

Are you a *leader or provider* of CPD in school?

Then you'll be aware that the priorities and approaches to professional development are changing. Schools now have more autonomy over their CPD budgets than ever before, and face a range of challenges related to performance management and the new national standards for teachers. So schools are keen to make the most effective use of their CPD opportunities.

In this summary we review the research evidence about effective CPD. Our aim is to inform and support providers as they design and support professional development. It will also be of interest to school, college, further and higher education teachers and tutors who are involved in coaching, tutoring and mentoring teachers, trainees, newly qualified teachers (NQTs) and teaching assistants. We describe what was learnt from the research, make suggestions for your own practice in light of the evidence, and offer some tools to help you improve the quality of the CPD you plan and provide.

THE EVIDENCE AT A GLANCE

The summary draws on the evidence from four systematic Evidence for Policy and Practice Information (EPPI) reviews of CPD and sets out to show how you can develop and improve professional development provision. In particular it aims to help you:

- ensure CPD structures and processes are strengthened and informed by the evidence of effective practice
- support teachers as they implement changes to their practice built on new knowledge and skills, and
- build on up-to-date knowledge of the contributions of specialists and of teachers themselves to professional learning.

What are the key messages?

When teachers worked together on a sustained basis (over at least one term but more usually two or three terms), the reviews found that this collaborative and sustained CPD was linked to positive effects on:

- students' learning, motivation and outcomes
- teachers' commitment, beliefs, attitudes, self-esteem and confidence in making a difference to their pupils' learning
- teachers' repertoires of strategies and their ability to match their teaching approaches to pupils' different needs
- teachers' attitudes to their pupils, the curriculum and to learning, and
- teachers' commitment to CPD.

By contrast, CPD that did not involve collaboration as a learning strategy was found to be linked to a narrower range of changes and to significantly weaker benefits for students and teachers.

How do we know this?

The evidence in this summary is based on four systematic reviews of existing research evidence about the impact of CPD on teachers and pupils. The reviews scanned and filtered over 20,000 research studies for the best evidence, key worded and mapped over 230 studies, and brought together data from the 70 studies offering the most relevant and high-quality data.

What's the scale of this evidence?

The systematic reviews coordinated and led by CUREE were intended to:

- build on the best available evidence about the impact of CPD on teaching and learning
- recognise and build on increasing interest in coaching and mentoring in education
- make good practice clear across all national agencies – so that the agencies can make more coherent sense to practitioners, and
- inform the modernisation of the profession and the DfES five-year strategy for learners.

To date, CUREE has led four systematic reviews of research into the impact of CPD on teachers and their pupils. The four reviews have included:

- searching the available evidence base for studies that could help to address the questions for the review
- filtering over 20,000 titles and abstracts against an initial set of inclusion criteria¹
- reapplying the inclusion criteria to over 700 full studies
- key wording over 200 studies and filtering them against a second, narrower set of inclusion criteria, and
- extracting the data and synthesising the evidence from 70 studies.

The EPPI systematic review process is designed to be explicit and transparent about the methods used, to be accountable, replicable and updatable, and involve relevant and useful information. It follows a standard set of stages. The findings from the research are synthesised to make the key findings easy to locate and to reduce bias in the reporting. Therefore, the reviewers have to filter studies against known criteria, and two separate reviewers work independently and compare notes. This 'double blind' approach is also applied to extracting data from studies for analysis. Each stage of the review is carefully synthesised by the Evidence for

Policy and Practice Information and Co-ordinating Centre (EPPI Centre), and final reports are examined by a range of reviewers who have no knowledge of who was in the research team.

What factors in CPD are linked to positive benefits for providers?

The key messages from the four reviews have been consistent and cumulative. CPD that was linked to the positive benefits described above usually involved:

- **peer support** (in pairs or small groups) to encourage, extend and structure professional learning, dialogue and experimentation – *in combination with*
- **specialist support**, including modelling, workshops, observation, feedback, coaching, introducing a menu of research-based strategies for enhancing learning
- **planned meetings** for structured discussion – including exploring evidence from the teachers' classrooms about their experiments with new approaches and of their beliefs about teaching, the subjects being explored and their learners
- **processes for sustaining the CPD** over time to enable teachers to embed the practices in their own classroom settings – including informal day-to-day discussions and observations between teachers, and using work they would have to do anyway (such as lesson planning and designing schemes of work or curriculum development) in workshops
- **recognition and analysis of teachers' individual starting points** and building on what they know and can do already
- **developing teachers' ownership** of their learning, by offering them scope to identify or refine their own learning focus (within a menu set by the programme or the school), and to take on a degree of leadership in their CPD, and
- **a focus on pupil learning and pupil outcomes**, often explicitly as a way to analyse starting points, structure development discussions and evaluate progress, both formatively and summatively.

What can you find in this summary?

The following sections are intended to quickly introduce details of the review findings relevant to you as a CPD provider or leader, within or beyond school.

¹ There were different inclusion criteria for each review

THE EVIDENCE UNPACKED

How can you help teachers to support one another's professional learning?

Peer support was a common feature in all of the effective CPD programmes (ie. those which had an impact on pupil learning). All of the studies featured in the research reviews also included some form of specialist input. Teachers who were involved in peer support as part of their CPD tended to make stronger progress, to be more enthusiastic, confident and enjoy their professional development more. Peer support assisted them to experiment with new teaching ideas and take risks.

The peer support which featured in the four CPD reviews took many forms. Peer observation, joint reflection and joint planning were some of the collaborative processes which were built into the CPD programme designs. Tools and processes such as learning agreements, joint planning of or preparation for workshops, jointly reviewing of recorded lessons, team teaching or observations and collaborative planning sustained the learning experience.

Is peer support a specified element of your CPD provision? For example, do you provide time in workshops or development meetings, in school, in which teachers can work in pairs or groups of three to plan experiments with new approaches and arrange to support each other as they implement them? There are now a number of resources available which could help you design peer support processes as an integral part of CPD programmes. These include the National Framework for Mentoring and Coaching. The TDA website contains a library of resources, information and support to help CPD leaders.

What is the role of specialists, or 'experts' in supporting teachers' learning?

The key finding on the role of specialists was that they introduced new knowledge and skills and used a range of support mechanisms to help embed learning and bring about changes in teachers' practice. From their instruction, teachers gained new knowledge, skills and understanding – learning more about their subject, how to learn and ways of teaching. Techniques and strategies for supporting teachers' learning included modelling, workshops, observation and feedback – plus strategies for supporting peer working, usually in the teachers' own schools and classrooms.

Specialists played a key role in creating opportunities for teachers to discuss their learning, and in fostering a culture of dialogue, sustainability, teacher commitment, motivation

and ownership. The reviews show that CPD is effective when it combines specialist expertise with the existing knowledge and experience of practising teachers who are working collaboratively over time.

Many CPD programmes are very specific in relation to the nature of the knowledge learners are expected to gain, the number of workshops or seminars, the length and frequency of assignments, etc. Fewer specify exactly how the specialist input will be used to embed and sustain professional learning. Now that demand for CPD is becoming increasingly more informed, should you be building best evidence about effective specialist support into your programme specifications, into sessions in CPD events and into publicity material?

How can discussion be used effectively in CPD?

In the review studies, effective discussion created a supportive environment where participants felt comfortable and confident to share their experiences and opinions. CPD specialists played an important role in providing support for teachers to embed their learning and experiment with new ideas. Strategies used by the specialists included modelling risk-taking and modelling learning, by making themselves vulnerable – helping to redress the usual power differentials. Discussion involved unpacking shared learning experiences such as trying new techniques in classrooms, looking at evidence about how students responded, using this to identify next steps, and active listening. Through discussion, specialists also helped teachers to talk about their beliefs on learning, the curriculum and their pupils, so that they could review and explore them in the light of evidence.

As a CPD provider you will be familiar with a range of strategies for sparking and contributing to discussions. How does this evidence help you to think about structuring and enhancing discussions? For example, are you setting up discussions about classroom-based experiments in trying out new approaches and about unpacking students' responses? Would increased use of videos help you do this? In what ways would reviewing videos also help you encourage teachers to reveal and explain their beliefs?

How can CPD providers identify appropriate mechanisms for recognising and building on teachers' own starting points?

The research shows that identifying and building on teachers' individual starting points was an important first step. Teachers' existing knowledge, skills, beliefs and previous CPD experiences influenced their responsiveness to new CPD and their capacity to engage with new ideas.

When teachers were given the opportunity to jointly plan CPD, activities or materials, they were able to tailor the CPD to their own teaching contexts. Strategies for fostering teachers' ownership of their learning ranged from interviewing teachers before they took part in CPD to asking them to complete tests and other assessment activities to gain a picture of their existing knowledge, beliefs and skills. Some CPD programmes found it helpful to ask teachers to identify the barriers they felt they faced in making changes to their practice, as a way into professional development. Observation and feedback were used to identify the focus of the CPD, and peer support and collaboration were then built into the professional development activities.

When teachers had time to engage with and reflect on what their CPD would involve and how it related to their own experience, they approached it positively. Have you considered encouraging teachers to use self- or peer assessment as a tool for building on their starting points? For example, you could carry out a diagnostic assessment of a video of a lesson – perhaps one you have taught – to help you to establish a collective benchmark. Through this, teachers could create criteria for understanding and exploring new approaches, using their shared framework for self-assessment as a trigger for peer support discussions.

How does ownership influence teachers' CPD, and how can you encourage its development?

The reviews found many examples of effective CPD where teachers identified their own focus and steered their professional learning – within a framework laid down by the school or the provider. But there were also many examples where teachers were 'conscripted' to programmes, directed by their school or line manager. Here, too, there were positive outcomes for teachers and their pupils as long as the teachers were able to learn collaboratively with colleagues who were equally committed to learning. This collaboration was important in creating ownership because the teachers didn't want to let each other down.

Ownership was also created through jointly refining the focus of the professional development, recognising individual starting points and the desired pupil learning within a structure provided by the CPD facilitators. Even when the choices might have been quite restricted, for example in a mandatory mathematics CPD programme, teachers were encouraged, in their collaborative pairs or groups, to decide on a group of learners they wanted to focus on first, eg. gifted and talented learners or struggling pupils. Choices to help teachers feel ownership also related to the rhythm of development activities. For example, specialists and participants often worked together to agree the agenda, location and timing for the CPD. Together,

the strategies for developing teachers' ownership of their learning helped to sustain their commitment and embed changes in their practice, knowledge and skill.

Meeting teachers' needs and creating opportunities for taking leadership of their professional development requires some flexibility in learning focuses, modes and places of delivery. If you are an external provider, should you consider working in partnership with other providers as one way of creating the flexibility needed? If you are a CPD provider in a school, you could consider working with other schools and perhaps a local university or another CPD provider to ensure you can offer the flexibility you need to personalise the learning support for all of your colleagues.

What is important about sustained CPD, and how is it embedded in classrooms and learning?

The findings from the four CPD reviews show that sustained professional development (taking place over an extended period of time, rather than a one-off CPD event) has a positive impact on teachers' practice, knowledge, attitudes and skills. And, importantly, it has been linked to improvements in pupils' learning and motivation. CPD which takes place over at least one and usually two to three terms allows teachers time to embed new practices in their own classrooms, and time for reflection, observation and feedback.

Some CPD programmes used the specialists at the initial input stage, and then strategically used them to help embed and develop the learning, by encouraging teachers to adopt new teaching approaches and to try things out. In other programmes, the teachers simulated classroom teaching by taking the role of teacher, pupil and advanced skills teacher (AST). They worked collaboratively to observe, offer feedback and discuss the CPD intervention. Teachers also spent time in their own classrooms, adopting and implementing the strategies and knowledge they encountered through CPD events. They met regularly to review their progress and to build on their learning bit by bit. All the CPD programmes were configured to meet the specialised needs of the particular schools, communities and professional contexts, so there is no standard pattern to the way the common ingredients are combined.

As a CPD leader or provider, you may find it helpful to think about the timings, length and rhythm of CPD programmes, to ensure teachers have a reasonable amount of time to embed their learning, and opportunities to discuss and review their practice. Are you fully harnessing the potential for in-school peer support as a means of extending and embedding your contributions and sustaining learning?

How can you make sure your CPD programmes are appropriately linked to pupils' learning?

CPD in the research reviews which was linked to positive outcomes for pupils used a range of assessment tools to help teachers gauge the impact of new practice on their pupils. In many cases, the assessment tools were used formatively to support the teachers' learning. Teachers were taught how to evaluate the impact of their learning on their pupils' learning. They often used observations, pupil and teacher journals, curriculum tests, before and after measurements of pupils' work, knowledge, understanding or attitudes, and interviews. In many cases specialists worked with teachers to design the data collection instruments (eg. questionnaires) and to decide on the most appropriate tools for the teacher's specific learning focus.

Do your CPD programmes help teachers assess whether and how their learning and changes in their practice are affecting their pupils' learning? In what ways could you introduce teachers to suitable tools for assessing this impact, and how could you help them to use them?

Now you have a picture of the evidence and findings offered by the reviews, the following sections offer some practical tools and activities which will help you to think about the implications for your own context.

PRACTICAL WAYS OF DEVELOPING AND REFINING CPD

How can I help teachers recognise their own starting points?

The research reviews have shown that more effective CPD usually involves working with the teachers in the early stages of the intervention to recognise their starting points. How can you, as a CPD provider, help your teachers to identify their own starting points?

You could browse the TDA mentoring and coaching library, which has a number of film clips of mentoring sessions on identifying the professional learner's starting points.

The following film clips might be a useful stimulus for discussions in your programmes:

- Caterina and Luke – Luke is a trainee teacher and Caterina is mentoring him. In the clip they are discussing his strengths and weaknesses after observation, and planning how to progress.
- Rob and Marcelle – Rob is the headteacher mentoring Marcelle in her new role as head of year 4.

(The TDA Mentoring and Coaching Library is accessed from the TDA website at <http://mclibrary.tda.gov.uk> If you want to use the library, please e-mail coachingandmentoring@tda.gov.uk with your details, and ask for a user name and password.)

Teachers may find it helpful to use the discussions to help in planning their CPD, and to build on their existing knowledge and experience. Teachers and CPD leaders can then identify areas of specialism where the teacher could support or mentor less experienced colleagues.

How can I help teachers review their CPD progress?

All CPD has at its heart the desire to improve pupils' learning. So it is important that teachers are able to assess the impact of their CPD on their pupils' learning. In what ways can you support teachers to use formative assessment tools to support their own learning and to work out the impact of their learning on their pupils?

You may like to try using and expanding on the following interview schedule with teachers. Helping teachers to interpret and understand how to use their feedback is an important element in their CPD.

You may find it helpful to develop a structured approach to formative assessment of CPD, which is constructive for both teachers and pupils as a method of reviewing the progress and impact of CPD. What resources are you using already that could be adapted for this purpose? Could self-assessment records be adapted to provide a window into how pupils are experiencing targeted areas of learning?

Questions	Deeper probing questions
<p>What were the aims of the lesson?</p> <p>What changes can you recognise in your own teaching?</p> <p>Are there any things which haven't worked as well as you thought they might?</p> <p>What do you want to keep doing? What do you want to give up?</p>	<p>What aspects of your own practice were you experimenting with or using?</p> <p>What corresponding changes can you recognise in your pupils' learning processes? Did the outcomes change?</p> <p>Can you draw on support from colleagues involved in your CPD to explore why things haven't worked and how you can make the most from future opportunities?</p> <p>How can you feed the positive changes identified in your pupils' learning back into your own or colleagues' practice?</p>

How can I help teachers to recognise the ways their beliefs influence their teaching?

Recognising and understanding teachers' individual beliefs is important in developing CPD that meets individual needs. Beliefs operate subconsciously – as D H Lawrence says, "they come more from the solar plexus than the mind". But beliefs have a profound effect on practice. How can you get teachers to talk about their beliefs?

You could ask colleagues to work in pairs or groups of three, observing a very short video of a lesson where what's on the surface doesn't provide the whole picture. To structure responses to the video, ask them to write down in an envelope three or four bullet points about what they believe they have seen in relation to learning, and place the envelopes in the centre of the table. Then invite them to explore in turn:

- what they saw
- what they notice about what they saw
- what they wonder about what they saw, and
- what they believe about what they saw.

They should exhaust all their contributions to each question and only move on to the next question when all responses have been heard. They should only arrive at their beliefs after talking about the surface features. At the end of the process, participants will have had a chance to bring to the surface their different beliefs and the ways they relate to evidence, and will then be able to compare these thoughts with their implicit, instinctive reactions.

It may be helpful to use the insights gained into your own and colleagues' beliefs to discuss how these influence the way you approach CPD, and to help shape the design and development of your CPD programmes.

TOOLS WHICH MAY BE USEFUL

As a provider or leader of CPD you need a range of tools and activities to support and encourage teachers to get involved and progress with their professional development. The following tools could help you do just that.

Teacher self-evaluation tool

Teacher self-evaluation can be used to track the impact of CPD and to gain an insight into how teachers feel about their own progress. The following self-evaluation questionnaire, adapted from one of the studies, may give you a summative assessment tool which can be adapted for use in your own programmes.

CPD self-evaluation questionnaire

Thank you for taking part in the CPD programme. Your feedback is important for evaluating the quality of the training and for helping you reflect on how your learning is affecting pupils. Please could you spare a few moments to answer these questions.

1 I implemented the new approach following the training in and explored successes and further developments with a colleague on occasions.

2 The average number of days/classes in which I have used the new approaches:

1 day 2 days 3 days 4 days More than 5 days

3 Did you modify or adapt your practice for classes with pupils who may be at risk, are low achieving or who have disabilities?

Yes *Please describe briefly the modifications you have made*

No

4 The CPD programme was ultimately intended to enhance the academic performance of pupils.

What impact did you expect the CPD programme to have on pupils (prior to the CPD training)?

- Did you expect any particular groups of pupils to benefit?
- Were you expecting pupils' on-task behaviour to improve?
- Were you intending to target specific areas of academic achievement?

What changes did you see (after the CPD training and implementation)?

- Did the CPD programme have the desired impact? Yes No
- Were there any surprising effects? If so, please summarise.

5 If you saw improvements in pupils' academic performance, were they:

Improved test marks	<input type="checkbox"/>	More productive group work	<input type="checkbox"/>
Improved quality of class work	<input type="checkbox"/>	Better classroom engagement	<input type="checkbox"/>
Improved quality of homework	<input type="checkbox"/>	Other	<input type="checkbox"/>

6 Did the academic performance of at risk, low achieving or disabled pupils improve?

Yes, for some Yes, for all No, performance was unaffected

7 Please note where improvements in academic performance of at risk, low achieving or disabled pupils were taking place:

Improved test marks	<input type="checkbox"/>	More productive group work	<input type="checkbox"/>
Improved quality of class work	<input type="checkbox"/>	Better classroom engagement	<input type="checkbox"/>
Improved quality of homework	<input type="checkbox"/>	Other	<input type="checkbox"/>

Pupil learning logs

Pupil learning logs, or reflective journals, were also widely used as a formative assessment tool in the CPD for both pupils and teachers. They can also help teachers to explore their beliefs.

Learning logs are usually constructed around a set of questions which pupils have to answer after a lesson or at the end of a week. Pupils need to know who will be looking at their logs so they feel confident about filling them in. They are a great source of insight into pupils' learning experiences and work best over a short period of time before pupils start to lose interest.

Pupil learning log

The types of questions to structure a learning log might include:

Did you find the lesson interesting? Yes No *If not, which bits did you find least interesting?*

Did the teacher explain the task well? *If not, what didn't you understand?*

What did you discover or achieve that was new in this lesson?

What did you do well in the lesson?

When did you work well? *On your own, working in pairs, in group work?*

Were there any things you found very difficult?

Were there any things you found really easy?

What skills were you using? *Reading, maths, talking, problem-solving etc.*

What one thing would you like to keep in future lessons?

What one thing would you most like to drop from future lessons?

SOURCES AND RESOURCES

Practitioners may be interested in further sources of information. The EPPI summaries and full reviews can be found at the following weblinks:

- 'How does collaborative continuing professional development (CPD) for teachers of the 5–16 age range affect teaching and learning?' Available at: <http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=132> [Accessed 23/08/07]
- 'The impact of collaborative continuing professional development (CPD) on classroom teaching and learning – review: how do collaborative and sustained CPD and sustained but not collaborative CPD affect teaching and learning?' Available at: <http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=136> [Accessed 23/08/07]
- 'The impact of collaborative continuing professional development (CPD) on classroom teaching and learning – review: what do teacher impact data tell us about collaborative CPD?' Available at: <http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=139> [Accessed 23/08/07]
- 'What do specialists do in CPD programmes for which there is evidence of positive outcomes for pupils and teachers?' Available at: <http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=2275> [Accessed 01/11/07]

The research informed practice site (TRIPS) part of the DCSF standards site hosts a range of studies into CPD. Titles in this area include:

- Using continuing professional development to support literacy in pre-school
- Implementing mathematics reforms in lower secondary schools serving deprived areas
- The effects of continuing professional development (CPD) on teachers and teaching in chemistry

- Primary teachers' changing attitudes and cognition during a two-year science in-service programme and their effect on pupils
- How do teachers use research findings to improve their professional practice?
- The role of powerful pedagogical strategies in curriculum development.
- These are all available online at: www.standards.dfes.gov.uk/research/themes/cpd/?digest=all [Accessed 23/08/07]

Practitioners may also be interested in the following research of the month (RoM) summaries on the General Teaching Council for England (GTC) website:

- Professional development: what do studies of continuing professional development (CPD) tell us about the factors which help professional growth of teachers and pupil learning?
- The impact of collaborative continuing professional development (CPD) on classroom teaching and learning: what do we know about collaborative continuing professional development (CPD) and its impact on teaching and learning?
- Teachers and school-based research: why and how do teachers engage in and with research?

Available online at: www.gtce.org.uk/research/romtopics/rom_cpd/ [Accessed 23/08/07]

The Centre for the Use of Research and Evidence in Education (CUREE) website has a range of resources for mentoring and coaching, including the national framework for mentoring and coaching, available at: www.curee.co.uk/dynamic/curee48.jsp?m=59 [Accessed 24/08/07]