LOUISE STOLL, RAY BOLAM, AGNES MCMAHON, MIKE WALLACE
and SALLY THOMAS

PROFESSIONAL LEARNING COMMUNITIES: A REVIEW OF THE LITERATURE

ABSTRACT. International evidence suggests that educational reform's progress depends on teachers' individual and collective capacity and its link with school-wide capacity for promoting pupils' learning. Building capacity is therefore critical. Capacity is a complex blend of motivation, skill, positive learning, organisational conditions and culture, and infrastructure of support. Put together, it gives individuals, groups, whole school communities and school systems the power to get involved in and sustain learning over time. Developing professional learning communities appears to hold considerable promise for capacity building for sustainable improvement. As such, it has become a 'hot topic' in many countries.

INTRODUCTION

International evidence suggests that educational reform's progress depends on teachers' individual and collective capacity and its link with school-wide capacity for promoting pupils' learning. Building capacity is therefore critical. Capacity is a complex blend of motivation, skill, positive learning, organisational conditions and culture, and infrastructure of support. Put together, it gives individuals, groups, whole school communities and school systems the power to get involved in and sustain learning over time. Developing professional learning communities (PLCs) appears to hold considerable promise for capacity building for sustainable improvement. As such, it has become a 'hot topic' in many countries.

While we have learnt a tremendous amount about how to improve individual schools over the last 25 years, educators internationally face major challenges in trying to sustain improvement over time, and spread improvements throughout whole systems. To deal with the impact of globalisation and rapid change, new ways of approaching learning seem to be required. Learning can no longer be left to

individuals. To be successful in a changing and increasingly complex world, it is suggested that whole school communities need to work and learn together to take charge of change, finding the best ways to enhance young people's learning.

Understanding effective PLCs in schools and research into their existence, operation, and effectiveness are at a relatively early stage of development in many countries, although the evidence suggests they have a positive impact on school improvement. Our own study – *Creating and sustaining effective professional learning communities* (Bolam et al., 2005), funded by England's Department for Education and Skills (DfES), National College for School Leadership (NCSL and General Teaching Council (GTC) – was the first of its kind in the UK. Until recently, most of the research took place in North America. Applicability of theoretical ideas and prescriptions based on this evidence to the UK's current schools' context may have been limited insofar as PLCs are affected by contingent national contextual differences. While our own research needed be informed by the wider literature, it also had to test its applicability and investigate whether additional factors and processes would prove significant. The literature review provided important source material to draw on throughout the project.[1] What appears here is an updated review.

Five broad questions structure this review:

1. What are professional learning communities?
2. What makes professional learning communities effective?
3. What processes are used to create and develop an effective professional learning community?
4. What other factors help or hinder the creation and development of effective professional learning communities?
5. Are effective professional learning communities sustainable?

1. WHAT ARE PROFESSIONAL LEARNING COMMUNITIES?

In this section, we examine what the literature has to say about the term professional learning communities (PLCs), look at how the concept has developed, and 'unpack' the different words.

Defining 'professional learning community'

There is no universal definition of a professional learning communities. PLC may have shades of interpretation in different contexts,

but there appears to be broad international consensus that it suggests a group of people sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive, learning-oriented, growth-promoting way (Mitchell & Sackney, 2000; Toole & Louis, 2002); operating as a collective enterprise (King & Newmann, 2001). Summarising the literature, Hord (1997, p.1) blends process and anticipated outcomes in defining a 'professional community of learners' (Astuto, Clark, Read, McGree & Fernandez, 1993) as one:

... in which the teachers in a school and its administrators continuously seek and share learning, and act on their learning. The goal of their actions is to enhance their effectiveness as professionals for the students' benefit; thus, this arrangement may also be termed *communities of continuous inquiry and improvement*.

The notion, therefore, draws attention to the potential that a range of people based inside and outside a school can mutually enhance each other's and pupils' learning as well as school development.

How the Concept has Developed

The concept of PLC seems to have emerged from a variety of sources. At one level, it is connected with notions of enquiry, reflection and self-evaluating schools. In this respect the idea of an effective PLC is not new; certain key features were evident in the work of education writers in the early part of the last century. For example Dewey (1929) was committed to the view that:

...educational practices provide the data, the subject matter, which forms the problems of inquiry.

A generation or so ago, Stenhouse (1975) argued that teachers ought to be school and classroom researchers and play an active part in the curriculum development process. Schön (1983) was influential in advocating the notion of the 'reflective practitioner'. From the school-based curriculum development movement of the 1970s, a series of projects and activities emerged on the 'thinking school', 'problem-solving school' (Bolam, 1977) and, perhaps most notably, 'Creative School' (CERI, 1978). Later, in the 1980s, came the shift to the self-reviewing or self-evaluating school (e.g. McMahon, Bolam, Abbott & Holly, 1984).

The actual term 'PLC' appears to be one emerging from those working within the profession and those supporting schools, for example, a research review for practitioners by Hord (1997). Most

references to 'learning community' are related to learning through community service, ICT, HE and other community learning. 'Professional community' by contrast, is a body of research starting in the 1980s largely concerned with schools and departments as mediating contexts for teaching (Louis, Kruse & Bryk, 1995; Talbert, McLaughlin & Rowan, 1993):

... teachers' responses to today's students and notions of good teaching practice are heavily mediated by the character of the professional communities in which they work ... schools differed strikingly from one another in the strength or their professional communities – reporting clear differences, even within the same districts, in levels of collegiality, faculty innovativeness, and learning opportunities as perceived by teachers (McLaughlin & Talbert, 1993, p. 8).

In developing their framework for professional community, Louis and colleagues (1995, p. 4) explained that they used the term:

... to emphasize our belief that unless teachers are provided with more supporting and engaging work environments, they cannot be expected to concentrate on increasing their abilities to reach and teach today's students more effectively.

Seashore, Anderson, and Riedel (2003, p. 3) elaborate:

By using the term *professional learning community* we signify our interest not only in discrete acts of teacher sharing, but in the establishment of a school-wide culture that makes collaboration expected, inclusive, genuine, ongoing, and focused on critically examining practice to improve student outcomes. ...The hypothesis is that what teachers do together outside of the classroom can be as important as what they do inside in affecting school restructuring, teachers' professional development, and student learning.

Unpacking the Concept

It is not insignificant that the word 'learning' appears between 'professional' and 'communities'. Some research on teachers' workplace is specific about connections with learning. For example, while her main focus was on teaching and its impact on student outcomes in Tennessee elementary schools, Rosenholtz (1989) distinguished between 'learning enriched' and 'learning impoverished' schools. As McLaughlin and Talbert (2001) point out, not all strong professional communities have an orientation to practice conducive to change or even concerned with improvement, and Little (1999) has distinguished between schools with strong teacher communities in which the professional culture is either that of 'traditional community'

(where work is co-ordinated to reinforce traditions) and 'teacher learning community' (where teachers collaborate to reinvent practice and share professional growth).

At the heart of the concept, however, is the notion of community. The focus is not just on individual teachers' professional learning but of professional learning within a community context – a community of learners, and the notion of collective learning. Westheimer (1999, p. 75) highlights five features most commonly identified by contemporary theorists exploring community: shared beliefs and understandings; interaction and participation; interdependence; concern for individual and minority views (''Members of a community, while sharing interests and a commitment to one another, don't always agree''); and meaningful relationships. Central to the notion of school community is an ethic of interpersonal caring permeating the life of teachers, students and school leaders (Hargreaves & Giles, 2003; Louis, Kruse & Bryk, 1995).

The community focus emphasises mutually supportive relationships and developing shared norms and values whereas the focus on professionals and professionalism is towards the acquisition of knowledge and skills, orientation to clients and professional autonomy. This can lead to tensions not least in matters concerned with the regulation of teacher behaviour (Louis et al., 1995; McMahon, 2001a) and operation of any performance-related pay systems. Fullan (2001) has concluded that effective schools establish professionally collaborative cultures and argues that attention should shift from focusing on individuals (e.g. merit pay, career ladders etc) to developing schools as PLCs.

Further queries are raised about the concept. How inclusive is the community? Should it include all staff in the school or just teaching staff? Huffman (2001) suggested that more mature PLCs involve all their stakeholders in building vision, but those primarily involved are those in school. Much of the literature considers only teachers (including school leaders) to be members of *professional* learning communities. For many schools, however, especially those in certain contexts and those with younger children or large numbers of pupils with special needs, the role of other staff employed by the school can be equally critical (Louis & Gordon, 2006).

The organisation of many schools also makes it likely that PLCs may be operating at a number of different levels. For example, McLaughlin and Talbert (2001) found strong and weak departmental

teacher learning communities in their study of 16 high schools, but also found school-wide learning communities in three of the schools.

2. What Makes Professional Learning Communities Effective?

We now describe five characteristics of PLCs highlighted in the literature, and explore whether PLCs go through different growth stages. We also look at the impact of PLCs. It should be noted that many others researching and writing about the characteristics of PLCs implicitly at least assume that if the characteristics were present, these communities were 'effective', for example, by being much closer to "exemplary PLC practices" (Cowan, Fleming, Thompson & Morrisey, 2004, p. 16).

What are the Characteristics of Professional Learning Communities?

PLCs appear to share five key characteristics or features, which also appear to be intertwined, operating together (Hord, 2004; Louis et al., 1995). These are:

- *Shared values and vision*. Having a shared vision and sense of purpose has been found to be centrally important (Andrews & Lewis, 2007). In particular, there is "an undeviating focus" on all students' learning (Hord, 2004) because individual autonomy is seen as potentially reducing teacher efficacy when teachers cannot count on colleagues to reinforce objectives (Louis et al., 1995; Newmann & Wehlage, 1995). Louis and colleagues (1995) suggest that a shared value base provides a framework for "shared, collective, ethical decision making".
- *Collective responsibility*. There is broad agreement in the literature that members of a PLC consistently take collective responsibility for student learning (King & Newmann, 2001; Kruse, Louis & Bryk, 1995; Leithwood & Louis, 1998). It is assumed that such collective responsibility helps to sustain commitment, puts peer pressure and accountability on those who do not do their fair share, and eases isolation (Newmann & Wehlage, 1995).
- *Reflective professional inquiry*. This includes: 'reflective dialogue' (Louis et al., 1995), conversations about serious educational issues or problems involving the application of new knowledge in a sustained manner; 'deprivatization of practice' (Louis et al., 1995), frequent examining of teachers' practice, through mutual

observation and case analysis, joint planning and curriculum development (Newmann & Wehlage, 1995); seeking new knowledge (Hord, 2004); tacit knowledge constantly converted into shared knowledge through interaction (Fullan, 2001); and applying new ideas and information to problem solving and solutions addressing pupils' needs (Hord, 1997).

- *Collaboration*. This concerns staff involvement in developmental activities with consequences for several people, going beyond superficial exchanges of help, support, or assistance (Louis et al., 1995) for example, joint review and feedback (Hord, 2004). The link between collaborative activity and achievement of shared purpose is highlighted (Newmann & Wehlage, 1995). Feelings of interdependence are central to such collaboration: a goal of better teaching practices would be considered unachievable without collaboration, linking collaborative activity and achievement of shared purpose. This does not deny the existence of micropolitics, but conflicts are managed more effectively in some PLCS, as Hargreaves (2003, p. 163) notes:

> Professional learning communities demand that teachers develop grown-up norms in a grown-up profession – where difference, debate and disagreement are viewed as the foundation stones of improvement.

- *Group, as well as individual, learning is promoted*. All teachers are learners with their colleagues (Louis et al., 1995). In Rosenholtz's (1989) 'learning enriched schools', "professional self renewal" is "a communal rather than solitary happening". Collective learning is also evident, through collective knowledge creation (Louis, 1994), whereby the school learning community interacts, engages in serious dialogue and deliberates about information and data, interpreting it communally and distributing it among them.

Our own research broadly confirms these five characteristics, also identifying three others: mutual trust, respect and support among staff members; inclusive membership – the community extending beyond teachers and school leaders to support staff, and it being a school-wide community rather than consisting of smaller groups of staff; and openness, networks and partnerships – looking beyond the school for sources of learning and ideas (Bolam et al., 2005; Stoll et al., 2006).

Do Professional Learning Communities Progress Through Different Stages Over Time?

School improvement and change literatures identify different phases of change (Fullan, 2001; Miles, 1998). Those studying the business world have also identified predictable and sequential patterns of stages of organisational life cycle change (Mulford, 1998; Quinn & Cameron, 1983). It is unclear, however, whether these would apply to the development and sustainability of learning communities where a key goal is continuous learning rather than implementing a specific change initiative. Mulford (2004) suggests that evaluating the success of organisations depends on their stage of development. Effectiveness might be considered in terms of evolution over time, such that some schools are at a very early stage of developing the characteristics of a PLC (early starters), others are further along the process (developers), while some are more established (mature). Dalin (Dalin with Rolff, 1993) mirrors this in his discussion of school's life cycles.

Research on senior management teams (SMTs) (Wallace & Hall, 1994) highlights how teams perennially evolved as their members' experience of working together unfolded. The group learning curve was especially sharp when membership changed. Mutual trust developed slowly, and was fragile and easily undermined if one or more members transgressed SMT colleagues' norms.

Studying the change process PLCs go through is at a relatively early stage internationally, but one project has explored how PLCs progress through different phases. The researchers looked at progression from initiation to implementation to institutionalisation, as a means of reflecting the growth in schools seeking to become PLCs, and mapped their five characteristics against the phases. For example, for shared values and vision, during initiation they found the emphasis was on espoused values and norms. Moving into implementation, there was a shift to focusing on students and high expectations. In the less frequent cases of institutionalisation, shared vision actually guided teaching and learning (Huffman & Hipp, 2003).

Our own findings suggest that PLCs are fluid, rather than fixed, entities, perenially evolving with accumulating collective experience (Bolam et al., 2005).

What is the Impact of Professional Learning Communities?

Impact cannot be considered separately from purpose. PLCs are a means to an end: "The goal is not to 'be a professional learning

community'" (Morrissey, 2000, p. 31). A key purpose of PLCs is to enhance teacher effectiveness as professionals, for students' ultimate benefit. This is why our project's definition suggests that the ultimate outcome of PLCs has to be experienced by students, even though there is an intermediate capacity-level outcome:

> An effective professional learning community has the capacity to promote and sustain the learning of all professionals in the school community with the collective purpose of enhancing pupil learning (Bolam et al., 2005, p. 145).

Little (2001) reports that research has steadily converged on claims that professional community is an important contributor to instructional improvement and school reform. Louis, Kruse and colleagues (1995) found that in schools with a genuine sense of community an increased sense of work efficacy led to increased classroom motivation and work satisfaction, and greater collective responsibility for student learning. In Australia, Andrews and Lewis (2007) also found that where teachers developed a PLC, it not only enhanced their knowledge base, but also had a significant impact on their classroom work. Bryk, Camburn, and Louis (1999), however, caution that the path between professional community and instructional improvement is not necessarily direct, because instructional improvement may be only one of schools' many purposes. They note how a high performing school with a long history of providing challenging intellectual work for its students, that develops into more of a professional community, might be orienting its professional interaction towards conserving existing practices rather than changing them. In contrast, in high poverty settings, preserving the *status quo* would be "likely to perpetuate substandard practice in many cases". Bryk and colleagues' findings lead them to suggest that "if professional community in fact fosters instructional change, it does so by creating an environment that supports learning through innovation and experimentation" (p. 771). Seashore and colleagues (2003) also found that while professional community has a role to play in changing classroom practice, its effects may be less than those suggested by some previous studies. They conclude that a possible explanation for this is that teachers' individual mental models – the "schemas" or maps they draw on to guide their professional practice – determine whether individual teachers are actually ready to change, whilst professional community has more power in determining whether such pedagogical changes will persist over time schoolwide.

A systematic review of literature on sustained, collaborative continuing professional development (CPD) and its effect on teaching and learning (Cordingley, Bell, Rundell & Evans, 2003) concluded that collaborative CPD could have a positive impact on teachers and pupils. The reported changes in teacher behaviour included: greater confidence; enhanced beliefs among teachers of their power to make a difference to pupils' learning; development of enthusiasm for collaborative working, despite initial anxiety about classroom observation; and, greater commitment to changing practice and willingness to try new things. The positive impact on students included enhanced motivation and improvements in performance. Features of CPD which were linked, in combination, to positive outcomes included: the use of external expertise linked to school-based activity; observation; feedback (usually based on observation); an emphasis on peer support rather than leadership by supervisors; scope for teacher participants to identify their own CPD focus; processes to encourage, extend and structure professional dialogue; and processes for sustaining the CPD over time to enable teachers to embed the practices in their own classroom settings.

Until recently there has been limited, hard research evidence about effects of work-based learning and other forms of professional development on student learning (Analytical Services, 2000) with exception of those with very specific aims (Joyce, Calhoun & Hopkins, 1999). There are indications, however, of a link between PLCs and enhanced student outcomes. A 'learning-enriched' teachers' workplace appears to be linked to better student academic progress (Rosenholtz, 1989) and Louis and Marks (1998) found that students achieved at higher levels in schools with positive professional communities. This was explained by teachers in classrooms focusing on 'authentic pedagogy' – higher quality thinking, substantive conversations, deep knowledge and connecting with the world beyond the classroom. In a high school study, Wiley (2001) found that individual student achievement in maths was positively affected by an increased learning in a school resulting from professional community, but only in schools where teachers experienced above average transformational leadership. The effects were also particularly strong in disadvantaged areas. Lee and Smith (1996), in a longitudinal follow-up study of 820 US high schools and almost 9904 teachers, found that achievement gains for eighth and tenth grade students (in maths, reading, science and social studies) were significantly higher in

schools where teachers took collective responsibility for students' academic success or failure (a characteristic of professional community). In the Netherlands, the researchers carrying out a study exploring the link between departmental professional community and mathematics test scores of 975 students in a representative sample of junior high and senior high schools concluded that shared goals, joint decision-making, shared responsibilities, consultation and advice were important but insufficient to improve educational practice and, consequently, student achievement (Visscher & Witziers, 2004). Rather, effects resulted when departments:

...consistently translate their shared vision and willingness to cooperate into a system of rules, agreements and goals regarding teaching and instruction, and evolve their professional activities around this by obtaining data on student performance, which in turn serves as a feedback mechanism for improving teaching and learning. This differs from a 'softer' approach stressing reflective dialogue, sharing materials, shared vision and the inner value of professional development (p. 798).

It should be noted that the aggregate of extensive research in the school effectiveness tradition suggests that intermediate variables like the professional relationship between staff and extent to which they work collaboratively are significant but account for less variation in effectiveness than other in-school factors directly related to the teaching and learning process (Creemers, 1994). It is also argued that: "the value of community needs to be disentangled from instrumental values of improving measurable student outcomes (e.g. achievement)" because: "Community is really about the quality of day-to-day life in schools" (Furman-Brown, 1999).

3. WHAT PROCESSES ARE USED TO CREATE AND DEVELOP PROFESSIONAL LEARNING COMMUNITIES?

Creating and developing PLCs appears to depend on working on a number of processes inside and outside schools. We describe these under four headings: focusing on learning processes; making the best of human and social resources; managing structural resources; and interacting with and drawing on external agents. We draw not only on professional community literature but also that related more broadly to professional development, school improvement and the management of change (see Hopkins, 2001; and Miles, 1998 for summaries) and capacity building (Harris, 2001; King & Newmann, 2001; Stoll, 1999).

Focusing on Learning Processes

Formal Professional Development Opportunities
A PLC cannot be built solely through providing professional development opportunities for staff. Nevertheless, if the community is to be intellectually vigorous, members need a solid basis of expert knowledge and skills, strongly emphasising the professionalisation of teachers' work through increasing expert knowledge. The centrality of CPD to improvement of educational performance is evident from the importance attached to it over several decades (Bolam & McMahon, 2004).

In 1999, McMahon concluded that CPD provision for the majority of English secondary teachers consisted of short training courses doing little more than raising awareness of issues; that follow up activities or coaching was very rare, although transfer and development of curriculum and instructional skills depends on ongoing peer coaching (Joyce et al., 1999); that professional education in the form of longer award bearing courses was neglected and the quality of school support for CPD was very variable. However, there were many examples of teachers reporting powerful learning experiences (e.g. shadowing a senior manager; secondment for academic study etc). A more recent study of teachers' perceptions of CPD (Hustler et al., 2003) confirms that most teachers felt that over the previous five years CPD in England had been driven by school development needs and national priorities taking precedence over individual CPD needs. However, the research also reveals the importance of the school and local context for CPD. Some schools developed good systems for professional development influencing teachers' perceptions, although orientations to CPD were more likely to be shaped by the department or group to which a teacher belonged.

Work-based and Incidental Learning Opportunities
Professional learning is widely believed to be more effective when it is based on self-development and work-based learning, an idea supported by specific theories like experiential learning (Kolb, 1984) reflective practice (Schön, 1984), process knowledge (Eraut, 1994), cognitive and problem-based professional learning (Grady et al., 1995), professional socialisation (Hart & Weindling, 1996), and learning of skilful managerial performance and associated learning support (Wallace, 1991). Tools for implementing these ideas include professional development profiles, action research, action learning,

coaching, mentoring and peer-assisted learning), professional development bursaries and sabbaticals.

Opportunities for adult learning are plentiful in schools, through formal programmes and courses (e.g. induction programme, professional development days) or more informally through day-to-day work with students and peers, for example joint planning or teamwork at both group and whole-school level. One outcome of a school determining to build a PLC should be to underline the importance of workplace learning and reflective practice (Claxton, 1996). The Best Practice Research Scholarships (DfEE, 2000) scheme exemplified learning closely linked to the workplace. Its evaluators (Furlong, Salisbury, & Combes, 2003) concluded that the majority of projects were clearly linked to school, local district and national priorities and that they were a valuable form of professional development. There was evidence that teacher scholars gained confidence in their own professional judgement and became more knowledgeable and informed in their discussion of classroom practices due to greater use of reading and systematic collection of evidence.

Self-evaluation and Enquiry as a Learning Source
With a broader definition of professionalism, and increased accountability, data analysis and use is now an important part of teachers' jobs. Dudley (1999) highlighted difficulties faced by teachers trying to use data to improve their teaching, although evidence suggests that using evidence can be a means of promoting both professional development and school improvement (Earl & Katz, 2002; Sebba, 1997; Thomas, Smees & Elliot, 2000). As more data and evidence becomes available to schools, the development of 'inquiry-mindedness' in relation to analysis and use of student and other data appears to take time (Earl & Lee, 1998). In some schools functioning as learning communities, it gradually begins to mature into an accepted, iterative process of data collection, analysis, reflection and change (McLaughlin & Talbert, 2001).

From Individual Learning to Collective Learning: Transfer of Learning and Creation of Knowledge
Learning within PLCs involves active deconstruction of knowledge through reflection and analysis, and its reconstruction through action in a particular context (Mitchell & Sackney, 2000), as well as co-construction through collaborative learning with peers. Lave and Wenger (1991) and Wenger (1998) propose that when learning in

communities of practice, participants gradually absorb and are absorbed in a 'culture of practice', giving them exemplars, leading to shared meanings, a sense of belonging and increased understanding.

Little (2002) analysed records of naturally-occurring interaction among teachers to investigate the enacted practices of professional community in the everyday work of the school. She proposed a provisional conceptual scheme to help explore the relationship between teacher community, teacher development, and improvement of practice, organised around "three central concerns":

1. *Representation of practice* – how the practice of the community comes to be known and shared through, for example, talk, gestures and material artefacts.
2. *Orientation of practice* – whether, teachers working collectively actually can "ratchet up" the quality of learning and teaching, and how interaction opens up or closes down teachers' opportunity to learn.
3. *Norms of interaction* – how participation and interaction are organised and how this enables teacher learning and the reform of practice.

Teachers tinker with their practice (Hargreaves, D., 1999; Huberman, 1983). Even when there is an expectation (or hope) that they will replicate intended practices, they tend to adapt them (Berman & McLaughlin, 1977; Datnow, Hubbard & Mehan, 2002) to fit their own context. The question is whether 'transfer of good/best practice' is ever appropriate or even feasible or whether, in effective PLCs the intention is and *modus operandi* should always be exchange (a commitment to reciprocity between two staff members where one is an 'originator' and the other a 'receiver') and practice creation (two individuals that "create new practices that are inspired by and energised by their dialogic encounters") (Fielding et al., 2005, p. 104).

PLCs are distinguished by their emphasis on group or collective learning. King and Newmann (2001, p. 89) highlight the link between the individual and the collective:

To be sure, high quality instruction depends upon the competence and attitudes of each individual teacher. But in addition, teachers' individual knowledge, skills and dispositions must be put to use in an organized, collective enterprise. That is, social resources must be cultivated, and the desired vision for social resources within a school can be summarized as professional community.

Organisational learning literature offers insights on these connections. What distinguishes organisational learning from individual learning is an additional step of collective knowledge creation (Louis, 1994). As the school community interacts, engages in serious dialogue and deliberates about all the information it has and data it collects, they interpret it communally distributing it among themselves. Critical understandings of the link between individual and collective learning in relation to PLCs, however, appear to be more sparse, although, drawing on social learning theory, Smylie (1995) suggests that individuals and groups need access to multiple sources of learning and that creativity and innovation may be constrained if teachers only have access to others with similar ideas and experience. Dialogue also appears to be a key link, being seen as the process through which the gap between individual and organisational learning is bridged (Senge, 1990), although genuine dialogue is difficult to achieve because it does not favour domination of certain voices (Oswick, Anthony, Keenov, Mangham & Grant, 2000).

Leading Professional Learning Communities

It is difficult to see how a PLC could develop in a school without the active support of leadership at all levels. Leadership is therefore an important resource for PLCs, in terms of headteacher/principal commitment and shared leadership (Mulford & Silins, 2003).

Headteacher/Principal Leadership

Based on their high school study, McLaughlin and Talbert (2001, p. 98) concluded:

For better or worse, principals set conditions for teacher community by the ways in which they manage school resources, relate to teachers and students, support or inhibit social interaction and leadership in the faculty, respond to the broader policy context, and bring resources into the school.

Creating a learning culture – It has been argued that any attempt to improve a school that neglects school culture is "doomed to tinkering" (Fullan, 1992) because school culture influences readiness for change. The nature and quality of the leadership provided by the principal and senior staff has a significant influence of the nature of the school culture. Schein (1985, p. 2) argues that:

...there is a possibility ... that the only thing of real importance that leaders do is to create and manage culture and that the unique talent of leaders is their ability to work with culture.

He suggests that a culture enhancing learning: balances all stakeholders' interests; focuses on people rather than systems; makes people believe they can change their environment; makes time for learning; takes a holistic approach to problems; encourages open communication; believes in teamwork; and has approachable leaders. Similarly, Shulman (1997, p. 101) argues that teacher learning's potential depends on:

... the processes of activity, reflection, emotion and collaboration ... supported, legitimated, and nurtured in a community or culture that values such experiences and creates many opportunities for them to occur.

Principals, however, can only create conditions fostering commitment to the collective good; they cannot ensure it will happen. Attempts to stimulate cultural development may precipitate cultural change in unforeseen and undesired directions (Hargreaves, 1994; Wallace, 1996). A similar conclusion that organisational culture is not directly manipulable has been reached in studies of British industry (Anthony, 1994; Williams, Dobson & Walters, 1993).

Ensuring learning at all levels – Some argue that the central task of educational leadership is fostering, and then sustaining, effective learning in both students and adults (Law & Glover, 2000). Southworth (1999) suggests that some leaders, at least, focus on learning as a pupil achievement outcome while addressing less attention to the pedagogical processes. Leaders model particular behaviours and, as Louis and colleagues (1995, p. 39) note: "What leaders say and do expresses what they value ... Principals who focus on classroom practice demonstrate through their actions that pedagogy is important. ... ". If school leaders are to facilitate the growth of a community it will be essential that they focus on promoting professional learning as fundamental to the change process. Leithwood, Jantzi, and Steinbach (1999) see this as creating the conditions for growth in teachers' professional knowledge. They argue that this is best accomplished by embedding professional development in practical activities, through "situated cognition".

Enquiry-minded leadership may be significant as a means to promote reflective enquiry. Three inter-connected modes of enquiry-minded leadership for school improvement have been distinguished (Stoll, Bolam & Collarbone, 2002):

- promoting research and evaluation across the school, in depart-
  ments and by individual classroom teachers;
- adopting a more systematic approach to collecting, analysing and
  using data and evidence in the course of ongoing work; for
  example, students' examination results, value-added data and
  external school inspection reports;
- seeking out and using relevant and practical research, generated
  and produced by external researchers.

Chapman (1995), offering a headteacher's perspective, reported on
two pieces of high quality action research conducted at secondary
school. The first, by a head of department, was well received and
acted upon; the second, by a trainer, was not. He concluded that a
collaborative approach is likely to be most effective and that it is the
head teacher's job to create the conditions for this to take place.

   The human side of leadership – because bringing about educational
change is extremely complex and involves dealing with fears about
change, emotions are never far from the surface. The concept of
emotional intelligence has been applied to leadership (Goleman,
Boyatzis & McKee, 2002). Empirical evidence endorses emotional
intelligence as ''a legitimate part of effective leadership'' (Day, Harris,
Hadfield, Tolley & Beresford, 2000, p. 175). Morale is higher in some
schools than others. For example, in two Scottish primary schools in
similarly deprived areas, teachers' reactions to a questionnaire item
Teachers like working in this school was dramatically different
(McCall et al., 2001).

Distributed Leadership

It is increasingly recognised that leadership cannot be the domain of
one individual or a small 'senior' group because of the complex
nature of work, and accomplishing workplace responsibility depends
on reciprocal actions of a number of people (Gronn, 2003). Indeed,
joint action, characteristic of PLCs, has been described as distributed
leadership (Gibb, 1958; Gronn, 2000; Spillane, 2006). In many PLCs,
principals work with teachers in joint enquiry and provide opportu-
nities for teachers to take on leadership roles related to bringing
about changes in teaching and learning. Based on Australian research
into PLCs Crowther (2001) suggested that, within the community,
pedagogic leadership works in parallel with strategic leadership as
teacher leaders and administrative leaders develop new roles and
relationships within the school. Harris (2003, p. 322) also concludes:

If we are serious about building professional learning communities within and between schools then we need forms of leadership that support and nourish meaningful collaboration among teachers. This will not be achieved by clinging to models of leadership that, by default rather than design delimits the possibilities for teachers to lead development work in schools.

Managing and Coordinating Professional Learning

Coordinating professional activities is a condition of school improvement (Hopkins, Ainscow & West, 1994), requiring sensitive handling so teachers feel they have discretionary autonomy needed to make decisions, accounting for pupils' individuality and each encounter's unique nature (Hopkins, 2001). Throughout the 1980s and early 1990s, the typical model of staff development was one rooted in human resource management. In the UK, this approach found its most sophisticated and elaborate expression in the *Investors in People* programme for which about 20% of schools have been recognised (www.iipuk.co.uk, 2003). Latterly, there has been a significant shift in developed countries:

...from staff development for individual teachers to the creation of learning communities in which all – students, teachers, principals and support staff – are both learners and teachers (Sparks & Hirsch, 1997, p. 12).

This is so much so that, in a sample of OECD countries, professional development was accepted as being:

...central to the way principals manage schools, in at least two respects: first, as instructional leaders, principals may be expected to coordinate professional progression of their staff; second, they need to manage the learning community as a whole, using development as part of school change (CERI, 2001, p. 27).

Developing Other Social Resources

Creating, developing and sustaining PLCs is a human enterprise and the literature suggests that making effective use of human and social resources is a key dimension.

Trust and Positive Working Relationships

Working together productively in schools depends on positive relationships and collegiality (Louis et al., 1995; Nias, Southworth & Yeomans, 1989), although de Lima (2001) argues that the only imperative forming a community of professionals is deep commitment to pupils' learning, development and well-being. Nonetheless, a dynamic of dysfunctional relationships can have a negative effect on a

school (Reynolds, 1996). Engaging in learning can be risky, especially when working with colleagues. Teachers are unlikely to participate in classroom observation and feedback, mentoring partnerships, discussion about pedagogical issues, curriculum innovation, unless they feel safe. Trust and respect from colleagues is critical (Louis et al., 1995). As Bryk et al. (1999, p. 767) note:

By far the strongest facilitator of professional community is social trust among faculty members. When teachers trust and respect each other, a powerful social resource is available for supporting collaboration, reflective dialogue, and deprivatization, characteristics of professional community.

Bryk and Schneider (2002) subsequently identified four dimensions of relational trust: respect; competence; personal regard for others and integrity. Trust instrumentally affected students' engagement and learning because teachers' vulnerability was reduced and they were more willing to engage in public problem solving. The principal was the key person in developing relational trust, both in demonstrating it her- or himself, and in the way they fostered a culture where relationships were trusted. Smylie and Hart (1999) caution, however, that when trust provides a context for predictability, stability, assurance and safety, the response may not necessarily be reflective conversation and professional learning. It might inhibit innovative activity by keeping individuals satisfied with their current situation.

Group Dynamics
Internal politics affects change (Blase, 1988). Sarason (1990) has argued that educational reforms continuously fail because attention is not paid to the alteration of power relationships. The assumption in much of the PLC-related literature is that beliefs, values and norms may become universally shared, rendering the organisational culture unitary. Alternative conceptions give greater credence to inherent conflict between subcultures (the 'differentiationist' perspective) and to ambiguity (the 'fragmentation' perspective). Both the differentiationist and fragmentation perspectives (Martin & Frost, 1996) make greater allowance for dissent and uncertainty that may be features of PLCs, and with which their members will have to cope. How they cope may be a significant factor in their effectiveness.

Managing Structural Resources

Schools are bounded by structures shaping their capacity to create and develop a PLC (Louis & Leithwood, 1998).

Time
Evidence of teacher talk and exchange about professional issues is a
key indicator of a learning community. To facilitate this, the research
suggests that the school needs to be organised to allow time for staff
to meet and talk regularly (Louis et al., 1995). Time is critical for any
non-superficial learning (Stoll, Fink & Earl, 2003). This means
timetabling, being able to cover teachers who attend external train-
ing, and how schools plan such that learning can occur throughout
the school. Time was seen to be insufficiently addressed in England's
(DfEE, 2000) strategy for professional development (Thompson,
2001). The Government subsequently recognised that teachers needed
more time to plan, train, prepare and spend on their own professional
development. They investigated how this might be provided, leading
to a workforce agreement between the English Government and,
initially, all but one of the teaching unions (ATL et al., 2003), as well
as a national emphasis on remodelling working patterns and
deployment of staffing (NRT, 2003).

Space
If collaboration is a necessary component of PLC, a school structure
where it is easier to have coffee and professional discussions in a
subject workroom rather than go to the staffroom located in another
building, is likely to inhibit school-wide collegiality. While contrived
collegiality (Hargreaves, 1994) – forcing teachers to plan and work
together – may be unproductive, opportunities for teachers to work
and explore their teaching together appear to be key components of
learning-centred schools (Dimmock, 2000). Opportunities for pro-
fessional exchange appear to be further facilitated by physical prox-
imity (e.g. teachers in a department having neighbouring classrooms)
and interdependent teaching roles (e.g. team teaching; joint lesson
planning). McGregor (2003, p. 54) found that, over the course of
break times, the majority of the 25 staff of a secondary school science
department visited "the tiny office, providing the opportunity for
casual, serendipitous contact as well as more focused social or work-
related conversations".

Interacting and Drawing on External Agents

There are strong arguments that schools cannot 'go it alone' and
need connections with outside agencies. Indeed, some time ago
Fullan (1993) argued that seeking outside help was a sign of a

school's vitality; that organizations that act self-sufficient "are going nowhere". To promote, sustain and extend PLCs, schools appear to need external support, networking and other partnerships.

Support

The amount and quality of external support for any serious improvement effort is critical to support change (Huberman & Miles, 1984). External support for professional learning communities comes mainly in the form of district support (Anderson & Togneri, 2003; Leithwood, Jantzi & Steinbach, 1998; Rosenholtz, 1989), although tensions occur where district evaluation policies foster competition and privacy (McLaughlin & Talbert, 2001). External agents may play a significant role in supporting schools' enquiry efforts and helping develop a school's 'reflective intelligence' (MacGilchrist, Myers & Reed, 2004), helping schools interpret and use data while understanding the tensions inherent in self-evaluation (Saunders, 1999), and playing the role of critical friends (Doherty, MacBeath, Jardine, Smith & McCall, 2001), by focusing on activities helping schools "develop independence, the capacity to learn and to apply learning more effectively over time" (MacBeath, 1998, p. 131). There have also been attempts to help schools 'become' PLCs (Andrews & Lewis, 2007; Hipp & Huffman, 2007). Support to help create a PLC may, however, be different from that to sustain it. Schools vary in their capacity for learning. Building capacity for improvement necessitates paying attention fostering and developing collaborative processes. This will be different in a cruising school than one that is struggling or sinking (Stoll & Fink, 1996).

Partnerships

Many schools have built productive relationships with partners, including parents, governing bodies, their district, local community members, social services agencies, psychological services, businesses and industry. Schools have also engaged in a range of initial and ongoing teacher development partnerships with higher education institutions. Watson and Fullan (1992) concluded that strong partnerships are not accidental; neither do they arise through good will nor *ad hoc* projects. They require new structures, activities and rethinking of the way each institution operates as well as how they might work as part of this partnership.

Networks

If the moral imperative of the 21st century is ensuring that *all* students experience and benefit from the highest quality learning opportunities, it is argued that developing whole systems in this way depends on more than individual schools focusing exclusively on enhancing their own students' and teachers' learning. This adds a slant to the meaning of 'communities' in PLCs because of the imperative to learn together, not only within but between schools. A further push comes from new technologies transforming learning and knowledge sharing. A networked society may offer possibilities for closer cooperation between schools, and between schools and their communities. England's National College for School Leadership's Networked Learning Communities initiative evolved within this context as a lateral and local strategy to promote learning within and between schools through collaborative inquiry on, sharing and transfer of practice, development of deeper understanding, and co-creation of new knowledge about effective learning and teaching (Jackson & Temperley, 2007).

David Hargreaves (2003, p. 9) suggests that:

A network increases the pool of ideas on which any member can draw and as one idea or practice is transferred, the inevitable process of adaptation and adjustment to different conditions is rich in potential for the practice to be incrementally improved by the recipient and then fed back to the donor in a virtuous circle of innovation and improvement. In other words, the networks extend and enlarge the communities of practice with enormous potential benefits …

Hargreaves and Giles (2003) do not distinguish between networked learning communities and PLCs in describing how a strong PLC:

…brings together the knowledge, skills and dispositions of teachers in a school or across schools to promote shared learning and improvement. A strong professional learning community is a social process for turning information into knowledge.

Networked learning communities and PLCs rest on similar assumptions about how teachers learn and change their practice (Toole & Louis, 2002):

These include: that teaching is inherently a non-routine and complex activity (i.e., teachers will need to continue learning throughout their career); that there is a great deal of untapped knowledge already existing in schools; that the challenges teachers face are partly localized and will need to be addressed ''on the ground'', and that teachers improve by engaging with their peers in analysis, evaluation and experimentation (p. 248).

Lieberman and Grolnick's (1996) study of 16 educational reform networks found that certain features created growth opportunities for participants: challenging rather than prescriptive agendas; indirect rather than direct learning; collaborative formats; integrated work; facilitative leadership; thinking that encouraged multiple perspectives; values that were both context-specific and generalised; and flexible structures. One national networking initiative in England, Diversity Pathfinders, was described by its evaluators as:

...about a qualitative change in relationships between schools so that collaboration is invested with a strategic vision and an enduring, enabling structure of co-operation. As well as this, a group identity amongst schools is envisaged as emerging from and infusing these new relationships, forging a commitment shared by all the schools to pupils' educational opportunities and progress throughout the area. (Woods, Castle, Cooper, Evans, & Glatter, 2003, p. 6)

4. What Other Factors Help or Hinder the Creation and Development of Effective Professional Learning Communities?

It is important to consider factors influencing schools' overall capacity for change and development (Hopkins, Harris & Jackson, 1997) and for ongoing and sustainable learning of the whole school community (Stoll & Earl, 2003). These factors operate at different levels and in complex ways.

Individuals' Orientation to Change

At the heart of the change is the individual (Hall & Hord, 2001):

Although everyone wants to talk about such broad concepts as policy, systems, and organizational factors, successful change starts and ends at the individual level. An entire organization does not change until each member has changed (p. 7).

Teaching is rooted in teachers' backgrounds, biographies, and the kinds of teachers they have become, as well as their skills (Hargreaves, 2003). In considering any form of teacher development, it is imperative to pay attention to teachers' priorities and lives (Goodson, 1992; Day et al., 2006). Huberman's (1989) examination of Swiss teachers' career cycles highlights connections between their careers and school improvement, as their interest in change and learning fluctuates during particular phases. Claxton (1996) notes that: "learning ... takes place in people's heads", and argues that attention

needs to be paid to factors that inhibit learning, causing people to be defensive or withdraw, as well as to factors which facilitate learning.

Group Dynamics

Research on effective teams outside the education sphere (Belbin, 1993; Katzenbach & Smith, 1993; Larson & LaFasto, 1989) also indicates that effectiveness depends in part on unified commitment from members: loyalty to and identification with the team, fostered through a balance between respecting individual differences and requiring unity. Good teamwork is more evident in more effective secondary school departments (Sammons, Thomas & Mortimore, 1997). In research focusing on senior management teams (SMTs) in secondary (Wallace & Hall, 1994) and large primary schools (Wallace & Huckman, 1999) the team culture embodied two contradictory beliefs coexisting in tension: in a management hierarchy topped by the headteacher uniquely accountable for the work of the SMT, and in the entitlement of all team members to make an equal contribution to the team's work (Wallace, 2001). Headteachers were uniquely empowered to create a team in terms of a formally constituted group, and conditions fostering collaboration to achieve jointly held goals. However, they could not directly create a strong and constructive team culture: their efforts to shape it were mediated by other team members.

School Context Influences

Learning is affected by the contexts in which it takes place. The school's context, therefore, has an impact on teacher learning (Stoll, 1999).

School Size
Small schools have been found to be more engaging work environments for both adults and students (Lee, Smith & Bryk, 1993). Size plays an important role in structuring a workplace's social dynamics, supporting better communication flow and greater face-to-face interaction (Bryk, Camburn & Louis, 1999). The larger the school, the more difficult it can be to engender strong identification with a whole-school community (Huberman, 1993).

Phase
Improvement is generally more challenging and complex in secondary schools due to a greater diversity of purposes and objectives and

department structures (Louis & Miles, 1990). Several studies show that secondary school structures sometimes result in teachers having a stronger sense of belonging to a departmental community than a whole school community (Hargreaves, 1994; McLaughlin & Talbert, 2001; Siskin, 1994).

Location
A school's location can be important in relation to the links it is able to make with external partners. Evaluating the first year of the 14–19 national pathfinders in England, Higham, Haynes, Wragg, and Yeomans (2004) found that rural pathfinders had particular difficulties collaborating with others because of costs and time of travel, while urban pathfinder collaboration was made easier by relatively easy transport and accessibility of most schools, colleges, and training providers.

Particular Mix of Pupils
The school's social mix influences how it functions, because of the cumulative effect of the peer group processes of how students relate and act as a group (Thrupp, 1999). Size and mix can also create a unique student culture (McLaughlin & Talbert, 1993).

History
During some periods schools may be 'ripe for development'; at other times, there may be institutional 'inertia'. Significant events – amalgamations, threatened closure, or a fire – can affect schools (Stoll, McBeath, Smith & Robertson, 2001). Teacher mobility is higher in some schools and areas.

External Influences

A school's external context can also influence its capacity to create, develop and sustain an effective PLC.

Local Community
Schools are located in and serve very different communities. Pupils' background characteristics have an impact on their schools' achievement (Teddlie & Reynolds, 2000). While disadvantage does not automatically inhibit a school's capacity, some schools face a greater struggle in helping pupils achieve national standards (Mortimore & Whitty, 1997). One study, however, found that race

and ethnicity, socioeconomic factors, and even academic background of the student body did not strongly predict a school's professional community (Bryk, Camburn & Louis, 1999).

Broader Community

The broader community's attitudes to schooling can affect teachers' motivation and belief that what they are doing is worthwhile. In Australia, disaffected teachers remarked that the general public did not appreciate the difficulties in teaching and the increase in preparation and marking time (Dinham, 1994). Unions' policy and practices can also influence how some members respond to change in schools (Whatford, 1998).

Policy Decisions

Policy-oriented change can be seen as "placing demands on the learning capacity of the organization" (Karsten, Voncken & Voorthuis, 2000). Responding to external change can produce overload, stress and burn-out (Woods, Jeffrey, Troman & Boyle, 1997) or feelings of guilt (Hargreaves, 1994). Stress can make teachers less willing to engage in discussion with colleagues (McMahon, 2000) and being bombarded by change makes it hard to maintain energy and enthusiasm (Helsby & McCulloch, 1998). Diversions caused by paperwork or administration reduces teachers' satisfaction (Stobart & Mutjtaba, 2003). Being labelled as a 'failing school' can also contribute to low teacher morale and feelings of impotence (Stoll & Myers, 1998).

Professional Learning Infrastructure

Some schools are located in areas with a better-developed professional learning infrastructure. The nature and quality of professional development opportunities and external support available to staff can impact on a PLC's development. National training models intended to develop particular skills may work well for technical innovations but not help teachers develop the range of skills needed for handling reform agendas (Little, 1993). Hargreaves (2003) argues that over-emphasising "performance training sects" through national training models can lead to dependence, working against the "informed professionalism" (Barber, 2001) that characterises the work of PLCs. This concern about creating a dependency culture was endorsed by evaluation findings of both the National Literacy and Numeracy (primary school) Strategies (Earl et al., 2002) and the Key Stage 3 (middle years) Strategy Pilot (Stoll et al., 2003) in England.

5. ARE EFFECTIVE PROFESSIONAL LEARNING COMMUNITIES SUSTAINABLE?

At what point can it be said that a PLC has been established? The paucity of longitudinal research on PLCs means that little is yet known about the potential for establishing enduringly effective PLCs. Bryk and colleagues (1999, p. 754) suggest that: "when internal socialization routines are working properly, they should provide a self-renewal mechanism for professional communities" but acknowledge the need for further research. Existing evidence suggests that evolution of schools that might have been interpreted as effective PLCs reflects subsequent decline (e.g. Fink, 2000; Hargreaves & Giles, 2003; Imants, 2004; McMahon 2001b). Given that changes in senior leadership of schools appear to be a factor, increasing attention is being paid to the potential of leadership succession planning to help promote sustainability (Fullan, 2006; Hargreaves & Fink, 2006). A longitudinal study of change over time in Canada and the United States, from the perspective of staff working in eight secondary schools in the 1970s, 1980s and 1990s suggests that sustaining change requires: sustaining deep learning; involving a broad range of people in "chains of influence"; spreading improvements beyond individual schools; using existing resources, rather than special projects where funding then dries up; nourishing and taking care of people; sharing responsibility; activist engagement to secure outside support; and developing capacity that enables "people to adapt to, prosper and learn from each other in their increasingly complex environment" (Hargreaves, 2004).

CONCLUSION

In a detailed study of interaction between teachers in their daily course of work, Little (2002, p. 944) reflected that: "This is a timely moment to unpack the meaning and consequences of professional community at the level of practice". This literature review and, indeed, the research in England to which it was attached (Bolam et al., 2005), concludes that building PLCs is by no means easy. A number of subtle as well as more overt processes require work, and there are influences, both within and external to schools that can either facilitate or severely inhibit the process. Nonetheless, it also demonstrates that PLCs appear to be worth the considerable effort put in to creating and developing them, although there is still much more to learn about sustainability.

NOTE

[1] The literature we examined is of different types. Some is based on careful research aiming to understand professional communities, often also trying to develop knowledge that can subsequently be applied to improve practice and policy (see Wallace & Poulson, 2003, based on Bolam, 1999, for further elaboration on the schemes of enquiry used for generating knowledge). Some, however, either proposes theory about PLCs or provides recommendations for improving practice with limited evidence to back these up. This was a further reason for ensuring that this research project would be able to contribute to a deeper critical understanding of the concept of PLCs as well as offering practical guidance on how effective PLCs might be created, developed and sustained in different school settings.

REFERENCES

Analytical Services. (2000). The *evidence on the effects of teacher continuing professional development (CPD) on pupil attainment - a note by Analytical Services, April 2000*. London: DfEE (mimeo).

Anderson, S.E. & Togneri, W. (2003). *School district approaches to professional community building: Intentions, inventions, and tensions*. Paper presented at the Annual Conference of the International Congress for School Effectiveness and Improvement. Sydney, Australia, January.

Andrews, D. & Lewis, M. (2007). Transforming practice from within: The power of the professional learning community. In L. Stoll & K.S. Louis (eds) *Professional learning communities: Divergence, depth and dilemmas*. Maidenhead: Open University Press.

Anthony, P. (1994). *Managing culture*. Buckingham: Open University Press.

Astuto, T.A., Clark, D.L., Read, A.-M., McGree, K & de Fernandez, L.K.P. (1993). *Challenges to dominant assumptions controlling educational reform*. Andover, MA: Regional Laboratory for the Educational Improvement of the Northeast and Islands.

ATL, DfES, GMB, NAHT, NASUWT, NEOST, PAT, SHA, TGWU, UNISON, & WAG. (2003). *Raising standards and tackling workload: A national agreement*. London: ATL.

Barber, M. (2001). Large-scale education reform in England: A work in progress. *Paper presented to the British Council School Development Conference*. Estonia: Tartu University.

Belbin, M. (1993). *Team roles at work*. Oxford: Butterworth-Heinemann.

Berman, P & McLaughlin, M. (1977). *Federal programmes supporting educational change*. Santa Monica, CA: Rand Corporation.

Blase, J. (1988). *The teachers' political orientation vis a vis the principal: The micropolitics of the school*. Politics of Education Association Yearbook: 1988.

Bolam, R. (1977). Innovation and the problem-solving school. In E. King (ed), *Reorganising education: Management and participation for change*. London: Sage Publications.

Bolam, R. (1999). Educational administration, leadership and management: towards a research agenda. In T. Bush, L. Bell, R. Bolam, R. Glatter & P. Ribbins (eds), *Educational management: Redefining theory, policy and practice*. London: Paul Chapman.

Bolam, R. & McMahon, A. (2004). Literature, definitions and models: Towards a conceptual map. In C. Day & J. Sachs (eds), *International handbook on the continuing professional development of teachers*. Berkshire: Open University Press.

Bolam, R., McMahon, A., Stoll, L., Thomas, S., Wallace, M., Greenwood, A., Hawkey, K., Ingram, M., Atkinson, A. & Smith, M. (2005). *Creating and sustaining effective professional learning commu*nities. Research Report 637. London: DfES and University of Bristol.

Bryk, A., Camburn, E. & Louis, K.S. (1999). Professional community in Chicago elementary schools: Facilitating factors and organizational consequences. *Educational Administration Quarterly* **35**(Supplement), 751–781.

Bryk, A. & Schneider, B. (2002). *Trust in schools*. New York: Russell Sage.

Centre for Educational Research and Innovation (CERI). (1978). *Creativity of the school: Final report*. Paris: OECD.

Centre for Educational Research and Innovation (CERI). (2001). *New school management approaches*. Paris: OECD.

Chapman, N. (1995). Developing a sense of mission at Whitefields School: The tension between action research and school management. *Educational Management and Administration* **23**(3), 206–211.

Claxton, G. (1996). Implicit theories of learning. In G. Claxton, T. Atkinson, M. Osborn & M. Wallace (eds), *Liberating the learner*. London: Routledge.

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. version 1.1*. London: EPPI-Centre, Social Science Research Unit, Institute of Education.

Cowan, D'E., Fleming, G.L., Thompson, T.L. & Morrisey, M.S. (2004). Study description: Investigating five PLC schools. In S. M. Hord (ed), *Learning together, leading together: Changing schools through professional learning communities*. New York: Teachers College Press.

Creemers, B. (1994). *The effective classroom*. London: Cassell.

Crowther, F. (2001). *Teachers as leaders: A conceptual framework. Report to the Australian Research Council*. Toowoomba: University of Southern Queensland.

Dalin, P. & Rolff, H.G. (1993). *Changing the school culture*. London: Cassell.

Datnow, A., Hubbard, L. & Mehan, H. (2002). *Extending educational reform: From one school to many*. London: RoutledgeFalmer.

Day, C., Harris, A., Hadfield, M., Tolley, H. & Beresford, J. (2000). *Leading schools in times of change*. Buckingham: Open University Press.

Day, C., Stobart, G., Sammons, P., Kington, A., Gu, Q., Smees, R. and Mujtaba, T. (2006) *Variations in teachers' work, lives and effectiveness*. DfES Research Report RR 743, University of Nottingham.

de Lima, J.A. (2001). Forgetting about friendship: Using conflict in teacher communities as a catalyst for change. *Journal of Educational Change* **2**(2), 97–122.

Department for Education and Employment (DfEE). (2000). *Professional development: Support for teaching and learning*. London: DfEE.

Dewey, J. (1929). *The sources of a science of education*. New York: Horace Liveright.

Dimmock, C. (2000). *Designing the learning-centred school: A cross cultural perspective*. London: Falmer Press.

Dinham, S. (1994). *Societal pressures and teaching*. Paper presented to the Australian Association for Research in Education. University of Newcastle.

Doherty, J., MacBeath, J., Jardine, S., Smith, I. & McCall, J. (2001). Do schools need critical friends?. In J. MacBeath & P. Mortimore (eds), *Improving school effectiveness*. Buckingham: Open University Press.

Dudley, P. (1999). How do teachers respond to data?. In C. Conner (ed), *Assessment in action in primary schools*. London: Falmer Press.

Earl, L. & Katz, S. (2002). Leading schools in a data-rich world. In K. Leithwood & P. Hallinger (eds), *The second international handbook of research on educational leadership and administration*. Dordrecht: Kluwer.

Earl, L. & Lee, L. (1998). *Evaluation of the Manitoba school improvement program*. Toronto: Walter and Duncan Gordon Foundation.

Earl, L., Watson, N., Levin, B., Leithwood, K., Fullan, M., Torrance, N., Jantzi, D., Mascall, B. & Volante, L. (2002). *Watching and learning 3: Final report of the external evaluation of England's national literacy and numeracy strategies*. Nottingham: DfES Publications and Toronto: OISE/University of Toronto.

Eraut, M. (1994). *Developing professional knowledge and competence*. London: Falmer Press.

Fielding. M., Bragg, S., Craig, J., Cunningham, I., Eraut, M., Gillinson, S., Horne, M., Robinson, C. & Thorp, J. (2005). *Factors influencing the transfer of good practice*. DfES Research Report RR 615, University of Sussex.

Fink, D. (2000). *Good schools/real schools: Why school reform doesn't last*. New York: Teachers College Press.

Fullan, M. (1992). *What's worth fighting for in headship*. Buckingham: Open University Press.

Fullan, M. (1993). *Change forces: probing the depths of educational reform*. London: Falmer Press.

Fullan, M. (2001). *The new meaning of educational change* (3rd ed.). New York and London: Teachers College Press and RoutledgeFalmer.

Fullan, M. (2006). The future of educational change: System thinkers in action. *Journal of Educational Change* **7**(3), 113–122.

Furlong, J., Salisbury, J. & Combes, L. (2003). *Best practice research scholarships: An evaluation*. Nottingham: DfES Publications.

Furman-Brown, G. (1999). Editor's foreword. *Educational Administration Quarterly* **35**(1), 6–12.

Gibb, C.A. (1958). An interactional view of the emergence of leadership. *Australian Journal of Psychology*, **10**(1), 101–110.

Goleman, D., Boyatzis, R. & McKee, A. (2002). *The new leaders: Transforming the art of leadership into the science of results*. London: Little, Brown.

Goodson, I.F. (1992). *Studying teachers' lives*. Basingstoke: Falmer Press.

Grady, N., Macpherson, M. & Mulford, B. (1995). Problem-based learning in educational administration through block delivery modes. *International Studies in Educational Administration* **23**(1), 58–64.

Gronn, P. (2000). Distributed properties: A new architecture for leadership. *Educational Management and Administration* **28**(3), 317–338.

Gronn, P. (2003). Leadership: Who needs it? *School Leadership and Management* **23**(3), 267–290.

Gunter, H. (2001). *Leaders and leadership in education*. London: Paul Chapman.

Hall, G.E. & Hord, S.M. (2001). *Implementing change: Patterns, principles and potholes*. Boston: Allyn & Bacon.

Hargreaves, A. (1994). *Changing teachers, changing times: Teachers' work and culture in the postmodern age*. London: Cassell.

Hargreaves, A. (1999). Series editor's foreword. In S. Acker (ed), *The realities of teachers' work: Never a dull moment*. London: Cassell.

Hargreaves, A. (2003). *Teaching in the knowledge society*. Buckingham: Open University Press.

Hargreaves, A. (2004). *Educational change over time? The sustainability and non-sustainability of decades of secondary school change and continuity*. Keynote address to the Seventeenth Conference of the International Congress for School Effectiveness and Improvement, Rotterdam, January.

Hargreaves, A. & Fink, D. (2006). *Sustainable leadership*. London: Wiley & Son.

Hargreaves, A. Giles, C. (2003). The knowledge society school: An endangered entity. In Hargreaves, A. *Teaching in the knowledge society: Education in the age of insecurity*. Maidenhead and Philadelphia: Open University Press.

Hargreaves, D. (1999). The knowledge-creating school. *British Journal of Educational Studies* **47**(2), 122–144.

Hargreaves, D.H. (2003). *From improvement to transformation*. Keynote address to the sixteenth annual conference of the international congress for school effectiveness and improvement. Sydney, Australia, January.

Harris, A. (2001). Building the capacity for school improvement. *School Leadership and Management* **21**(3), 261–270.

Harris, A. (2003). Teacher leadership as distributed leadership. *School Leadership and Management* **23**(3), 313–324.

Hart, A.W. & Weindling, D. (1996). Developing successful leaders. In K. Leithwood (ed), *International handbook for educational leadership and administration*. Leuven: Klewer Press.

Helsby, G. & McCulloch, G. (1998). *Teachers and the national curriculum*. London: Cassell.

Higham, J., Haynes, G., Wragg, C. & Yeomans, D. (2004). *14–19 Pathfinders: An evaluation of the first year*. Nottingham: DfES.

Hipp, K.A. & Huffman, J.B. (2007). Using assessment tools as frames for dialogue to create and sustain professional learning communities. In L. Stoll & K.S. Louis (eds), *Professional learning communities: Divergence, depth and dilemmas*. Maidenhead: Open University press.

Hopkins, D. (2001). *School improvement for real*. London: RoutledgeFalmer.

Hopkins, D., Ainscow, M. & West, M. (1994). *School improvement in an era of change*. London: Cassell.

Hopkins, D., Harris, A. & Jackson, D. (1997). Understanding the school's capacity for development: Growth states and strategies. *School Leadership and Management* **17**(3), 401–411.

Hord, S.M. (1997). *Professional learning communities: Communities of continuous inquiry and improvement*. Austin, Texas: Southwest Educational Development Laboratory.

Hord, S. (2004). Professional learning communities: An overview. In S. Hord (ed), *Learning together, leading together: Changing schools through professional learning communities*. New York: Teachers College Press.

Huberman, M. (1983). Recipes for busy kitchens: A situational analysis of routine knowledge use in schools. *Knowledge: Creation, Diffusion, Utilization* **4**(4), 475–510.

Huberman, M. (1989). The professional life cycle of teachers. *Teachers College Record* **91**(1), 31–58.

Huberman, M. (1993). The model of the independent artisan in teachers' professional relations. In J.W. Little & M.W. McLaughlin (eds), *Teachers' work: Individuals, colleagues and contexts*. New York: Teachers College Press.

Huberman, M. & Miles, M.B. (1984). *Innovation up close*. New York: Plenum.

Huffman, J.B. (2001). *The role of shared values and vision in creating professional learning communities*. Paper presented to the Annual Meeting of the American Educational Research Association, Seattle, April.

Huffman, J.B. & Hipp, K.K. (2003). Professional learning community organizer. In J.B. Huffman & K.K. Hipp (eds), *Professional learning communities: Initiation to implementation*. Lanham, MD: Scarecrow Press.

Hustler, D., McNamara, O., Jarvis, J., Londra, M., Campbell, A. & Howson, J. (2003). *Teachers' perceptions of continuing professional development*. London: DfES.

Imants, J. (2004). *The role of paradoxes in the study of learning communities*. Paper presented Paper presented at the annual conference of the International Congress for School Effectiveness and Improvement, Rotterdam, the Netherlands, January.

Jackson, D. & Temperley, J. (2007). From professional learning community to networked learning community. In L. Stoll & K.S. Louis (eds), *Professional learning communities: Divergence, depth and dilemmas*. Maidenhead: Open University Press.

Joyce, B.R., Calhoun, E.F. & Hopkins, D. (1999). *The new structure of school improvement*. Buckingham: Open University Press.

Karsten, S., Voncken, E. & Voorthuis, M. (2000). Dutch primary schools and the concept of the learning organization. *The Learning Organization* **7**(3), 145–155.

Katzenbach, J. & Smith, D. (1993). *The wisdom of teams: Creating the high performing organization*. Boston, MA: Harvard Business School Press.

King, M.B. & Newmann, F.M. (2001). Building school capacity through professional development: Conceptual and empirical considerations. *International Journal of Educational Management* **15**(2), 86–93.

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.

Kruse, S.D., Louis, K.S. & Bryk, A.S. (1995). An emerging framework for analyzing school-based professional community. In K.S. Louis, S. Kruse & Associates (eds). *Professionalism and community: Perspectives on reforming urban schools*. Long Oaks, CA: Corwin.

Larson, C. & LaFasto, F. (1989). *Teamwork: What must go right, what can go wrong*. London: Sage.

Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Law, S. & Glover, D. (2000). *Educational leadership and learning: practice, policy and research*. Buckingham: Open University Press.

Lee, V.E. & Smith, J.B. (1996). Collective responsibility for learning and its effects on gains in achievement for early secondary students, *American Journal of Education* **104**(2), 103–147.

Lee, V.E., Smith, J. & Bryk, A.S. (1993) The organization of effective secondary schools. *Review of Research in Education* 19.

Leithwood, K., Jantzi, D. & Steinbach, R. (1998). Leadership and other conditions which foster organizational learning in schools. In K. Leithwood & K. S. Louis (eds), *Organizational learning in schools*. Lisse, the Netherlands: Swets & Zeitlinger.

Leithwood, K., Jantzi, D. & Steinbach, R. (1999). *Changing leadership for changing times*. Buckingham: Open University Press.

Leithwood, K. & Louis, K.S. (eds). (1998). *Organizational learning in schools*. Lisse, Netherlands: Swets and Zeitlinger.

Lieberman, A. (1995). Practices that support teacher development: transforming conceptions of professional learning, *Phi Delta Kappan* **76**(April), 591–596.

Lieberman, A. & Grolnick, M. (1996). Networks and reform in American education. *Teachers College Record* **98**(1), 7–45.

Little, J.W. (1993). Teachers' professional development in a climate of educational reform. *Educational Evaluation and Policy Analysis* **15**(2), 129–151.

Little, J.W. (1999). *Teachers professional development in the context of high school reform: Findings from a three-year study of restructuring schools*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, April.

Little, J.W. (2002). Locating learning in teachers' communities of practice: Opening up problems of analysis in records of everyday work, *Teaching and Teacher Education* **18**(8), 917–946.

Louis, K.S. (1994). Beyond "managed change": Rethinking how schools improve. *School Effectiveness and School Improvement* **9**(1), 1–27.

Louis, K.S. & Gordon, M.F. (2006). *Aligning student support with achievement goals: The secondary principal's guide*. Thousands Oaks, CA: Corwin.

Louis, K.S., Kruse, S. & Bryk, A.S. (1995). Professionalism and community: What is it and why is it important in urban schools? In K. S. Louis, S. Kruse & Associates (1995) *Professionalism and community: Perspectives on reforming urban schools*. Long Oaks, CA: Corwin.

Louis, K.S., Kruse, S.D. & Associates. (1995). *Professionalism and community: Perspectives on reforming urban schools*. Thousand Oaks, CA: Corwin Press Inc.

Louis, K.S. & Leithwood, K. (1998). From organizational learning to professional learning communities. In K. Leithwood & K.S. Louis (eds), *Organizational learning in schools*. Lisse, The Netherlands: Lisse, Swets and Zeitlinger.

Louis, K.S. & Marks, H. (1998). Does professional community affect the classroom? Teachers' work and student experience in restructured schools. *American Journal of Education* **106**(4), 532–575.

Louis, K.S. & Miles, M.B. (1990). *Improving the urban high school: What works and why*. New York: Teachers College Press.

MacBeath, J. (1998). 'I didn't know he was ill': The role and value of the critical friend. In L. Stoll & K. Myers (eds), *No quick fixes: Perspectives on schools in difficulty*. London: Falmer Press.

MacGilchrist, B., Myers, K. & Reed, J. (2004). *The intelligent school*. 2nd edition. London: Paul Chapman.

McCall, J., Smith, I., Stoll, L., Thomas, S., Sammons, P. Smees, R. MacBeath, J., Boyd, B. & MacGilchrist, B. (2001). Views of pupils, parents and teachers: Vital indicators of effectiveness and for improvement. In J. MacBeath & P. Mortimore (eds), *Improving school effectiveness*. Buckingham: Open University Press.

McGregor, J. (2003). Spatiality and teacher workplace cultures: The department as nexus. In R. Edwards & R. Usher (eds), *Space, curriculum and learning*. Connecticut: Information Age Publishing.

McLaughlin, M.W. & Talbert, J.E. (1993). *Contexts that matter for teaching and learning: Strategic opportunities for meeting the nation's education goals*. Palo Alto, CA: Center for Research on the Context of Secondary Schools.

McLaughlin, M.W. & Talbert, J.E. (2001). *Professional communities and the work of high school teaching*. Chicago: University of Chicago Press.

McMahon, A. (1999). Promoting continuing professional development for teachers : An achievable target for school leaders?. In T. Bush, L. Bell, R. Bolam, R. Glatter & P. Ribbins (eds), *Educational management: Redefining theory, policy and practice*. London: Paul Chapman Publishing.

McMahon, A. (2000). *Managing teachers' stress to enhance student learning*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, April.

McMahon, A. (2001a). A cultural perspective on school effectiveness, school improvement and teacher professional development. In N. Bennett & A. Harris (eds), *Alternative perspectives on school effectiveness and school improvement*. London: Continuum.

McMahon, A. (2001b). Fair Furlong primary school. In M. Maden (ed), *Success against the odds – five years on*. London: RoutledgeFalmer.

McMahon, A., Bolam, R., Abbott, R. & Holly, P. (1984). *Guidelines for review and internal development in schools (primary and secondary school handbooks)*. York: Longman/Schools Council.

Martin, J. & Frost, P. (1996). The organisational culture war games: A struggle for intellectual dominance. In S.R. Clegg, C. Handy & W. Nord (eds), *Handbook of organisational studies*. London: Sage.

Miles, M. (1998). Finding keys to school change: A 40-year odyssey. In A. Hargreaves, A. Lieberman, M. Fullan & D. Hopkins (eds), *International handbook of educational change*. Dordrecht: Kluwer.

Mitchell, C. & Sackney, L. (2000). *Profound improvement: Building capacity for a learning community*. Lisse, The Netherlands: Swets & Zeitlinger.

Morrissey, M.S. (2000). *Professional learning communities: An ongoing exploration*. Austin, Texas: Southwest Educational Development Laboratory.

Mortimore, P. & Whitty, G. (1997). *Can school improvement overcome the effects of disadvantage?* Institute of Education Occasional Paper. London: Institute of Education.

Mulford, B. (1998). Organisational learning and educational change. In A. Hargreaves, A. Lieberman, M. Fullan & D. Hopkins (eds), *International handbook of educational change*. Dordrecht: Kluwer.

Mulford, B. (2004). Organizational life cycles and the development of the National College for School Leadership: An Antipodean view. *Educational Management Administration & Leadership* **32**(3), 309–324.

Mulford, B. & Silins, H. (2003). Leadership for organizational learning and improved student outcomes – what do we know? *Cambridge Journal of Education* **33**(2), 175–195.

Newmann, F.M. & Wehlage, G.G. (1995). *Successful school restructuring: A report to the public and educators by the center on organization and restructuring of schools*. Madison, Wisconsin: CORS.

Nias, J., Southworth, G. & Yeomans, R. (1989). *Staff relationships in the primary school: A study of organisational cultures*. London: Cassell.

NRT (2003). *Touching tomorrow*. London: NCSL.

Oswick, C., Anthony, P., Keenov, T., Mangham, I.L. & Grant, D. (2000). A dialogic analysis of organizational learning. *Journal of Management Studies* **37**(6), 887–901.

Quinn, R. & Cameron, K. (1983). Organisational life cycles and shifting criteria of effectiveness: Some preliminary evidence. *Management Science* **29**(1), 33–51.

Reynolds, D. (1996). Turning around ineffective schools: Some evidence and some speculations. In J. Gray, D. Reynolds, C. Fitz-Gibbon & D. Jesson (eds), *Merging traditions: The future of research on school effectiveness and school improvement*. London: Cassell.

Rosenholtz, S.J. (1989). *Teachers' workplace: The social organization of schools*. New York: Longman.

Sammons, P., Thomas, S. & Mortimore, P. (1997). *Forging links: Effective schools and effective departments*. London: Paul Chapman.

Sarason, S. (1990). *The predictable failure of educational reform*. San Francisco: Jossey-Bass.

Saunders, L. (1999). Who or what is school self-evaluation for?. *School Effectiveness and School Improvement* **10**(4), 414–429.

Schein, E. (1985). *Organizational culture and leadership: A dynamic view*. San Francisco: Jossey-Bass.

Schön, D. (1983). *The reflective practitioner*. London: Temple Smith.

Seashore, K.R., Anderson, A.R. & Riedel, E. (2003). *Implementing arts for academic achievement: The impact of mental models, professional community and interdisciplinary teaming*. Paper presented at the Seventeenth Conference of the International Congress for School Effectiveness and Improvement, Rotterdam, January.

Sebba, J. (1997). Educational research: Developing and implementing the Government's action plan. *Research Intelligence* **67**, 19–20.

Senge, P.M. (1990). *The fifth discipline: The art and practice of the learning organization*. London: Century Business.

Shulman, L.S. (1997). Professional development: Learning from experience. In B.S. Kogan (ed), *Common schools: Uncommon futures: A working consensus for school renewal*. New York: Teachers College Press.

Siskin, L.S. (1994). *Realms of knowledge: Academic departments in secondary schools*. London: Falmer Press.

Smylie, M. (1995). Teacher learning in the workplace. In T.R. Guskey & M. Huberman (eds), *Professional development in education: New paradigms and practices*. New York: Teachers College Press.

Smylie, M. & Hart, A. (1999). School leadership for teacher learning and change: A human and social capital development perspective. In J. Murphy & K.S. Louis (eds), *Handbook of research on educational administration*. San Francisco: Jossey-Bass.

Southworth, G. (1999). Headship, leadership and school improvement. In G. Southworth & P. Lincoln (eds), *Supporting improving primary schools: The role of heads and LEAs in raising standards*. London: Falmer Press.

Sparks, D. & Hirsh, S. (1997). *A new vision for staff development*. Alexandria, VA: Association for Supervision and Curriculum Development and National Staff Development Council.

Spillane, J.P. (2006). *Distributed leadership*. San Francisco: Jossey-Bass.

Stenhouse, L. (1975). *An introduction to curriculum research and development*. London: Heinemann.

Stobart, G. & Mutjtaba, T. (2003). *Early indicators of key factors in teachers' perceptions of relational effectiveness*. Paper presented at the annual conference of the British Educational Research Association. Herriot Watt University, Edinburgh, September.

Stoll, L. (1999). Realizing our potential: Building capacity for lasting improvement. *School Effectiveness and School Improvement* **10**(4), 503–532.

Stoll, L., Bolam, R. & Collarbone, P. (2002). Leading for change: Building capacity for learning. In K. Leithwood & P. Hallinger (eds), *Second international handbook of educational leadership and administration*. Dordrecht: Kluwer.

Stoll, L., Bolam, R., McMahon, A., Thomas, S., Wallace, M., Greenwood, A. & Hawkey, K. (2006). *Professional learning communites: Source materials for school leaders and other leaders of professional learning*. London: Innovation Unit, DfES, NCSL and GTC.

Stoll, L. & Earl, L. (2003). Making it last: Building capacity for sustainability. In B. Davies & J. West-Burham (eds), *Handbook of educational leadership and management*. London: Pearson/Longman.

Stoll, L. & Fink, D. (1996). *Changing our schools: Linking school effectiveness and school improvement*. Buckingham: Open University Press.

Stoll, L., Fink, D. & Earl, L. (2003). *It's about learning (and it's about time)*. London: RoutledgeFalmer.

Stoll, L., MacBeath, J. Smith, I. & Robertson, P. (2001). The change equation: Capacity for improvement. In J. MacBeath & P. Mortimore (eds), *Improving school effectiveness*. Buckingham: Open University Press.

Stoll, L. & Myers, K. (1998). *No quick fixes: Perspectives on schools in difficulty*. London: Falmer Press.

Stoll, L., Stobart, G., Martin, S., Freeman, S., Freedman, E., Sammons, P. & Smees R. (2003). *Preparing for change: Evaluation of the implementation of the key stage 3 strategy pilot*. London: DfES.

Talbert, J.E. McLaughlin, M.W. & Rowan, B. (1993). Understanding context effects in secondary school teaching. *Teachers College Record* **95**(1), 45–68.

Teddlie, C. & Reynolds, D. (2000). *The international handbook of school effectiveness research*. London: Falmer Press.

Thomas, S., Smees, R. & Elliot, K. (2000). Value added feedback for the purpose of school self-evaluation. In S. Askew (ed), *Feedback for learning*. London: Routledge.

Thompson, M. (2001). Can things only get better? *Professional Development Today*, Autumn, 7–20.

Thrupp, M. (1999). *Schools making a difference: Let's be realistic!*. Buckingham: Open University Press.

Toole, J.C. & Louis, K.S. (2002). The role of professional learning communities in international education. In K. Leithwood & P. Hallinger (eds), *Second international handbook of educational leadership and administration*. Dordrecht: Kluwer.

Visscher, A.J. & Witziers, B. (2004). Subject departments as professional communities?. *British Educational Research Journal* **30**(6), 785–800.

Wallace, M. (1991). *School-centred management training*. London: Paul Chapman Publishing.

Wallace, M. (1996). A crisis of identity: school merger and cultural transition. *British Educational Research Journal* **22**(4), 459–472.

Wallace, M. (2001). Sharing leadership through teamwork: A justifiable risk?. *Educational Management and Administration* **29**(2), 153–167.

Wallace, M. & Hall, V. (1994). *Inside the SMT: Teamwork in secondary school management*. London: Paul Chapman.

Wallace, M. & Huckman, L. (1999). *Senior management teams in primary schools: The quest for synergy*. London: Routledge.

Wallace, M. & Poulson, L. (eds), (2003). *Learning to read critically in educational leadership and management*. London: Sage.

Watson, N. & Fullan, M. (1992). Beyond school district-university partnerships. In M. Fullan & A. Hargreaves (eds), *Teacher development and educational change*. Lewes: Falmer Press.

Westheimer, J. (1999). Communities and consequences: An inquiry into ideology and practice in teachers' professional work. *Educational Administration Quarterly* **35**(1), 71–105.

Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. New York: Cambridge University Press.

Whatford, C. (1998). Rising from the Ashes. In L. Stoll & K. Myers (eds), *No quick fixes: Perspectives on schools in difficulty*. London: Falmer Press.

Wiley, S. (2001). Contextual effects of student achievement: School leadership and professional community. *Journal of Educational Change* **2**(1), 1–33.

Williams, A., Dobson, P. & Walters, M. (1993). *Changing culture: New organisational approaches*. London: Institute of Personnel Management.

Woods, P. A., Castle, F., Cooper, D., Evans, J. & Glatter, R. (2003). *Pathfinding and diversity: Similarities and differences in LEAs' and schools' responses to a government initiative at local level*. Paper presented at the Annual Conference of the British Educational Research Association, Edinburgh, September.

Woods, P., Jeffrey, B., Troman, G. & Boyle, M. (1997). *Restructuring schools, reconstructing teachers: Responding to change in a primary school*. Buckingham: Open University Press.

LOUISE STOLL
London Centre for Leadership in Learning
Institute of Education, University of London
20, Bedford Way
WC1H OAL
London, United Kingdom
E-mail: l.stoll@ioe.ac.uk