



Great professional development which leads to great pedagogy: nine claims from research

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Resource

Research and development network national themes:
theme two

Autumn 2012

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It seems obvious to state that great professional development is fundamental to great pedagogy, but what are the characteristics of great professional development? A recent international review concludes that teachers must become 'active agents of their own professional growth' (Schleicher, 2012:73). What is needed for this to become a reality? Teaching schools demonstrate excellence in and commitment to professional development. With alliance partners, they have a mission to develop and enhance this across their schools. Working together, teaching school alliances have great potential to secure improvement gains across the system, through clusters of institutions sharing resources, to meet a range of staff needs, distributing innovation and transferring professional knowledge (Hargreaves, 2011). How can research on professional development help with this endeavour and support all schools' and school partnerships' improvement efforts? This research review offers nine claims about great professional development that leads to great pedagogy.

What's in a word?

Looking at the question 'What makes great professional development which leads to consistently great pedagogy?' the word 'great' needs explanation. For professional development, the word 'great' indicates that powerful learning experiences must have an impact. The following definition of professional development by Sara Bubb and Peter Earley strongly reinforces the importance of making a difference to pupil outcomes by improving pedagogy and teachers' learning:

an ongoing process encompassing all formal and informal learning experiences that enable all staff in schools, individually and with others, to think about what they are doing, enhance their knowledge and skills and improve ways of working so that pupil learning and wellbeing are enhanced as a result... creating opportunities for adult learning, ultimately for the purpose of enhancing the quality of education in the classroom.

Bubb & Earley, 2007:4

These authors and others (Opfer & Pedder, 2011; Timperley et al, 2008; Garet et al, 2001) emphasise that great professional learning and development consistently makes a difference to the learning of both pupils and teachers:

Effective continuing professional development is likely to consist of that which first and foremost enhances pupil outcomes, but which also helps to bring about changes in practice and improves teaching.

Bubb & Earley, 2007:4

Our review broadly takes this line. It's important to note that while there should be strong links between professional development experiences and pupil outcomes, the research doesn't always track exactly how professional development improved pedagogy or what it was about the changed pedagogy that resulted in positive pupil outcomes. This provides teaching school alliances, and any other schools or school partnerships, with exciting opportunities to think about evaluating impact in planning projects.

The word 'consistently' also needs some explanation. This means that pedagogy consistently focuses on those aspects that make a difference, and that pedagogy has to be great all the time, across the school (addressing in-school variation) and, in the case of alliances, across alliance schools. That's the big challenge.

For our purposes, effective professional development is the process of professional learning which results in great pedagogy within and across schools. This process, which includes putting in place supporting conditions for professional learning, leads to improved pupil learning, achievement and wellbeing.

The need to consider both great and consistently effective professional learning is at the core of this literature review which is an indicative summary of what is known and can be claimed, based on the evidence, rather than a comprehensive research review. We have largely identified research or syntheses of research to provide evidence of the impact of professional learning and development on pupil and teacher learning, and which in turn directly support school improvement.

At times, we use the term 'professional learning' synonymously with 'professional development' as, increasingly, teachers and other professionals are interested in their learning and it has been argued that professional learning better reflects the kinds of experiences that are effective (Timperley et al, 2008). As Lois Brown Easton argues:

It is clearer today than ever that educators need to learn, and that's why 'professional learning' has replaced 'professional development'. Developing is not enough. Educators must be knowledgeable and wise. They must know enough in order to change. They must change in order to get different results. They must become learners.

Easton, 2008:756

John Hattie, based on his synthesis of more than 800 meta-analyses of factors and interventions related to pupil achievement, also concludes that:

The more the student becomes the teacher and the more the teacher becomes the learner, then the more successful are the outcomes.

Hattie, 2009:25

Our review of the literature, based on these considerations, has led to nine claims from the research. Although these are articulated separately, in reality they are frequently connected.

1. Effective professional development starts with the end in mind.
2. Effective professional development challenges thinking as part of changing practice.
3. Effective professional development is based on the assessment of individual and school needs.
4. Effective professional development involves connecting work-based learning and external expertise.
5. Effective professional learning opportunities are varied, rich and sustainable.
6. Effective professional development uses action research and enquiry as key tools.
7. Effective professional development is strongly enhanced through collaborative learning and joint practice development.
8. Effective professional development is enhanced by creating professional learning communities within and between schools.
9. Effective professional development requires leadership to create the necessary conditions.

1. Effective professional development starts with the end in mind

If professional development is to make a difference to pupils' learning outcomes, it has to start with an analysis of their needs. Pupils' learning needs should directly influence what teachers need to learn. Detailed analysis of pupil data that leads to the identification of potential areas for further development in teachers' knowledge, skills and understanding drives many examples of effective professional development (Harris & Jones, 2010; Ofsted, 2006; Butler et al, 2004; Fishman et al, 2003).

Evaluating impact has to be planned at the outset, and the data to support judgements of impact needs to be identified (Earley & Porritt, 2009; Guskey, 2000). Clear baseline evidence prior to the professional learning experience helps gauge accurately the impact of the intervention, innovation or learning opportunity and supports the evaluation of progress. Impact on staff is the difference in behaviours, attitudes, skills and practice that occurs as a result of the professional development. This difference is found in:

- **practice** for example changes in subject or process knowledge and classroom practice
- **personal capacity** including learning or improving skills, increased self-confidence, greater motivation, improved reflection on practice and greater ability to take part in or lead change initiatives
- **interpersonal capacity** for example working more effectively with colleagues, increased confidence about sharing great practice and greater ability to question alternative viewpoints (Earley & Porritt, 2009; Frost & Durrant, 2003)

Starting with the end in mind (Earl et al, 2006 based on Covey, 1989) involves tracking actions through to outcomes. Chris Argyris and Donald Schön (1978) introduced the idea of a theory of action, a set of logically connected statements that connect people's actions with their consequences for quality and performance. Theories of action describe the set of assumptions that explain the mini-steps that lead to the long-term goal and connections between activities and outcomes that occur at each step of the way. They provide storylines and maps of how change is intended to happen, which can be revised as intentions are checked against what happens in reality (City et al, 2010).

2. Effective professional development challenges thinking as a fundamental part of changing practice

The result of professional learning is visible in changes in practice and also 'in one's thinking about the how and why of that practice' (Kelchtermans, 2004:220). Developing great pedagogy is more than doing something differently. It involves digging deep and understanding why one strategy is more effective than another at a particular time. Powerful professional learning challenges and interrupts assumptions (Timperley et al, 2008; Argyris & Schön, 1978), and encourages teachers to develop their own theory from their practice. Teachers are challenged by professional learning experiences that stretch them 'to do more than they think possible' (Barber, Whelan & Clark, 2010:20) and benefit from being aware of and understanding their own learning processes (ie, metalearning: see Watkins, 2000) exploring what motivates and influences their learning, what hinders it and what it feels like as they are learning. This helps them better understand pupil learning.

Skilled and informed exchange about teaching is critical to developing teaching expertise. Deep and enduring conversations stimulate reflection and inform action. In focused learning conversations, educators make meaning together, and jointly come up with new insights and knowledge that lead to intentional change to enhance their practice and pupils' learning. Exploring new ideas and evidence, participants bring different perspectives and challenge each other respectfully. They are open to being honest, and push themselves to reflect deeply in ways that challenge their thinking (Stoll, 2012; Earl & Timperley, 2008; Little & Horn, 2007). Coaching stimulates powerful conversations and provides a structured learning process focused on particular aspects of practice. Within a coaching culture that fosters trusting, respectful relationships, narrative and evaluative feedback challenges thinking and improves teachers' practice and student learning (Robertson, 2009).

3. Effective professional development is based on the assessment of individual and school needs

Individual and collective professional learning needs both have an explicit focus in studies of effective professional development (Ofsted, 2006). Individual needs relate both to the content of professional development, and also to teachers' personal concerns. Personal drivers such as life history, personal circumstances and professional life phase can affect teachers' needs at any particular time (Day et al, 2007; Grundy & Robinson, 2004), as well as learning needs, performance management and professional standards. When professional development is effective, it allows for a range of starting points and differentiates appropriately between diverse professional learning requirements (Loucks-Horsley & Matsumoto, 1999). It involves teachers in shaping their learning agenda and influencing the means by which this will be taken forward. Such development needs must also be matched to the best sources of support (Ofsted, 2006). Understanding specific needs helps promote ownership of professional learning which is essential for positive impact (Timperley et al, 2008).

To create consistently great pedagogy and widespread impact, team needs also have to be considered (Bubb, Earley & Hempel-Jorgensen, 2009). Professional development tends to be more effective when it is an integral part of a larger school improvement effort, rather than isolated activities that have little to do with other school initiatives or changes (Darling-Hammond et al, 2009). This is best set within a culture of professional learning where there is no tension between the respective needs of the individual, team and institution. Rather, there is a learning environment in which individual development contributes to the whole, and collaborative experiences and opportunities help to empower and provide meaningful and strategic context to the work of the individual.

4. Effective professional development involves connecting work-based learning and external expertise

The workplace is a critical site for experiential learning as a continuous process that is grounded in experience (Kolb, 1984) and which fosters development through work activities and tasks. The key point is learning from action in real situations, with concrete, hands-on experience and, often, the feedback of a mentor. Teachers value professional learning approaches that enable them to experiment with their classroom practice and adapt it in the light of reflection and feedback from pupils and colleagues (Opfer, Pedder & Lavicza, 2008).

Successful professional development alliances draw together three principles: collaboration between schools; collaboration across time; and collaboration with external partners (Husbands, 2011). The challenge brought by external partners is an important ingredient. Many agree that good professional learning involves learning in context, ie, classroom and school settings (Buck & Francis, 2011). High-quality professional development comprises a thoughtful mix of school-based and facilitated development experiences with key contributions from external expertise (Timperley et al, 2008; Cordingley et al, 2007). Although school focused, school based and school led, it also needs to draw in and use external expertise where appropriate. External expertise may be offered in person, but it can also come through reading and online learning that helps teachers to connect theory and practice. External expertise provides the kind of critical friendship that offers challenge and support and stimulates new thinking. The provision of such external expertise and critique is also an important factor in helping schools and practitioners become research engaged, particularly in providing support on research techniques of analysis, evaluation and reporting (Sharp et al, 2005; GTC, CUREE & LSIS, 2011).

5. Effective professional learning opportunities are varied, rich and sustainable

Effective professional learning recognises, endorses and actively models the best ways that adults learn. What learners already know influences their learning, and they acquire new knowledge by constructing it. Constructing knowledge is experiential – it is a process of change that includes addition, creation, modification, refinement, restructuring and rejection (Brandsford et al, 1999). Teachers need many opportunities to learn through a range of activities, which can be tailored to particular preferences, needs and contexts. Learning happens through diverse experiences. Not surprisingly, researchers conclude that time needs to be well spent (Bubb & Earley, 2010; Wei et al, 2010; Bubb, Earley & Hempel-Jorgensen, 2009) and this means the kind of professional learning experiences outlined in this review. Teachers around the world say they need more professional learning focused on teaching and learning and subject disciplines (Schleicher, 2011). Strong effects of professional development on practice are also found where it's focused on how to teach specific kinds of content to learners, how to use specific pedagogical skills, and on analysis of pupil learning, including their conceptual understanding and skills (Desimone, 2009; Cohen & Hill, 2001).

The quality of teachers' professional development is related to sustained opportunities to apply learning gained to their practice over an extended period of time. It's not about one-off, brief or sporadic experiences, but rather about learning that is sustained, intensive and in-depth. In a 2008 state-of-the-nation research project on schools and continuing professional development, teachers reported that professional development that was sustained and intensive had a greater effect on changing their practice (Opfer et al, 2008). Even when teachers share experiences of professional development, activities need to be sustained, continuous or embedded over time to have impact beyond individuals. If activities lack a coherent focus, there is little sustained impact on practice (Bubb & Earley, 2009).

6. Effective professional development uses action research and enquiry as key tools

Engaging with and using research helps to improve practice (GTC, CUREE & LSIS, 2011; Sharp & Handscomb, 2007; Hemsley-Brown & Sharp, 2003). Action research has a long history in England and many advocates, with more recent encouragement for and examples of whole-school research engagement (Sharp et al, 2005; Handscomb & MacBeath, 2003). Research engagement across a school involves staff undertaking individual and joint research activity to investigate key issues in teaching and learning, accessing research findings from external sources and taking these into account in their work. Using enquiry for professional development involves turning data and experience into knowledge, using evidence for decision-making, participating in others' research and promoting communities of enquiry (Wilkins, 2011; Sharp et al, 2006).

A best-evidence synthesis on professional learning and development identified how cycles of enquiry and knowledge-building can improve pupils' engagement, learning and wellbeing (Timperley et al, 2008). Helen Timperley (2011:10) argues: 'When teachers have a deep understanding of the profiles of their students, they then move to inquire about what knowledge and skills they need if they are to be more effective in addressing the needs of individuals and groups of students'. Developing structured, collaborative partnerships between schools and with researchers helps increase teachers' involvement in and use of research (Rickinson, Sebba & Edwards, 2011). Commitment to research engagement is an important feature of professional learning because it fosters a proper regard for evidence which can be used to change practice and improve pupil outcomes. It also establishes research communities within and beyond the school that sustain professional learning over time.

7. Effective professional development is strongly enhanced through collaborative learning and joint practice development

Learning effectively with and from other professionals is reinforced in the literature as a powerful component of effective professional learning. Purposeful collaboration between peers is also a feature of how the world's greatest school systems improved from already being great to becoming excellent (Mourshed, Chijioki & Barber, 2010). Teachers value learning with other teachers (Day et al, 2007), and many teachers involved in focused collaborative professional development subsequently change or substantially develop aspects of their teaching which improves their pupils' learning. Other outcomes for teachers found in syntheses of studies on collaborative professional development are greater self-confidence and belief in their ability to make a difference to pupils' learning, more enthusiasm for collaborative working and being observed and receiving feedback, and greater commitment to changing their practice and trying new strategies (Cordingley et al, 2003). When compared with the impact of collaborative professional development, studies of individually oriented professional development offer only weak evidence of its capacity to influence teacher or pupil change (Cordingley et al, 2005). No one form of collaborative learning outshines others in all studies, but focused peer observation with feedback features in a number (Cordingley et al, 2005). Powerful modes of collaborative learning include lesson study, learning walks, instructional rounds, and coaching and mentoring.

Teachers working in partnership with teachers from other schools have increased opportunities for learning with and from each other. In many ways, this joint practice development, as Michael Fielding and his colleagues called it (Fielding et al, 2005), is another term for collaborative learning. At its heart this involves mutual engagement where colleagues open up, share and co-construct ways of developing practice. Notably, collaborative learning is most likely to be effective where attention is paid to developing trust, building on existing relationships and networks, recognising respective roles and contributions, ensuring knowledge meets local needs and addressing competing priorities (Sebba, Kent & Tregenza, 2012). Learning about networks and how to network both involve understanding these ideas and learning to participate (McCormick et al, 2007).

8. Effective professional development is enhanced by creating professional learning communities within and between schools

Successful professional learning and development is consistently associated with professional learning communities (Schleicher, 2012). This is because professional learning communities can make a real difference to teachers' practice and pupil outcomes. Where they are properly constructed and have a persistent focus on improving learning outcomes, they help teachers to develop and to integrate new learning into their existing practice (Harris & Jones, 2011; Vescio, Ross & Adams, 2008; Wiliam, 2007/8; Hord, 1997).

Offering teachers the opportunity to participate and collaborate in professional learning communities is essential to high-quality professional development (Borko, Jacobs & Koellner, 2010; Little, 2006). Distributed leadership provides the infrastructure that holds professional learning communities together and makes them effective. The collective and interdependent work of educators at multiple levels, who are driving forward the innovative work, creates and sustains successful professional learning communities (Harris & Jones, 2011). Developing and maintaining collaborative professional learning communities ensures that professional development is located within sustainable learning cultures and environments (Saunders, Goldenberg & Gallimore, 2009; Stoll et al, 2006). Professional learning communities can exist within and between schools. Such communities have a clear and shared understanding of effective teaching and learning that enhances learning for all pupils in their school or schools. The norm across the community is for colleagues to support each other in interrogating their practice critically, and there is a sense of collective responsibility for all colleagues' professional learning. Professional learning communities also foster change in practice by creating an environment that supports innovation and experimentation (Bryk, Camburn & Louis, 1999).

9. Effective professional development requires leadership to create the necessary conditions

Leadership strongly influences the kinds of settings where all or most teachers see their learning as cumulative and developmental and where teachers believe that you never stop learning to teach. Leaders create the conditions where pedagogy is either great or not, and leaders at all levels have a critical role in ensuring professional development is great. They make a profound difference to pupil outcomes by promoting and participating in teachers' development (Robinson, 2011). Effective approaches to professional development are underpinned by senior leaders who recognise the potential of professional development for enhancing pupil outcomes, give it a central role in school improvement planning and reflect it in their policies (Coldwell et al, 2008). Where professional development is effective, leaders integrate professional development with performance management and school self-review (Ofsted, 2006). They also make an important difference by establishing a culture of evidence-based enquiry, and nurturing trusting and mutually respectful relationships (Kaser & Halbert, 2009; Bryk & Schneider, 2002). Effective professional learning takes place in contexts that support teachers' positive sense of themselves as teachers, which is critical to their commitment to ongoing improvement (Day et al, 2007).

Acquiring and continuing to use knowledge and skills depend on organisational arrangements that support ongoing learning and the application of new learning. Where schools are strategic in creating time and productive working relationships, the benefits include greater consistency in teaching and learning, greater willingness to share practices and try new approaches, and more success in solving classroom problems (Darling-Hammond et al, 2008).

Effective leaders focus on pedagogy. Effective professional learning promotes the development of leadership capacity at all levels, enriching both formal and informal leadership of great pedagogy (Harris, 2011; Spillane, 2006). Excellent teachers recorded especially high levels of collaborative and research-based professional development and valued these activities (Opfer et al, 2008).

Concluding comments

The core purpose of professional learning is the improvement of pupil achievement and outcomes. This tenet has gained increasing support from a range of research and commentary in recent years. It builds on the long-standing evidence that continuing professional development is best located within schools where it can be linked and applied to classroom practice. So effective professional learning is school focused, school based and school led, whilst also drawing in external expertise where appropriate. Great professional development incorporates into this mix professional learning experiences that are sustained and intensive, rather than brief and sporadic, and that are undertaken collaboratively. We hope this review will help deepen efforts to stimulate and explore great professional development which leads to consistently great pedagogy.

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Acknowledgements

With thanks to other members of the research team and Peter Earley for their helpful feedback and suggestions.

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