods of calculation and used the most efficient method for the problem in hand;

- used students' descriptions of their methods and their reasoning to help establish and emphasise connections and address misconceptions;

- ensured all students were challenged and stretched, not just the more able;

- encouraged purposeful discussion in whole classes, small groups or with individual students;

- used a variety of different assessment and recording methods to monitor students' progress to inform planning and teaching; and

- had a good subject knowledge gained from extended mathematics-focused continuing professional development (CPD).

Several years later, in 2002, as secondary schools were beginning to get to grips with the Key Stage 3 Strategy; Ofsted published its fourth report on the impact of the NNS, which was introduced in 1999. They found evidence that many improved features of teaching had accompanied the 15% increase in students reaching Level 4 or above (from 58% to 73%) in the national curriculum tests between 1999 and 2002. Then came evidence from a wide-ranging review of research into numeracy teaching, published only last year, which suggests that teaching numeracy has indeed improved substantially – many teachers have changed their practices as a result of the introduction of the NNS and believe that their own learning has been positively affected by the training provided.

The improvements which Ofsted noted include:

- developing students' swift recall of number facts and effective questioning to encourage them to explain their calculations during the oral and mental starter activity;

- using a variety of approaches for whole class teaching, for example demonstrating and questioning, and providing opportunities for students to listen to and discuss contributions to the lesson;

- maintaining the momentum of the lesson for all students, summarising learning and consolidating students' understanding;

- matching tasks and the composition of groups carefully to students' needs;

- improved continuity in teaching and progression in students' learning;

- students understanding their strengths and weaknesses better and the progress they are making; and

- teachers' increased subject knowledge and their recognition of the links between topics.

Some of the findings in the original numeracy research about effective teachers and the improvements identified by Ofsted are very similar. Both studies highlight the importance of mental skills and strategies for supporting these; of matching tasks to students' needs in order to ensure challenge; of good use of assessment to secure a deep understanding of students' existing learning in order to plan subsequent teaching and learning steps; and, finally, of the importance of good subject knowledge and of the connections between different areas of mathematics. Both studies also emphasise the importance of meaningful whole-class discussion. The first study also offers a more detailed explanation of the strategies that were important in improving continuity through its emphasis on building on students' descriptions of their methods and reasoning.

This doesn't mean that there's no scope for further improvement. There is still a wide gap between the highest and lowest attainers according to a 2003 British Educational Research Association (BERA) research review. The Ofsted report also found insufficient improvement in some aspects of teaching, such as assessment and monitoring of students' progress – which were highlighted as important in the 1997 research. Too little diagnosis and resolution of students' misconceptions and errors occur. Teachers have difficulty in identifying what groups of students need to learn to overcome their difficulties and in teaching topics in alternative ways when students show a lack of understanding. So, while the evidence does seem to suggest that we now identify and apply effective numeracy teaching strategies better than we used to, we still have some way to go. It will be interesting to follow the first cohort of NNS students through to A-level to see whether the evidence of improvements in teaching is reflected in better basic numeracy levels than those which Tomlinson found.

How do we know this?

This article draws on three different sources of evidence:

- an empirical research study involving data collected through questionnaires, classroom observations, interviews and student test results;

- an HMI inspection of a sample of schools, classroom observations, discussions in schools and LEAs, inspection of training and telephone survey of 50 head teachers; complemented by analysis of the performance in national tests (provided by QCA) by NFER of a representative sample of students; and

- an interpretative review of reliable and accessible British research on numeracy teaching undertaken for the British Educational Research Association (BERA).

Askew, M., Brown, M., Rhodes, V., Wiliam, D. & Johnson, D. (1997) *Effective teachers of numeracy. Final report*. London; King's College London.

Ofsted (2002) *The National Numeracy Strategy: the first three years 1999-2002.*
http://www.ofsted.gov.uk/publications/docs/3048.pdf

Askew, M. & Brown, M. (2003) *How do we teach children to be numerate?* BERA Professional User Review.

'Effective teachers of numeracy' is featured on the GTC Research of the Month web site at: *http://www.gtce.org.uk/research/numeracyhome.asp*
You can also access the research digest *'Effective Classroom Organisation in Primary Schools: Mathematics'* on the TRIPS website at: *http://www.standards.dfes.gov.uk/research/digests/FriNov11552362002/?view=amzRsStandard*

Why do some children achieve so much less than others? Understanding the Socio-Economic Group (SEG) achievement gap:

Children from disadvantaged social backgrounds, with lower family income, social class or parental education, achieve less educationally than their more advantaged peers. The gap starts as early as 22 months and many children never catch up. By Year 11, 77% of children from "higher professional" backgrounds have achieved 5+ GCSEs grades A*-C, compared with only 32% of children from "routine" (lower income and lower parental education) backgrounds. The SEG gap actually continues to widen at post-16. According to government researchers this reproduces wider economic, cultural and social inequalities, but it is a product of both the education system and wider society.

Parenting, locality and housing are all important factors, but what can nurseries, schools and colleges do?

Some school processes impact on the SEG gap indirectly by widening the gap between low- and high-attaining students – often through low expectations of low-SEG students. Some studies have found that teaching methods are more "suited" to high-SEG or high-attaining students, than to low-SEG or low-attaining students. Others have argued that the curriculum is better matched to the knowledge, skills and interests of high-SEG and high-attaining students. Research has also found that pupil grouping, or setting and streaming, increased the attainment of students in high-ability groups, but reduced the attainment of students in low-ability groups, with little change in average attainment.

Can nurseries, schools and colleges do more to specifically identify and target low SEG children and students? For example, should we be doing more to help parents and carers identify the kinds of activities that can aid their children's pre-school development, such as library visits, reading stories, joining in with their children's pretend play, listening and talking with their children and developing their mathematical understanding?

News source: Feinstein, L. (2003) Inequality in the early cognitive development of British children in the 1970 cohort. *Economica* 70: 73-97. You can find a digest of this article at: *http://www.standards.dfes.gov.uk/research/*

Learning Styles

People are interested and keen to respect their students' learning styles; do we know what to do about it?

A major review into students' learning styles has found evidence of widespread 'conceptual confusion' and a proliferation of different strategies; but the researchers found most of the evidence about their effectiveness to be weak and unreliable. They listed "no less than 13 dichotomies" – (verbalisers v imagers; activists v reflectors; left brainers v right brainers). On the plus side, they found that learning styles can act as an agent for broader change:

Open ended dialogue between tutors and students may begin by identifying forms of support (e.g. study skills) and could lead on to a discussion of curriculum and assessment. If this encourages tutors to discuss among themselves how they can improve students' approaches to learning, then the door is open for course teams,

initial teacher trainers and continuing professional developers to use the topic of learning as a springboard for broader cultural change within the organisation.

Faced with "this panoply of possible interventions" the researchers point to recent research which shows that 'individualisation' (a government favourite) has an effect size of 0.14, while feedback or reinforcement has an effect size of 1.13. (This is a big difference – see the jargon buster for an explanation of effect size.) They conclude that it would be sensible to concentrate on those interventions which are known to be effective, so that policy and practice can be informed by research "rather than personal preference or political dogma".

News source: Coffield, F., Moseley, D., Hall, E. & Ecclestone, K. et al (2004) *Learning Styles for Post-16 Learners. What do we know? A summary of the report to the Learning and Skills Research Centre*. University of Newcastle. *http://www.lsda.org.uk/files/pdf/Unplearnstylespost16.pdf*

You can take kinaesthetic learning a bit *too* far...

Jargon Buster

Effect size: *Effect size measures provide a standardised index of how much impact interventions actually have. The measure is not a significance test, (in other words it does not identify whether there is a difference or not) it tells us whether the difference is small or big.*

Socio-Economic Groups: *Until 2001, the UK had two official socio-economic classifications,* **Social Class based on Occupations (SC)** *and* **Socio-Economic Groups (SEG),** *each was based on different principles. These were replaced in 2001 by a new, occupationally-based National Statistics Socio-economic Classification (NS-SEC). In the study reported above, the children were classified into three socio-economic status categories on the basis of their parents' occupation. For a glossary of commonly used terms in socio-economic classifications, visit:* **http://www.statistics.gov.uk/methods_quality/ns_sec/glossary.asp#seg**

Child-Adult Interaction

What do we know about effective early learning activities?

Over-structured and unimaginative or a springboard for learning? These polar opposites characterise much of the debate about approaches to structure and play for early learning. This dispute may now be settled by a recent study which uses evidence from a large-scale multi-faceted and long term research project to examine the most effective methods of supporting early years development. It suggests that young children achieve best where there is complementary provision for cognitive and social development. There is much in this research to engage those in FE and HE with interests in nursery nurse and teaching assistant training – and, of course, a range of early years practitioners.

The researchers were looking to see what constituted effective pedagogy. In terms of early learning this was taken to include not only the art or science of teaching, but the provision of learning environments for play or learning. While concluding that there was no one form of effective pedagogy, the study found that a prerequisite to extending children's thinking effectively was the existence of specific child-adult interactions described as 'sustained shared thinking' or 'joint involvement episodes'. Here children and adults interacted together – often quite informally - to solve a problem or extend understanding or imagination. It was important that both the adult and the child contributed to the learning process, though not necessarily in equal fashion, or to an equal extent. The aim was to increase 'cognitive challenge'.

The researchers found that activities involving high cognitive challenge were those:

- where child activity was novel, creative, imaginative, productive;

- where a combination of several elements of materials, ideas or actions was involved;

- which were carried out in a systematic, planned and purposeful manner;

- which were structured and goal-directed; and

- where the child was deeply engrossed.

Effective interaction:

Teacher *What's this?*

Child *Teatime*

Teacher *Can I join in?*

Child *Yes*

Teacher *What's for dinner?*

Child *Spaghetti*

Teacher *What kind – long or short?*

Child *Short*

Teacher *I'll have a little*

Child *Would you like a yellow plate? What else would you like?*

Teacher *An egg please*

Missed opportunity:

Girl *Volcanoes are a bit scary*

Teacher *They're not very nice are they!*

End of interaction

The study found that:

- intellectual gains in children were promoted through conversations where adult and child co-construct or co-develop an idea or activity;

- the highest proportion of sustained shared thinking occurred during literacy and mathematics activities;

- in the most effective settings children spent about half their time in freely chosen play activities. Here sustained, shared thinking occurred when staff got directly involved in the children's play and stimulated their imagination by open questioning;

- many effective learning episodes were initiated by children rather than adults (pedagogical effectiveness may be child-initiated);

- adults should use their involvement with children in a planned and focused way to encourage shared thinking: in the most effective settings staff-members intervened to extend child-initiated interactions, enhancing the level of cognitive challenge experienced by the child; and

- while open-ended questioning was associated with better cognitive development, it made up only 5.1% of questioning used in even the most effective settings.

Unsurprisingly, the research found that sustained shared thinking was most effective when also encouraged in the home environment. Because children tended to ask questions, initiate interactions and seek information more readily at home than at school, better development of thinking skills occurred consistently in the pre-school environments that encouraged continuity of learning between home and pre-school.

This study found that in a pre-school setting, the more highly qualified staff were the most effective early years' educators. However – significantly - it found that when less qualified staff worked with more qualified colleagues, they were significantly better at producing 'sustained shared thinking' than when they worked alone or with similarly less qualified colleagues.

How do we know this?

This is a report of a single study rather than a synthesis because of the extensive range and quality of evidence provided.

The study drew on the five year longitudinal Effective Provision of Pre-school Education (EPPE) study (***http://www.ioe.ac.uk/cdl/eppe/***) which identifies 'value-added' in children's early developmental progress. In-depth case studies, systematic observations, interviews, and focus group discussions were used to document effective pedagogical practices and illustrate their use in 14 Foundation stage settings identified by EPPE as being ones where children made more developmental progress than was predicted by pre-school entry assessment. These were LEA day nurseries, playgroups, nursery classes, nursery schools, combined centres, reception classes, early excellence centres and private day nurseries. The research also included a review of the international literature on pedagogy and statistical data on child outcomes from EPPE. The researchers interviewed 46 childminders and 107 parents.

Siraj-Blatchford, I., Sylva, K., Muttock, S., Gilden, R. & Bell, D. et al (2002) ***Researching effective pedagogy in the early years***. DfES. Research Report number 356.
http://www.dfes.gov.uk/research/data/uploadfiles/RR356.pdf

Jargon Buster

Cognitive: *this refers to the mental action or process of acquiring knowledge and understanding through thought, experience and the senses.*

Thinking Skills and Peer Interaction

What can they offer the post-16 sector?

'Thinking skills' approaches to teaching have been found to be effective in raising ability in many areas of the curriculum with students of all ages. These approaches involve "courses or organised activities" which help students to identify their "translatable mental processes" (see jargon buster) and to plan, describe and evaluate their thinking and learning. Application of these skills is known as *metacognition*. In the post-16 sector, for example, there is evidence that students of science and engineering got better at solving problems and that students of business studies became better at analysing information about advertising and marketing as a result of engaging in thinking skills programmes. It may take time to draw firm conclusions about the best ways of introducing thinking skills approaches for post-16 learners – especially in vocational education and training, but enough is known about the basic principles to judge their potential relevance for post-16 learning. They encourage learners to think about their thinking so that they can manage their learning. They help develop the concept-formation, enquiry and reasoning skills which encourage learners to be more independent of the teacher whilst working closely with each other. This also has the benefit of increasing their ability to learn collaboratively with their peers.

What's involved in teaching thinking skills?

A recent research review of thinking skills approaches in the post-16 sector found that most of them were designed to improve students' ability to think in specific subject contexts. So there is not enough evidence to know whether the skills and understanding acquired in one subject area will transfer into another in this phase. What we do know from this systematic review, though, is that well designed *peer-interaction activities* (sometimes supported by ICT) are at the heart of effective thinking skills approaches. Almost all the studies in the review included student tasks that encouraged them to "construct, test and justify knowledge" together, with positive results in every case.

Of course, thinking skills activities also depend, like all learning, on direct instruction, evaluation, skilful questioning and formative feedback. (Have a look at the Research of the Month website for clear and detailed accounts of using formative assessment and Thinking Skills approaches **http://www.gtce.org.uk/research/romhome.asp**) There is also evidence that certain conditions may be necessary for effective teaching of thinking skills – some of which do not readily fit with vocational education and training, especially if it's work-based. The emphasis on activities and practical skills in vocational education is thought by the researchers to pull in the opposite direction. There could also be problems in relation to the readiness of the teacher and of the students, the design and content of courses, the learning environment and institutional support. But the review does offer a focus for post-16 practitioners for planning activities around forms of peer-interaction which are specifically designed to enhance thinking through dialogue.

What does peer interaction for thinking involve?

Many teachers and lecturers will readily recognise peer-based learning as common in the post-16 sector. But the type of peer-interaction involved in thinking skills approaches is distinct from co-operative approaches to learning where a goal is divided amongst members of a team working on different sub-goals who then pool their information and report back to each other. Peer-

interaction that is linked to the development of thinking skills involves collaborative researching, thinking and discussing together – for example solving a problem in science together. (This resonates with the early work of Vygotsky – see page 15 – which emphasises the importance of socially constructed learning.)

Other examples of peer-interaction with post-16 students which successfully enhanced learning included:

- developing argumentative reasoning in community college students through repeated engagement in peer discussion on capital punishment;

- modelling thinking about the nature of evidence-based justification, then engaging students in talking about their thinking and critiquing each other's project drafts in terms of their use of justification. These activities featured in a Scottish FE study and the advances in the students' use of justification at the end of the project were still evident in their work several months later; and

- chemistry "process workshops" – where students worked in self-managed teams on activities that involved information processing, guided discovery exercises, thinking and problem-solving, reflection on learning and assessment of performance. By introducing process workshops, the researchers wanted to provide a way to turn a lecture-based course into a more interactive, learner-centred, format.

Links between peer-interaction and reported learning gains in the review encouraged the authors to conclude that there is extensive and widely accepted evidence that students can be helped to think about what they are studying if they are taught in ways which require them to use informed sources and to work together to debate their different interpretations and conclusions.

How do we know this?

The information and definitions in this report were drawn from two systematic research reviews on thinking skills – one on frameworks and one on effective ways of teaching in the post-16 sector. (See page 11 for an explanation of the processes involved in systematic reviewing.)

Moseley, D., Baumfield, V., Higgins, S., Lin, M., Miller, J., Newton, D., Robson, S., Elliott, J. & Gregson, M. (2004) *Thinking skill frameworks for post-16 learners: an evaluation*. LSDA.
http://www.lsda.org.uk/files/PDF/1541.pdf

Livingston, K., Soden, R. & Kirkwood, M. (2004) *Post-16 Pedagogy and thinking skills: an evaluation*. LSDA.

Jargon Buster

Translatable: *used here to suggest that the process or processes are adaptable to different contexts but still retain their meaning, so that the essence of activities such as summarising or evaluating is preserved.*

Next issue: We take a look at a major research review of the evidence for the impact of thinking skills approaches on learners to see what is known about the teacher's role in school-based programmes.

Children in Care

What can we do to improve their attainment?

As the statistics opposite clearly show, we are failing dismally to improve the educational attainment of children in care (CiC). Amongst the reasons for this are failures in corporate parenting, low expectations from teachers, placement instability, care environments unhelpful to education, exclusion/diversion from mainstream schooling, discrimination and neglect of basic skills. As well as the cost to individuals, this poor attainment has high social and economic costs. Improving education, employment and training of CiC to the level of their peers could save an estimated £300 million over three years.

Is there evidence?

CiC have not been seen as a discrete group in the education system, and so outcome data have only recently started to be collected which means there is a lack of evidence on what works. Some local authorities can't account for all the children they care for because databases are not complete and records poorly maintained. Because provision is patchy, research on the subject largely details individual examples of good practice rather than evaluated initiatives. These include:

- early years personal education plans;
- bursaries for CiC;
- education liaison and support for students 3–19;
- designated school governors for CiC; and
- support for further/higher education for care leavers through personal advisers.

### The viewpoint of children in care

Many children in care enjoy school, and almost all think it important. Young people themselves have identified a number of important factors to improving their achievement. They want:

- teachers who do not attach a stigma or have under-expectations of them just because they are in care;
- to be treated the same as their peers;
- to know that their educational history and present circumstances are understood by relevant teachers;
- an adult at school who can keep confidences and act as unofficial counselor;
- an 'escape area' to allow them to withdraw if pressure becomes too great;
- continuity of support from a social worker interested in school work;
- commitment from a carer to accompany them on the first day in a new school and to attend school events;
- people at home who can provide support for homework and take an interest in school activities;
- to remain in their home area and so maintain friendships and attendance at their school; and
- access to a normal range of facilities available to young people who live at home, including a computer.

What are the areas for action?

Although schools and colleges can plan to meet some of these objectives and work to improve home-school liaison with foster parents and care homes, it's clear that education practitioners

Statistics tell their story: In 2001 the num
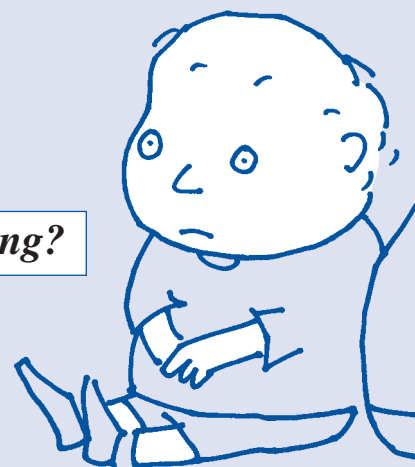
How are they doing?

% of all children with no GCSEs **5**

% of all children achieving five A-C GCSEs **50**

% of all children undertaking post-16 education **67**

% of all children progressing to higher education **37**

% of number of pre-school age CiC attending pre-school

% of local authorities meeting the 2001 target of half of care

Trials and tribulations

% of children entering care due to abuse, neglect, or for fam

% of children entering care because of issues with their own

Number of times more likely CiC are to be excluded from sc

% of children in care aged 10 or under **41**

% of children experiencing over 10 placements in care **10**

% of children in care who have a statement of SEN **27**

% of all children who have a statement of SEN **3**

Figures taken from:

Office of National Statistics (2001) *2001 Censu*s. The Stationery Office. *http://*

Jackson, S., Feinstein, L., Levacic, R., Owen, C., Simon, A. & Brassett-Grundy, A Longitudinal Studies Working Paper no. 4.
http://www.cls.ioe.ac.uk/Cohort/Publications/mainpubs.htm

Ofsted (2001) *Raising achievement of children in public care: a report from*
www.ofsted.gov.uk

Social Exclusion Unit (2003) *A better education for children in care*. *http://w*

...mber of children in care (CIC) was 58,900.

% of CiC with no GCSEs **64**

% of CiC achieving five A-C GCSEs **4**

% of CiC undertaking post-16 education **12-17**

% of CiC progressing to higher education **less than 1**

...*we don't even know*

...e leavers obtaining one or more GCSE **under 25**

...ily reasons **80**

...behaviour **under 10**

...chool than their peers **20**

...*www.statistics.gov.uk/census2001/*

...(2002) **The costs and benefits of educating children in care**. Centre for

...**the Office of Her Majesty's Chief Inspector of Schools**. *http://*

...*www.socialexclusionunit.gov.uk/*

need to work closely with other services if they are going to meet the needs of CiC. The Social Exclusion Unit's research leads them to suggest a number of areas in which LEAs, schools, colleges and careers advisory and other care providers should take action. Among them is the need to consult CiC about their education, to listen to what they have to say and to act on their views. It appears to be a good starting point. Research is beginning to show that student voice can be a powerful trigger for improved school progress in meeting all students' needs. (Have a look at **http://www.consultingpupils.co.uk** – you'll find details of research-based 'toolkits' for consulting students).

How do we know this?

a) Jackson, S., Feinstein, L., Levacic, R., Owen, C., Simon, A. & Brassett-Grundy, A. (2002) *The costs and benefits of educating children in care*. Centre for Longitudinal Studies Working Paper no. 4.

This report brings together evidence from published sources, research on education of children in care and outcomes of care, findings from British Birth Cohort Studies, and theoretical and empirical work on the wider benefits of learning.

b) Ofsted (2001) *Raising Achievement of Children in Public Care: a report from the Office of Her Majesty's Chief Inspector of Schools*.

This report focuses on the work in 26 local authorities where targets were known to have been set in the Education Development Plan (EDP) to raise the achievement of looked after children in order to meet the recently set national target of one GCSE (at grade A-G) and to exceed it where possible. You'll find in here an assessment of the current situation, together with initiatives, key features, individual views and examples of inter-agency co-operation.

c) Social Exclusion Unit (2003) *A Better Education for Children in Care*.

This report focuses on consultation with children and young people in care and care leavers, social workers, teachers and headteachers, foster and residential carers, local authority officers in the education and social services departments, educational psychologists, Connexions personal advisers, youth workers and other key professionals. In all, five authorities were examined in detail with input from other local authorities across the country. You'll find case study examples of how some colleges, early years settings and schools have worked to raise the achievement of CiC.

Jargon Buster

Children in care: *this refers to young people who are legally 'looked after' by the relevant local authority or a Health and Social Services Board. These are children and young people typically living in fostering, residential homes or special schools – either run by social services, charities or private companies. Some teachers refer to them as 'looked after children.'*

Corporate parenting: *this refers to the parenting role that councils take on when they look after a child or young person.*

Research Round-up

How much we *don't* know: mixed age learning in further education

Mixed age teaching is a feature of many small primary schools and many classes in colleges. But we don't know if mixed age learning groups help or hinder students. In fact we don't even know the extent of mixed age learning groups within the FE sector. That's the message from researchers at the universities of Surrey and Sheffield. They have found that very few colleges keep records of the age mix of their learning groups as a part of their central information systems because they are not required to do so by the Learning and Skills Council (LSC). Although they recognise that at the individual learning group level tutors will know the ages of their students, the researchers believe that while the age composition of learning groups is not identified centrally it will not be regarded as important.

A review of the literature, including inspection reports, does not throw much light on the subject either, except to highlight how little we know. There is lots of debate at government level about whether initial post-16 education and training should be separated out from 'adult' learning in FE colleges. Yet this debate is taking place in the absence of reliable evaluations of the impact of age mixing on teaching and learning. The researchers have begun collecting data to try and build up meaningful pictures of what is happening in FE as part of a Learning and Skills Development Agency funded project, Learning and Teaching in Settings Shared by Young People and Adults. The next step will involve the researchers going in to colleges to look specifically at mixed age teaching and learning.

For a report of the initial findings from the project see: Cole, P. & Bathmaker, A.M (2002) *Mixed age learning in further education*. Paper presented at the LSRN Conference, December.

http://www.lsda.org.uk/files/lsda/lsrn2002/TrackedSessionsPapers/LSRNpaperOnline_PamCole.pdf

Behaviour Management

What are effective strategies for supporting students with Emotional and Behavioural Difficulties (EBD) in mainstream primary classrooms?

Government policy in England has encouraged schools to include as wide a range of students as possible within mainstream schools and at the same time to reach ever-higher academic standards. No wonder schools are looking for well tested strategies to achieve these seemingly polarised aims. But don't hold your breath – when a systematic review set out to find answers to this question, reviewers found that the evidence base was limited. This will disappoint hundreds of practitioners as behaviour management is a burning issue.

Although there are many new initiatives to support students with EBD in mainstream primary classrooms, most are still experimental and have not yet been evaluated by rigorous research. For example, 'Behaviour Improvement Programmes' (BIPs) have been implemented in 61 LEAs across England (34 in phase 1 and 27 in phase 2). A number of different strategies are suggested as part of this programme: for example, multi-agency support for students at risk of EBD, Learning Mentors and 'extended schools' with activities such as Breakfast Clubs. Nevertheless, say the researchers, the strategies and the theories behind them do add to a broader understanding of emotional and behavioural difficulties and the types of approaches that are currently being implemented in UK schools. UK studies published between 1999 and 2002 suggest a move towards strategies using a 'whole school' approach for their successful implementation. They show a trend towards involving parents in the interventions and also towards working actively with parents to improve their relationship with their children. The overall message is that teachers should expect to work in a multi-disciplinary way with colleagues in school and from other services to provide support for the students with EBD in their classrooms.

News source: Harden, A., Thomas, J., Evans, J., Scanlon, M. & Sinclair, J. (2003) Supporting pupils with emotional and behavioural difficulties (EBD) in mainstream primary schools: a systematic review of recent research on strategy effectiveness (1999 to 2002). In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education.

http://eppi.ioe.ac.uk/EPPIWebContent/reel/review_groups/TTA/BM(IOE)/BM(IOE)_summary.pdf

Jargon Buster

Breakfast Clubs: *This term is often used to describe out-of-school or in-school care for school-age children before school starts in the morning.*

Understanding the strengths and limitations of evidence

Why don't you…

…offer to a group of colleagues a fun way of using evidence and increasing their skills in appraising it?

You could take out your wallet or ask a (pre-warned) colleague to do so. And offer it to a group of 3-5 people as a source of evidence. Ask them to come up with hypotheses about the lifestyle of the owner that are evidence based and to make careful and detailed notes. Give them a fixed amount of time (20-30 minutes is ample). At the end of the session ask them to return the contents as they found them! Observe the resulting discussion and then set up a debriefing session.

What ethical issues arose? How do these relate to the intrusiveness of researching teachers' practice and what are the implications for the evidence that is presented in education research?

How carefully was the evidence handled? Could the group reassemble the wallet and its contents? Was care taken not to disturb papers that were folded together such as till and credit card receipts? What does this say about the effect that research has on the environments in which evidence is collected.

How is the evidence analysed or organised? Do the organising principles reflect the data – or the views and experiences of the group members? What does this say about how researchers interpret evidence?

Did the owners remove – or indeed add materials before the activity? Can the owner confirm any of the hypotheses? How does anyone know whether they are trying to direct attention in a particular direction?

Did the group reflect at all on what was not in the wallet that they might have expected to find? What light, if any does this cast on how research instruments are designed and/ or the difficulties involved in exploring what is not happening – especially when a lot is happening and needs to be observed, recorded and analysed and there is a limit to the time and resource available?

This activity always generates lively discussion. Usually, one or two relatively safe but very finite conclusions can be drawn from a wallet – and good questions are raised that could be answered meaningfully in a number of ways.

For example:

- questions raised by the *partial* nature of evidence, like train tickets, will be echoed by the one page summaries – the key thing is to decide what follow up questions might be relevant to your students and interests and to identify how to pursue the guidance about finding out more;

- issues about how far looking through the wallet has disturbed the evidence might help colleagues in thinking through the mix of kinds of evidence that are most credible to them in making a decision about whether to try out a new approach – or to think through how to do it;

- Issues about the ethics of handling the wallet contents can help you think through the ethics of both the original research and how you might go about interpreting it.

Last but not least, those interested not just in using research but also in doing it can use this activity to think through how to design their own enquiries.

Teachers Learning From Each Other

How can professional development really make a difference

You don't have to go on a course to experience the benefits of richly rewarding professional development activities. A systematic review of the impact of continuing professional development (CPD) on teaching and learning has produced evidence about particular kinds of CPD which fitted closely with day-to-day practice and benefited both teachers and students. Teachers were re-energised, developed their confidence, skills and belief in their power to make a difference. They had the satisfaction of seeing their students' learning, attainment, motivation and confidence improve too. Although the studies in the review involved mainly school teachers, the findings about the activities used in the CPD – and especially the detail about peer collaboration – will interest most teachers.

What did the teachers do?

The CPD involved a mix of interdependent activities. External expertise of some sort (university researchers, for example, or LEA advisors) was a consistent feature, as was learning through observation. Specialists provided traditional observation and feedback focused on teachers' specific learning goals. But teachers learned a lot from observing each other and interpreting classroom experiences together. The programmes were designed so that teachers could identify their own CPD focus from within a programme or school framework, ranging from new ways of integrating ICT into teaching and learning to questioning strategies rooted in their students' learning needs. So teachers could work together on issues which were important to them and could build on what they knew and could do already.

Activities to focus talk about teaching on the details of learning were an important part of peer support. This meant that teachers were able to:

- make their beliefs and the features of their current practice explicit;

- plan lessons collaboratively within a framework of specific professional learning goals; and

- probe the details of teaching and learning by using highly focused questions.

In all the studies, processes were in place for sustaining the CPD over time so that teachers could embed the practices in their own classroom settings.

Why work with peers?

Observation has featured as an important component in professional learning for some time – but it is more often focused on teachers' learning from being observed and receiving feedback. Teachers in these programmes were able to share a learning (and teaching) experience in a range of different informal and formal ways. These lasted from a 10 minute slot with a very tight focus through to a half day's team teaching. Sometimes video or audio tape and sometimes observer records were used to base shared exploration or specialist feedback in evidence. The evidence from both teachers and specialists raises questions about whether classroom teachers (the people who may need to use classroom observation to enhance students' learning,) are getting the opportunity to do it or whether observation is just concentrated in the hands of colleagues with a monitoring role.

Understandably, many teachers felt anxious, at first, about 'exposing' their practice to colleagues – things often got worse before they got better when teachers were tackling significant changes in their classroom practice. Because they were working with their peers though, there was mutual support for this sort of risk-taking. Collaborative planning as a professional learning activity was particularly important here. Not only did it help make effective use of time, it meant that the teacher and the observer shared some of the responsibility for early efforts at implementing new approaches which meant that subsequent discussions could probe what went well and what did not more easily and openly.

Working with peers also helped teachers to keep going in the face of other demands and priorities. Peer support was an efficient way of working too. It helped extend the reach of expensive external specialists. It also made good use of precious in-school time because colleagues already knew the context in which each other worked (they often knew the children) and because they could plan flexible access to each other's classrooms around a common timetable.

The GTCE has produced a leaflet on peer coaching which you can find at: *http://www.gtce.org.uk/pdfs/peer.pdf* and the NUT have a useful A-Z of peer coaching available at: *http://www.nut.org.uk/resources/pdf/A-Z-peer-coaching.pdf*

To find out more about this review, go to: *http://eppi.ioe.ac.uk/EPPIWeb/home.aspx?page=/reel/review_groups/CPD/review_one.htm*

There is also a Research of the Month feature on the review from which you can learn more about the detailed CPD activities which the teachers experienced: *http://www.gtce.org.uk/research/eppihome.asp*

How do we know this?

This review of research set out systematically to identify, evaluate and synthesise studies of collaborative CPD for teachers of the 5-16 age range, conducted since 1988. The study grew out of teachers' and their professional associations' interests, particularly their concern to understand how collaboration impacted upon teacher development and student learning.

13,479 titles and abstracts were systematically examined to identify 266 full reports for review. Seventy-two of the full reports were found to be relevant, of which 17 met all explicit criteria for in depth review. Fifteen of these were finally selected as providing high quality and relevant evidence. EPPI-Centre software was used to ensure systematic assessment of the weight of the evidence. All assessments were conducted by two people and differences were reconciled.

Cordingley, P., Bell, M., Rundell, B. & Evans, D. (2003) The impact of collaborative CPD on classroom teaching and learning. In: **Research Evidence in Education Library**. London: EPPI-Centre, Social Science Research Unit, Institute of Education.

Jargon Buster

Systematic review: *this is an overview of research on a specific topic which contains an explicit statement of objectives, materials, and methods and has been conducted according to transparent and reproducible methods, including a structured evaluation of the weight of the evidence.*

Hot Websites

There are a massive 400,000 websites aimed at teachers according to a recent study by the National Foundation for Educational Research. So, with all this to choose from, simple and reliable information about tried and tested evidence is more important than ever. Here are some good sites for keeping up to date with evidence and following up tantalising leads from the bulletin; to get ideas from what has been done already; or to get some advice - and they're all FREE!

Rudd, P. & Dartnell, L. (2003) 50 websites for school improvement. NFER.

The Scottish Centre for Research in Education (SCRE)

http://www.scre.ac.uk/tpr/index.html

The Scottish Centre for Research in Education is maintained by the University of Glasgow and concentrates on providing helpful information for teacher researchers, including practical advice from teachers themselves, and full research reports. Links to other educational research sites are offered, and there is a useful list of free, online, full-text educational journals and newsletters. The site hosts its own two newsletters, 'Research in Education' and 'Observations' for teacher-researchers. SCRE claims that its main aim is to "conduct educational research of the highest quality and support the use of research outcomes through the dissemination of findings."

The Research Informed Practice Site (TRIPS)

http://www.standards.dfes.gov.uk/research/

The Research Informed Practice Site provides 'digests' of recent educational research that can be easily accessed by busy education practitioners. Each study is appraised for its evidence base, and its relevance to practitioners. Digests are summarised into a series of short pages which can be read in any order. The full digest can also be downloaded as a Word document. The latest digests to be added to the site are shown on the home page, or digests can be browsed by title, author, keyword, or theme. The resources section supplies links to other educational research on the Internet and there is a glossary of education-related jargon. A 'briefcase' function allows registered users to personalise their site accesses for easy retrieval.

Research of the Month (ROM)

http://www.gtce.org.uk/research/romhome.asp

The Research of the Month website provides access to a series of summaries of large-scale research linked to practitioner case studies of direct interest to teachers. Funded by the GTCE, the aim of the site is to support teachers in appraising and interpreting research in order to use it in their classroom. Each month a new study is added to the site. Linked to the article are a number of teacher case studies to illustrate abstract findings in context. There is also a section on further reading where teachers can find out more information on the given topic. Summaries can be downloaded in PDF

Research Evidence in Education Library (REEL)

http://eppi.ioe.ac.uk/reel/

REEL is the Centre for Evidence-Informed Policy and Practice in Education's (EPPI-Centre) online database. The site is free to use and aims to be a centralised resource for people wishing to undertake systematic reviews of research in education and those wishing to use reviews to inform policy and practice. The completed reviews are rigorous and technical and cover topics ranging from inclusive education to continuing professional development. There are also summaries which illustrate the key findings, and commentaries from different user groups which draw together the main points of relevance of the research for that particular user group.

Literacy Teaching

What can we learn from studies of effective literacy teaching?

Literacy teaching is one of the most hotly debated topics in education. Research can help establish evidence of what works. Three related US studies offer us some robust evidence about the ways in which teachers who have been identified as excellent go about their teaching. All of the teachers studied used some mixture of direct phonics instruction and whole-language type activities, but the most effective teachers achieved a better balance between whole-language and phonic skills than did their less effective colleagues.

The findings which the studies had in common were that effective teachers could be distinguished from their less effective peers through their approaches to setting objectives and tasks, balancing doing and telling, displaying high quality work, identifying high quality resources and asking questions. Although effective teachers all used the common strategies indicated below, they matched when and how they were used to the particular needs of their class.

Effective teachers

- used multiple goal achievement, or bridging strategies within lessons; for example, by taking advantage of learning points for one subject in the context of another lesson, such as sounding out how to spell the word 'heart' during an art lesson;

- frequently set children high quality reading and demanding writing tasks;

- used an interactive style of teaching;

- regularly displayed good quality work;

- provided a range of high quality reading books; and

- asked high-level questions about stories students had read.

Less effective teachers

- typically had single goal lessons, with teachers rarely straying from their intended lesson plans;

- students were frequently found to be doing non-demanding activities, such as copying or illustrating;

- used a 'telling' style of teaching;

- either rarely displayed students' work or filled wall displays with low quality work, such as trivial worksheets;

- students often 'read' books with undemanding text, such as 'Where's Wally?' or flipped pages in an encyclopaedia; and

- used comprehension questions which tended to be literal – about the story.

The study which looked at the whole school also found that:

- time spent in small groups was an important part of effective teaching;

- effective schools used a collaborative model which allowed the classroom teacher to work together with EAL and/or SEN teachers to enable small group instruction. There was also strong home communication.

How do we know this?

We have synthesised the findings from three studies which were identified through a systematic review of literacy teaching which searched journals and databases to find relevant studies and then probed them thoroughly for the soundness and reliability of their methods to assess how much weight could be given to their evidence. The studies were judged by the review team to provide significant evidence about the characteristics and practices of effective teachers of literacy. One is a small study of effective teaching of literacy with nine teachers in one region; another, larger study, looks at thirty teachers in five different regions and the third examines *school* characteristics as well as teachers. Although all the studies at first selected the effective teachers and schools through nomination or reputation, final samples were selected only after their effectiveness had been empirically established (measured and tested). Observational measures, standardised reading tests, questionnaires and interviews were some of the other methods used.

You can find more evidence about effective literacy teaching (and about systematic reviewing) if you read the summary of the systematic review.

Hall, K. & Harding, A. (2003) A systematic review of effective literacy teaching in the 4 to 14 age range of mainstream schooling. In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education. **http://eppi.ioe.ac.uk/EPPIWeb/home.aspx?page=/reel/review_groups/TTA/English/English_intro.htm**

Wharton-McDonald, R., Pressley, M. & Hampston, J. (1998) Literacy instruction in nine first-grade classrooms: teacher characteristics and student achievement. *Elementary School Journal*. 99(2) pp.101-128

Pressley, M., Wharton-McDonald, R., Allington, R., Collins Block, C., Morrow, L., Tracey, D., Baker, K., Brooks, G., Cronin, J., Nelson, E. & Woo, D. (2001) A study of effective first grade literacy instruction. *Scientific Studies of Reading*. 5(1) pp.35-58.

Taylor, B.M., Pearson, P.D., Clark, K. & Walpole, S. (2000) Effective schools and accomplished teachers: lessons about primary-grade reading instruction in low-income schools. *Elementary School Journal*. 101 (2) pp.121-165.

'Effective literacy teaching' is featured on the GTC Research of the Month web site at: **http://www.gtce.org.uk/research/romhome.asp**. You can also access research digests relating to literacy on the TRIPS website at: **http://www.standards.dfes.gov.uk/research/.**

Jargon Buster

Phonics: *a method of teaching reading by training beginners to associate letters, letter groups and syllables with their sound values.*

EAL: *English as an Additional Language*

SEN: *Special Educational Needs*

Actually it's getting more and more accessible and useful…

Using data for all sorts of things, including target setting

There's support now available to help schools look at their progress against national performance data and monitor individual performance. **The Pupil Achievement Tracker (PAT)** computer software allows schools and LEAs to import and analyse their own student performance data against national performance data published in the Autumn Package (see below).

Teachers can use it to:

- ask questions about the effectiveness of their classroom practice by looking at graphical data on the progress made by their students;

- set student targets informed by the progress made by similar students nationally; and

- understand fully what students can achieve by the diagnostic analysis of test papers.

Head teachers and **senior managers** can:

- view recent performance against other similar schools to help set development priorities;

- ask questions about the achievement of different groups within the school; and

- review the success of different initiatives, particularly through the ability to group students and look at their achievement and progress.

Using PAT, each teacher can view on screen the prior attainment of their current students. They can see possible targets for each child based on the recent progress made by students similar to theirs, taking account of their prior attainment. They can then decide what targets to set for each student, before reviewing the impact these targets will have on the overall progress made by students in their school. The school will be able to look at the implications for its overall targets and ensure that they reflect their aspirations for improvement in performance.

To download the software and find out more at: *http://www.standards.dfes.gov.uk/performance/pat/*

For questions and answers about PAT go to: *http://www.teachernet.gov.uk/teachingandlearning/afl/PAT/PATquestions/*

What's the difference between PAT and PANDA (apart from the obvious?) The *Autumn Package* is published annually by the DfES, contains National Pupil Performance Data and can be used to examine aspects of a school's performance against all schools nationally or a group of similar schools. It is split into three sections and contains national summary results, national value-added information where students' progress can be compared with the national average and national benchmarking information which allows a school to make more detailed comparisons with other similar schools. All charts are available to download in PDF, Excel or Word form. Find out more at: *http://www.standards.dfes.gov.uk/performance/ap/*

Performance and Assessment (PANDA) Reports are published by Ofsted. They are part of the Autumn Package of Pupil Performance Information. Find out more about PANDA at: *http://www.teachernet.gov.uk/management/atoz/index.cfm?component=topic&id=192.* ePANDA (the online version) can only be accessed with a reference number and password at: *https://www.ofstedpandas.gide.net/*.

Check out also:

The Pupil Level Annual Schools Census (PLASC) – this is used to produce statistical analyses of performance by students to help school improvement strategies. It's also the basis for allocating funding to LEAs and schools. Find out more at: *http://www.teachernet.gov.uk/management/tools/ims/plasc/*

Have you found this bulletin interesting? Do you use evidence in your practice? We want to include practitioner case studies in future issues of the NERF Bulletin. If you would like to get involved, contact us with your ideas at *info@nerf-uk.org*

Talking Point

"Researchers have got lost in thought whilst practitioners have gone missing in action"

Charles Desforges reflects on the need for a relevant evidence base

Experienced teachers accumulate a great deal of practical knowledge about teaching. Sadly, when they retire their knowledge is retired with them. We do not have a good track record of accumulating and advancing our knowledge across generations. It is time we met this challenge effectively. A high quality, professional knowledge base would be a boon to generations of learners.

By many measures the educational service has achieved remarkable increases in productivity over recent years. This enhancement has been driven by top-down pressures and high stakes accountability systems. We are seeing the limits of these approaches as we hit the ceiling of short-term performance gains. Far-reaching transformation of the service, providing lasting benefits for all learners, will be achieved only on the basis of advances in our understanding of how to promote learning. In this respect, building a relevant evidence base is a fundamentally important step on a long journey.

Experience warns us that this is a difficult journey requiring creativity, skill, resourcefulness and stamina. There be dragons out there in the methodological mazes. Researchers have got lost in thought whilst practitioners have gone missing in action. Yet as a profession we have all the creativity, stamina we need to succeed. What has defeated us so far is a loss of purpose and a dissipation of effort.

Our main purposes, whether we be nursery assistants or university professors, are, first, to engage our students' minds with a challenging curriculum and second, to make ourselves redundant to these pupils through promoting their autonomy as learners. We must focus on learning. We must give learners the tools to do their job. In this, teachers throughout the system share a set of common tasks and, if so-minded, could learn a lot from each other. Sadly, we are minded (and sometimes forced) to think too much about teaching as a parochial, Robinson Crusoe, occupation. In this way we lose common core purpose.

It is then almost inevitable that we dissipate our efforts in accumulating a professional knowledge base. We tangle with too many small-scale questions whilst the central challenge of tooling-up learners passes us by.

In building a knowledge base for education we will certainly need evidence. But before that we need powerful questions that will help us build tools for learners not tips for teachers. It is to be expected that this bulletin in its celebration of evidence will help us focus on those powerful questions about learning that will help us transform the educational experience of students at all levels. **Charles Desforges, Emeritus Professor at the University of Exeter, is a member of the National Educational Research Forum.**

Talk Talk Talk

Did you notice that dialogue between teachers was a key feature of learning in much of the research in this bulletin? Vygotsky (see below) found evidence about the importance of socially constructed learning years ago, and it crops up everywhere today too. In this bulletin we found evidence that peer interaction and dialogue were important aspects of learning in the research on early years, post -16 Thinking Skills and all years ICT. Perhaps we shouldn't be surprised that it was fundamental in adult learning when it came to effective CPD programmes. In that study it was clear that dialogue was important because it was a natural way of prompting learners (in this case teachers) to make their beliefs, their understanding and their routine actions explicit and so to review them. One of the crucial ingredients here was the questions that the collaborating learners asked of each other within the context of specific learning goals that they all understood.

You could consider whether you would like to try to make more use of collaborative learning in your own context – and collaborate with your colleagues to identify particular learning goals, contexts or lists of starter questions that would ensure the dialogue takes forward the learning you are looking for.

Lev Vygotsky (1896-1934)

Is he past his sell-by date?

Well – not according to the research evidence reported in this bulletin. We can still learn a lot from Vygotsky's ideas about the importance of social interaction in constructing meaning. They are a major feature of many current classroom-based strategies which aim to improve learners' thinking through shared problem solving. Known variously as thinking skills, accelerated learning or cognitive acceleration, these strategies involve the idea of the zone of proximal development (ZPD). According to Vygotsky the ZPD defines a capacity for learners' thinking to develop beyond their present level, when s/he is supported by an adult or peer. A leading developmental psychologist of the Soviet era, Vygotsky's work on speech and thought and on the development of thinking in children was largely unknown in the West until the 1960s. Since then his work has continued to gather influence up to and including the present day.

The best teaching and learning today builds upon knowledge and understanding of how children learn. This is gained from research over time including the work of educational theorists. You'll find a very readable summary of Vygotsky's work at: **http://www.gtce.org.uk/research/ vygotskyhome.asp**

About this publication

This bulletin has been produced for teachers, lecturers and all the professionals who support learning, wherever it takes place. It is a pioneering publication in the field of education, aiming to bring research evidence to the attention of practitioners to help them directly in their work. It does this by identifying matters of practical concern and selecting reliable research that addresses them.

*You, the reader, play the key role in this. Please let us know what issues you would like to see addressed and what your reactions are to the bulletin itself by contacting **info@nerf-uk.org***

It has been produced, and made available free of charge, with start-up funding from the National Educational Research Forum and the Innovation Unit. It is designed for use in nurseries, schools, and the learning and skills and higher education sectors.

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