

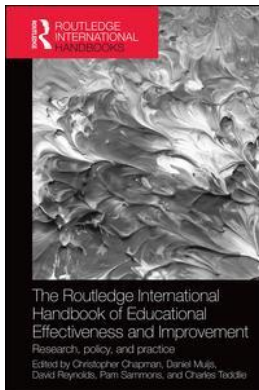
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On: 23 Sep 2019

Access details: *subscription number*

Publisher: *Routledge*

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The Routledge International Handbook of Educational Effectiveness and Improvement Research, policy, and practice

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Publication details

<https://www.routledgehandbooks.com/doi/10.4324/9781315679488.ch3>

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Published online on: 28 Aug 2015

How to cite :- David Reynolds, Charles Teddlie, Christopher Chapman, Sam Stringfield. 28 Aug 2015, *Effective school processes from: The Routledge International Handbook of Educational Effectiveness and Improvement, Research, policy, and practice* Routledge

Accessed on: 23 Sep 2019

<https://www.routledgehandbooks.com/doi/10.4324/9781315679488.ch3>

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Effective school processes

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Introduction: The phases of research on effective processes

There are a large number of publications that review the history of educational effectiveness research (EER) (Creemers, Kyriakides, & Sammons, 2010; Gray, Goldstein, & Jesson, 1996; Mortimore, 1991; Reynolds, 2010b; Reynolds et al., 1994; Sammons, 1999; Scheerens & Bosker, 1997; Teddlie & Reynolds, 2000; Townsend, 2007b), so we will only briefly summarise the main phases of its evolution here. There are probably five.

The first phase emerged as a reaction to the seminal studies of Coleman et al. (1966) and Jencks et al. (1972), which concluded that schools had little effect upon the outcomes of their students in comparison with the effects of students' own abilities and social backgrounds. The beliefs were commonplace that 'schools make no difference' and that 'education cannot compensate for society' (Bernstein, 1968). Into this climate came the empirical studies of Edmonds (1979), Mortimore et al. (1988), Rutter et al. (1979), Smith and Tomlinson (1989), and the smaller, 'one-off' case studies of researchers such as Weber (1971) and Reynolds (1976), all of which contained multiple measures of school-level effectiveness factors.

The second phase ran from the mid-1980s, in which the use of multilevel methodologies (Goldstein, 1995, 2003) and methodologically sophisticated studies began to show the scientific properties of school effects in such areas as the stability of school effects over time. These areas include their consistency in different outcome domains, their differential effects upon students with different background characteristics, their size, and their impact in the long term (see reviews in Reynolds, 1996).

Beginning probably in the early to mid-1990s was EER's third phase, in which there were more numerous attempts to explore the reasons *why* schools had different effects in terms of school processes. Influential work here included the Louisiana School Effectiveness Studies of Teddlie and Stringfield (1993) in the United States, and work in the United Kingdom on subject department effects upon performance and also upon school effects (Sammons, Thomas, &

Mortimore, 1997). These years also saw a number of influential reviews of the field and of the effective school-level processes, such as those by Reynolds et al. (1996), Scheerens and Bosker (1997), and Teddlie and Reynolds (2000). The importance of the classroom level was also noted by Creemers (1994) and Teddlie and Stringfield (1993).

The fourth phase, which began in the mid to late 1990s, ran for a decade and is still in evidence today. This marked the internationalisation of the field, together with the merger or synergy of approaches generated by having, for example, school effectiveness researchers in close intellectual proximity to school improvement researchers and practitioners. Examples of some large-scale studies that included measures of effective school processes are those of Brandsma and Knuver (1988) on primary schools and those of Bosker and van der Velden (1989) on secondary schools in the Netherlands, the studies of Grisay (1996) on secondary schools in France, and of Hill and Rowe (1996) on primary and secondary schools in Australia, and those of De Fraine et al. (2007), van Damme et al. (2006), and Verachtert et al. (2009) in Flanders. International opportunities for networking – for joint research in multiple countries – coupled with the powerful effects of different research and country traditions in EER that offered new perspectives, learning opportunities, and choices, meant that the effective processes field developed rapidly. There was also pioneering mixed method work involving large-scale quantitative analysis, combined with in-depth case studies of particular schools and departments.

The fifth phase has been said to have begun in the late 2000s and is still developing rapidly, focusing on EER as a dynamic, not static, set of relationships, and moving away from seeing education in particular as an inherently stable set of arrangements towards seeing it as the various ‘levels’ of processes in the educational system interacting and achieving variable outcomes (Creemers & Kyriakides, 2008). Additionally, and linked with this more dynamic perspective, is a commitment to newer forms of statistical analyses that can permit the establishment of indirect, as well as direct, relationships between educational factors and student outcomes, as well as reciprocal relationships between educational factors, both enabled by the increased popularity of structural equation modelling (SEM).

Two problems in the development of research on effective school processes need to be noted, however. The rapid internationalisation and growth of the field potentiated its chances of learning *from* itself. It also reduced its chances of learning even more from other fields, given that there was little apparent need, in light of the intellectual and geographical variance that was already on offer, to learn from outside of itself. The rise of a number of critical perspectives on the discipline (see the papers from the American Educational Research Association, or AERA, debate, such as Reynolds & Teddlie, 2001; Slee & Weiner, 2001; Teddlie & Reynolds, 2001; Thrupp, 2001, 2002; see also the overview by Townsend, 2001) probably encouraged the discipline to focus inwards to address these issues through international collaboration, even though useful perspectives were to be had from disciplines such as:

- sociology of education (on school culture);
- educational administration (on leadership);
- human relations (on within-school relationships);
- cognitive neuroscience (on ‘brain-based’ interventions);
- psychology of education (on multiple outcomes); and
- humanistic psychology (on self-conception).

Also, the very rapid growth in the number of researchers and studies over a short thirty-year time period probably made it difficult for EER to develop its knowledge base cumulatively. Studies on school processes often conceptualised the factors involved in EER differently: each may have measured the factors differently and then employed different analytic methods. Whilst none of this is surprising in the development of an infant discipline, the sheer variability and lack of cumulative work made the ‘body of knowledge’ about effective school processes a difficult one to assess and weigh. The first international handbook (Teddle & Reynolds, 2000) provided a good foundation in this area, and more recent work has further strengthened this by means of a focus on international research (Townsend, 2007b), theory (Creemers & Kyriakides, 2008), and methodological advances (Creemers, Kyriakides, & Sammons, 2010) – but these reviews all came relatively late in the development of the field.

It would be wrong to be too critical of EER, however. Overall, it has achieved much – notably by:

- encouraging a focus on the potential role of education in improving outcomes for disadvantaged groups of students;
- helping to counter the mistaken belief that schools could do nothing to change the society around them;
- helping to study rigorously ‘what worked’, in terms of effective school processes, rather than inertly following fads and fashions;
- demonstrating to practitioners that they had power that could be used for good over young people; and
- creating a valid, although (as noted already) somewhat limited, knowledge base about effective school processes, which could act as a foundation for training and professional development, and which could avoid the need for the teaching professions of different countries to ‘reinvent the wheel’.

Which processes matter at school level?

Given the historic origins of the field in the desire to improve the life chances of children, it is not surprising that a considerable volume of effort has gone into describing the characteristics of the schools that ‘add value’ to student outcomes. In the predominantly Anglo-Saxon and Celtic countries, for example, there has been an initial wave of small-scale case studies from the United States (for example Weber, 1971) and the Louisiana School Effectiveness

Studies (Teddlie & Stringfield, 1993), the mixed method longitudinal studies from London (Mortimore et al., 1988; Rutter et al., 1979; Sammons, Thomas, & Mortimore, 1997) into both primary and secondary schools, and research in Scotland (MacBeath & Mortimore, 2001).

What is interesting is the extent to which the original five ‘correlates’ of effectiveness at the school level in the foundational study of Edmonds (1979) appear to have survived as valid explanations, over time, in multiple countries, and in multiple settings within countries, although research is now much more complex and multifaceted in all of these areas. Edmonds’ (1979) five ‘correlates’ were:

- strong principal leadership;
- an emphasis upon basic skill acquisition;
- an orderly climate that facilitated learning;
- high expectations of what students would achieve; and
- frequent monitoring of the progress of students.

The quite comprehensive review completed by Teddlie and Reynolds (2000), based upon analysis of literally hundreds of ‘process-based’ studies, identified nine similar global factors, as follows.

- 1 Effective leadership that was:
 - firm;
 - involving;
 - instrumentally orientated;
 - involved monitoring; and
 - involved staff replacement
 (We expand on this later in this chapter.)
- 2 A focus upon learning that involved:
 - focusing on academic outcomes; and
 - maximising learning time
- 3 A positive school culture that involved:
 - shared vision;
 - an orderly climate; and
 - positive reinforcement
- 4 High expectations of students and staff
- 5 Monitoring progress at school, classroom, and student levels
- 6 Involving parents by means of:
 - buffering negative influences; and
 - promoting positive interactions

- 7 Generating effective teaching through:
 - maximising learning time;
 - grouping strategies;
 - benchmarking against best practice; and
 - adapting practice to student needs
- 8 Professional development of staff that was:
 - site located; and
 - integrated with school initiatives
- 9 Involving students in the educational process by means of:
 - responsibilities; and
 - rights

Interestingly, the recent review of even more contemporary literature by Marzano (2003, 2007), undertaken from the different paradigm of educational administration, shows remarkably similar findings. His school-level factors can be summarised as:

- professional behaviours involving leadership and cooperation;
- guaranteed curriculum offerings that involved high time available for learning and opportunity to learn within that time;
- a safe and orderly classroom climate;
- challenge, involving pressure to achieve and frequent monitoring;
- parental and community involvement; and
- an effective ‘classroom’ or ‘instructional’ level.

How these effectiveness factors operate

As well as a degree of clarity about which factors are associated with outcomes, we have considerable understanding of how the factors have their effects. We can expand in turn on those arising from the Teddlie and Reynolds (2000) review as follows.

- *Leadership* The ‘firmness’ of leadership is necessary because, in a rapidly changing educational climate within most societies, there needs to be a degree of steering to coordinate responses at school level. However, the evidence is that there needs additionally to be involvement of all staff in decision making to maximise the take-up of whichever decisions are made; otherwise, staff may not implement the necessary changes or policies. An instrumental orientation from school leaders involves commitment to actionable, malleable policies that have effects, rather than to abstract and/or vague ‘do-gooding’. Monitoring by leaders is important, because they need to have detailed knowledge of the performance of

their staff in terms of meeting targets, carrying through new policies, and improving performance. The replacement of existing staff through proactive recruitment, in many countries usually involving the observation of possible teacher recruits in their classrooms before appointment, is also vital to ensure high-quality personnel and high-quality outcomes.

- *A focus on learning* This crucially involves ensuring that academic and academic-related outcomes are the major concern of a school, rather than more social outcomes – or indeed rather than the school’s ‘pattern maintenance’, independent of any outcomes. Maximising the learning time that is available for use by stretching the school day, adding on activities and catch-up sessions at the end of formal schooling, and ensuring that time allocated for teaching and learning is used for that purpose without time ‘leakage’ caused by interruption or transition between formal lessons is clearly also necessary.
- *A positive school culture* This involves creating a shared vision among staff and students about the goals of the organisation and the various means necessary to reach them. Often, in the literature, this is referred to as ‘ownership’ of the school by its personnel. An orderly climate is essential: without order in corridors, playgrounds, and classrooms, it would be impossible to carry through effective policies. And a climate of positive reinforcement of behaviours, rather than one that negatively attempts to punish out unwanted behaviours or attitudes, is essential to maximise the ‘buy-in’ of students to their school’s goals.
- *High expectations* Expecting that there will be successful outcomes in a school has been shown to be an important characteristic of effective schools in virtually all studies. At the level of the staff, this could be reflective of a belief that the school can overcome the effects of any social or home background factors, summed up in the phrase ‘all children can learn’. At the level of the students, they need to believe that they are capable of attaining high levels of outcomes and that there is support available to them to maximise their chances for success.
- *Monitoring progress* Using data on all levels of the school to ensure that desired outcomes are being met and that progress is optimal is essential if schools are to be the ‘lever’, or ‘smart’, organisations that a complex society needs. At the school level, this could involve academic progress data being used to identify those excellent staff who can be ‘benchmarks’. At the individual student level, this could involve close attention to progress data on a wide range of academic and social outcomes, routinely studied to generate information about whether students are ‘up to speed’. At the classroom level, this could involve the assessment of whether different subgroups of pupils – boys/girls, ethnic minority/home nation, less able/more able, etc. – are performing differently, and whether this varies by teacher and/or subject, for example.
- *Involving parents* Given the centrality of parents/caregivers and homes in the lives of young people, maximising their positive influences over these

young people is essential. Partly, this can be done by ‘buffering’ out any negative influences from the home by ensuring that they are not allowed to influence the education of children in the school – as shown in the classic Hallinger and Murphy (1986) study of effective low socio-economic status (SES) principals who did not seek to do outreach with children’s parents because they were seen as unhelpful to the schools in achieving their goals. Positive influences need to be strengthened: providing parents with full information on school expectations, enlisting support in crucial areas such as uniform and homework completion, and indeed following the path of some American and British schools by taking the school into the homes and communities of its children – making them ‘school-ready’, as it were – are examples of this ‘positivity’.

- *Effective teaching* It is axiomatic that effective schools possess effective teaching. Indeed, all available evidence is that the effect of the classroom/teacher ‘level’ is considerably greater than that of the school ‘level’. This teaching needs to *maximise available time* as learning time, by avoiding timewasting behavioural/disciplinary incidents during lessons, for example, and by ensuring that instructionally related activities fully occupy teaching time. *Grouping strategies* need to involve the creation of a variety of learning modes – individually based seat work, collaborative groupwork, one-on-one methods, whole-class interactive teaching – that together maximise student engagement. Different grouping strategies would also be appropriate in different subjects, and with children of different ages and capabilities, with, for example, the amount of whole-class direct teaching reducing over time as children get older and are capable of more self-organisation in lessons. Benchmarking against best practice can be generated by use of observation systems of teaching in classrooms and associated teacher-to-teacher transmission of lesson practices that are seen to ‘work’. Collaborative ‘lesson study’ can also be utilised (Stigler & Hiebert, 1999).
- *Professional development* There is considerable evidence that site-based, rather than off-site university-based, professional development has greater effect in promoting optimal professional performance, since it is easier to focus on school-specific issues and priorities at an individual school level. Integration of such development with school development priorities in school development planning is also powerful.
- *Involving students* Students can be drawn further into the life of the school by encouraging them to run and support extracurricular activities or placing them in monitorial or leadership positions – examples of giving students enhanced responsibilities. Such responsibilities can also be extended to involvement in formal positions within the classroom (‘fetching the equipment/books for the teacher’ in the early years, for example). Rights for students can include being consulted about school policies, involving them in school developmental planning, and using ‘consumer response’ surveys to collect their views about instructional/teaching matters and about school life in general.

Effective school leadership

Of crucial importance in the creation of effective school processes is effective leadership. Historically, when it has been researched, leadership has been closely related to the concept of 'management'. However, Dimmock (1999) sets out the differences, claiming leadership to be concerned with higher order tasks designed to improve staff, student, and school performance, while management is concerned with maintenance activity and administration associated with lower order activities. Day (2001) differentiates leadership from management by linking management to systems and leadership to people. Put simply, in education settings, management has a history of being associated with the maintenance of systems and structures, and leadership with values, vision, and direction setting.

The relationship between EER and school leadership is well established, but school leadership research has not always been a popular pursuit. In the 1970s, educational leadership as an academic interest lost its way, and was even considered to be outmoded and to have lost its usefulness (Gronn, 2003). In the 1980s, there was a resurgence of leadership research as ideas relating to transactional and transformational leadership began to take root in various systems. These developments brought new energy to the field and, by the early 1990s, were quickly adapted to form the bedrock of contemporary educational leadership research (for example Gronn, 1996). These advances coincided with, and were at times related to, the emergence of international research on effective schools, confirming the relationship between leadership and effective schooling. For example, in the United States, Edmonds (1979) reported findings linking effective schools for the urban poor to institutional leadership, expectations, and atmosphere. In the same year, Rutter and colleagues (1979) also highlighted the relationship between school leadership and effective schooling in their English study entitled *Fifteen Thousand Hours*. A number of empirical studies and systematic reviews have built on this early work to confirm the relationship between leadership and effectiveness (Hallinger & Heck, 1996, 2010; Leithwood, Jantzi, & Steinbach, 1999; Leithwood, Steinbach, & Jantzi, 2002; Sammons et al., 1996).

As the understanding of the relationship between leadership and school effectiveness has increased, researchers have turned their attention to the complexity of relationships and leadership in different settings and levels. This has included the nature of leadership in schools at different phases of development (Chapman, 2004), and in different socio-economic contexts and national settings (for example Chapman & Harris, 2004; Mongon & Chapman, 2012). Research has also focused on leadership at different levels including beyond the school, across the wider system in the form of 'system leadership' (Higham, Hopkins, & Matthews, 2009), within schools in departments or faculties in the form of 'departmental leadership' (Harris, Jamieson, & Russ, 1996; Sammons, Thomas, & Mortimore, 1997), and in classrooms in the form of 'teacher leadership' (Harris & Muijs, 2004; Leiberman & Miller, 2004).

While leadership research explored different settings, the concept of 'distributed leadership' appeared in the early 1990s and has become part of the

educational lexicon. Barth (1990) claims that everyone within a school is capable of becoming an active leader of the community, and Spillane, Halverson, and Diamond (2001) argue for distributed leadership as a set of practices distributed across individuals and artefacts.

Although there is little systematic research linking the contribution of distributed leadership to the achievement of organisational goals, there is empirical evidence to support a 'strong relationship between distributed patterns of leadership and organizational performance' (Day & Sammons, 2013: 35). The distributed perspective has also been used in the theoretical development of the field as a lens through which to explore the knowledge base pertaining to instructional leadership (Neumerski, 2013).

Contemporary research has tended to focus on the relationship between leadership and student outcomes (Day et al., 2010). Drawing on their three-year study, Day and colleagues (2010) make 'ten strong claims' for the importance of educational leadership, as follows.

- 1 *Head teachers are the main source of leadership in their schools*, and their values, reflective strategies, and leadership practices are key to improving student outcomes.
- 2 *There are eight key dimensions of successful leadership*: focusing on values and vision to raise expectations; setting direction and building trust; reshaping the conditions for teaching and learning; restructuring and redesigning the organisation, leadership roles, and responsibilities; enriching the curriculum; enhancing teacher quality; enhancing the quality of teaching and learning; and building collaboration internally and building strong relationships outside the school community.
- 3 *Head teachers' values are key components in their success*, including a strong sense of moral responsibility and a belief in equal opportunities and respect for others, and a commitment to and passion for learning, achievement, and the school community.
- 4 *Successful heads use the same basic leadership practices, but there is no single model for achieving success*; rather, it involves drawing on elements of transformational and instructional leadership, mixing and matching as appropriate.
- 5 *Differences in context affect the nature, direction and pace of leadership actions*.
- 6 *Heads contribute to student learning and achievement through a combination and accumulation of strategies and actions*, including reducing within-school variation and building collaborative cultures.
- 7 *There are three broad phases of leadership success*, which are matched to the development phase of the school: the 'foundation' phase focuses on improving the physical environment and setting directions; the second, 'developmental', phase involves distributing leadership and promoting the use of evidence-based decision making; and the third, 'enrichment', phase involves personalising and enriching student experiences and further distribution of leadership.

- 8 *Heads grow and secure success by layering leadership strategies and actions.* This involves both layering and replacing strategies as performance improves.
- 9 *Successful heads distribute leadership progressively, but patterns vary, and the distribution of leadership responsibility and power varies depending on local context.*
- 10 *The successful distribution of leadership depends on the establishment of trust.* Leadership is essentially a social process that requires the development of a positive ethos.

These 'strong claims' highlight a number of key messages relating to successful leadership. Perhaps most potent is the importance of context. As Leithwood, Jantzi, and Steinbach (1999) remind us, leadership is closely related to the context in which it is exercised. In addition, Hallinger (2003) argues that the suitability of any leadership model in a school is also linked to factors in the external environment. Therefore we must be wary of overly simplistic generalisations that promote a universal notion of effective leadership.

Building on the work of Bush and Glover (2002), Bush (2007) outlines six models of educational management and nine associated models of educational leadership, as follows.

- *Formal management models* assume that schools are hierarchical, and that leaders use the authority and power gained from their formal position within the hierarchy to achieve their goals. This 'managerial' form of leadership takes a technical rational perspective, focusing on the completion of tasks to achieve desired outcomes.
- *Collegial management models* are exemplified by the use of discussion to determine policy and to make decisions (interpersonal models). Some power is shared across the school and there is a shared sense of purpose across the organisation. There is a strong literature base closely associated with collegial models, which includes the concepts of transformational leadership and participative leadership.
- *Political management models* assume that organisations function through the process of negotiation and bargaining, with micro-politics creating factions and interest groups that interact to serve their own agendas. Transactional leadership is associated with political models.
- *Subjective management models* are underpinned by individuals' own constructions of reality, so that participants experience the organisation in different ways, often rooted in their own values and beliefs. Organisations therefore have 'different meanings for each of their members and exist only in the experience of those members' (Bush, 2003: 113). Most forms of leadership rest uneasily with the subjective model. One notable exception is the recently coined 'post-modern leadership'.

The ideas surrounding the final two models of leadership are even more underdeveloped.

- *Ambiguity management models* assume that organisations are opaque in nature, and shrouded in uncertainty and turbulence. They are dominated by a lack of clarity, with individuals opting in and out of the decision-making process, and relate to notions of ‘contingent leadership’.
- *Cultural management models* are driven by the beliefs, values, and ideas held within the organisation, and the idea that the norms that develop within the organisation can be identified by the traditions, rituals, and symbols exhibited by it. This is related to forms of moral and instructional models of leadership.

Which processes matter at the classroom level?

While EER initially focused primarily on the school level, the development of multilevel modelling showed convincingly that while the school level was significant and important, the classroom level explained a greater proportion of variance. Depending on the study, classroom-level variance accounted for up to twice as much as school-level variance, and up to 25 per cent of total variance, again depending on study and context (in addition to country differences, other contextual factors matter, with classroom-level effects being greater among pupils with low-SES backgrounds and low levels of prior attainment, for example) (Muijs & Reynolds, 2003, 2011). This led to school effectiveness researchers increasingly integrating classroom-level factors into their research design (for example see Mortimore et al., 1988). In developing this strand of work, they were able to draw on an older tradition of research in the area of teacher effectiveness, which had originated in the United States in the 1960s and used similar input–process–output models to those subsequently employed in school effectiveness research (SER) to study classroom processes. This field of study had shown convincingly that it was teacher behaviours, rather than other classroom factors, that were the predominant classroom-level correlates of student outcomes (Brophy & Good, 1986) and had identified a range of teacher behaviours that were related to outcomes, providing later educational effectiveness researchers with a framework for developing their studies in classrooms within the broader framework of educational effectiveness (for example Muijs & Reynolds, 2003).

Both teacher effectiveness studies and integrated educational effectiveness studies have come up with a range of classroom correlates of student outcomes. Some key messages to take from these studies are as follows.

- Learning occurs when the classroom is an orderly, business-like environment. Transitions need to be brief, lessons need to start on time, and rules for student behaviour need to be established early and be clearly understood by students (elements that could be termed *classroom management*). Student misbehaviour needs to be corrected immediately, accurately, and constructively (*behaviour management*). The effective classroom is warm and supportive, characterised by high expectations and teacher enthusiasm

(*classroom climate*) (Brophy, 1988; Brophy & Good, 1986; Creemers, 1994; Doyle, 1986; Mortimore et al., 1988; Muijs & Reynolds, 2000; Reynolds & Muijs, 1999b; Reynolds et al., 1996).

- Achievement has been found to increase when most of the lesson is spent teaching the whole class, rather than letting students work through worksheets or schedules on their own. This whole-class (*direct*) teaching needs to be highly structured, setting out the objectives of the lesson, stressing key points of the lesson, making them clear and structured with explanations, and summarising the lesson at the end. Whole-class teaching needs to be *interactive*; lecture-style lessons are to be avoided. Teachers need to involve students in the lesson by asking a high number of questions, mixing higher and lower cognitive order questions according to the topic (but always using higher order questions, including open questions) and using an appropriate wait time, which is short (3 seconds) for both lower order questions and for higher order questions. Students must receive immediate feedback when they have answered a question. This feedback must be business-like, but positive, acknowledging correct answers and prompting when incorrect answers are given before going over to the next student. While whole-class teaching is important, students also need to have the opportunity to practise what they have learned during *seat work* or *group work* sessions, which should include cooperative small group work. During seat work, the teacher again needs to take an active role, going round the class to help students and being open to student questions rather than remaining behind her or his desk (Borich, 1996; Brophy, 1988; Brophy & Good, 1986; Creemers, 1994; Croll, 1996; Evertson et al., 1980; Galton, 1987; Galton & Croll, 1980; Good, Grouws, & Ebmeier, 1983; Mortimore et al., 1988; Muijs & Reynolds, 2000; Reynolds & Muijs, 1999b).
- Effective teaching, however, is not rigid. Teachers need to use a *variety of teaching strategies* aimed at students with different learning needs. They need to use a variety of manipulatives and materials to engage students, address different learning styles, and allow easier transferability of knowledge (Borich, 1996; Brophy & Good, 1986; Reynolds & Muijs, 1999b).

While these findings have remained robust over time, recent developments (in society and research) have led to them being supplemented by a range of different elements and findings. There has, for example, been a move towards recognising the importance of meta-cognition and higher order thinking skills, as well as the basic skills emphasised in the original teacher effectiveness studies. According to Veenman's (2006) overview, key principles that underline effective meta-cognitive instruction are to firmly embed meta-cognitive instruction with the subject matter taught and to engage learners in using meta-cognitive skills by developing an understanding of their importance.

There has also been a growing understanding of the interrelationship of different teacher and classroom factors, as it has become clear that while teacher behaviours are predominant, they are themselves shaped by teacher beliefs and

classroom and school contexts, so that teacher behaviours vary depending on student characteristics and reactions (Rubie-Davies et al., 2010). The importance of factors such as subject knowledge (Meltzer & Woessmann, 2012) and of classroom environment factors such as classroom noise (Shield & Dockrell, 2008) have also been found to have significant, albeit generally small, relationships with achievement.

Furthermore, the development of longitudinal studies has allowed us to gain a greater understanding of the overall magnitude of teacher effects. One important finding here relates to the enduring influence of teacher effects, with studies showing that teacher effects in the early grades of primary school persist right through to the end of primary education (Konstantopoulos & Chung, 2010), although persistent effects over this period of time are not that large, with around 50 per cent of the initial effect disappearing after two years (Kane & Steiger, 2008). Teacher effects do, however, account for a greater proportion of the variance in learning progress than any other factor, up to the equivalent of one year's progress over the primary years (Konstantopoulos & Chung, 2010; Sammons & Bakkum, 2011). Effects also appear cumulative, in that a succession of highly effective teachers may have an even stronger impact on outcomes.

Overall, then, the importance of classroom-level effects, and particularly of teacher effectiveness, is one of the key findings from EER. We will therefore discuss this aspect in more detail in Chapter 4.

The processes of educational ineffectiveness

As long as the fundamental thesis proposed by Coleman et al. (1966) that schools had little or no differential effects on students' levels of achievement held sway, there was little reason for an effectiveness field to evolve. From its roots, the various 'effectiveness' fields have focused the great majority of their scientific endeavour on identifying characteristics of relatively effective teachers, schools, districts, and countries. Being a young, and perhaps somewhat insecure, science, the effectiveness field has focused most of its energies – and writings – on the positive side of its discoveries.

Two important concepts have tended to be overlooked in this desire to please: first, the identification of relatively positive characteristics implies the presence of negative ones, but the negatives are not necessarily the polar opposites of positives; secondly, in planning to respond to any problem, it is as important to understand the specifics of the problem as the range of solutions. For example, in the evolution of the medical sciences, the field had to develop a deep understanding of the differentiating nature and causes of diseases before it could develop equally differential cures (Thomas, 1979).

In a ground-breaking, but under-discussed, paper entitled 'Research on teacher effects: Uses and abuses', Brophy (1988) observed that most of what was known about the 'teacher effectiveness' field was drawn from process-product studies that more clearly described (but did not adequately discuss) what was known about teacher *ineffectiveness*. Similarly, Edmonds' (1979)

famous ‘five factors’ are more accurately understood and sound less like truisms if they are used to implicitly describe characteristics of *ineffective* schools. Ineffective schools have weak principal leadership, a lack of emphasis on the acquisition of basic skills, a disorderly climate, low or uneven expectations, and inconsistent or no monitoring of student progress.

In any science, it is important – if not always popular – to make the implicit explicit. A few studies have been conducted that have formally addressed the topics of school ineffectiveness, school decline, and processes that kill school improvement efforts. Each of these areas is briefly noted next, and each area merits additional research.

Reviewing research on the topic of school ineffectiveness, Stringfield (1998) described ineffectiveness in schools as being observable at school, teacher, and student levels. Students in ineffective schools were characterised as spending considerably less time per hour and day engaged in academic learning. Further, the time that they did spend was more likely to be characterised as ‘intellectual anarchy’. Tasks were put in front of students with little explanation of why the students were being asked to complete them or how they related to the larger processes of understanding coherent fields of knowledge.

At the classroom level, ineffective schools were characterised by a leisurely pace, minimal moderate- to long-term planning, low or uneven rates of interactive teaching, a preponderance of ‘ditto sheets’ and other relatively unengaging tasks, a failure to cover all of the year’s assigned content, and teachers teaching in isolation from one another.

Finally, at the school level, ineffective schools displayed most or all of seven characteristics: a lack of academic focus; regular disruptions to, and wasting of, academic time; resources working at cross-purposes; principals who were not conversant with the specifics of their schools’ curricula; principals who were relatively passive in the key processes of recruiting new teachers and providing accurate feedback to current teachers; the inefficient use of school libraries and/or media centres; and a lack of public celebration of student successes.

Additionally, Hochbein (2011) noted that Brookover and Lezotte (1979) conducted the first rigorous study that included schools in decline. While their sample included six improving and only two declining schools, Brookover and Lezotte (1979: abstract) noted that, in declining schools:

The most pervasive finding was the one concerning teachers’ and principals’ attitudes toward student achievement. The staff in the declining schools had low opinions of their students’ abilities, while staff in the improving schools had high opinions of student abilities.

In an article largely focused on school improvement, Stringfield and Teddlie (1988) provided a somewhat detailed roadmap for the creation of ineffective schools. They described a process beginning with the introduction of a new principal lacking in academic focus, declining attention to student learning and coherence in school processes, the choices made by competent, experienced

teachers to leave the increasingly dysfunctional environment, and a haphazard attitude toward hiring new professional staff.

Both Grant (1988) and Duke (1995) provided detailed case studies of American high schools that had fallen from excellence to sub-mediocrity. Both stories featured substantial declines in principals' leadership, declining academic standards among the faculty, declining school climates, and increases in the percentages of students who were more at risk when entering the schools. In England, the 'Forging Links' research on the academic effectiveness of secondary schools studied ineffective and more effective schools and subject departments (Sammons, Thomas, & Mortimore, 1997), plus schools that might appear average, but in which both effective and ineffective subject departments coexisted. The results drew attention to the importance of leadership among principals and heads of department, academic emphasis, quality of teaching, and behavioural climate.

In terms of the processes that can kill school improvement efforts, Charles M. Payne's (2008) *So Much Reform, So Little Change*, is a sobering reminder that most efforts to improve schools do not produce the desired results in the first place or they are not sustained. In the EER field, the need to study and understand why hundreds of well-intentioned and often seemingly well-designed school reform efforts have fallen into the dustbin of history is long overdue. From the 'eight-year study' of the 1930s (Aikin, 1942), through Tyack and Cuban's (1995) analysis of a century of reform efforts, to Supovitz and Weinbaum's (2008) *The Implementation Gap*, a discouraging summary might be: 'There is a lot more said than done, and a lot more begun than sustained.' A prudent would-be reformer ought to ask why this is so before initialising another reform effort.

After participating in a three-year study of diverse, externally developed efforts to improve twenty-five high-poverty schools, Nesselrodt, Schaffer, and Stringfield (1997) concluded that the participating schools had experienced nine potentially overlapping and determining potential causes of reform failure. Listed in order of frequency (as summarised in Stringfield, 1998), the potential change killers were:

- inability to sustain funding (in eight out of the twenty-five schools);
- inability to sustain teacher commitment (eight);
- unresolved issues with curriculum alignment (six);
- challenges in recruiting and developing teachers and other key staff (five);
- racial disharmony among the staff (three);
- parent or community perceptions that the school faced too many deep problems (three);
- management, communication, and scheduling problems (three);
- the schools' physical facilities presented challenges to offering the reform that the school and/or district did not address (two); and
- other contextual or political problems, such as the arrival of a new district superintendent who saw no value in continuing the particular reform (two).

After five years of leading a team studying six different, externally designed reforms in one large system, Datnow (2005) concluded that lasting reforms actively assist school leaders in adapting to ever-changing district and state/national policy demands, and make few long-term financial demands on the school and system. She observed that policymakers need to be more aware of their impacts, intended and unintended, on schools and their various reform efforts, and she concluded with several pertinent observations:

- schools not firmly committed to seeing specific reforms through for the long haul probably should not begin the reforms at all;
- if a school's leaders believe a reform to be producing desired results, they would be well advised to keep their central administration apprised of the reform and what it takes to sustain it; and
- 'it would be wise to choose a reform that can help the school improve on state and district measures of accountability' (Datnow, 2005: 148).

The contextual specificity of effectiveness factors

Historically, EER has had rather little to say overall about whether or not 'what works' is different in different educational contexts. In part, this happened in its early days because the discipline had an avowed 'equity' or 'social justice' commitment that led to an almost-exclusive focus on research in many countries upon the schools that the disadvantaged students attended, leading to an absence of the school contexts of other students from the sampling frame. Latterly, this situation has changed, with most studies now based upon more nationally representative samples and with studies attempting to focus upon establishing 'what works' across these broader contexts.

However, many of the statistical relationships established over time between school characteristics and student outcomes are on the low side in most of the meta-analyses (for example Hattie, 2008), with a low variance in outcomes being explained by use of single school-level factors or groups of factors overall. Strangely, this has not led to what one might have expected in terms of the disaggregation of samples into smaller groups of schools in accordance with the characteristics of their contexts, such as socio-economic background, urban/rural status, and region. With disaggregation and analysis by groups of schools *within* these different contexts, it is possible that there would be better school-outcome relationships than exist overall *across* all contexts, with, in this scenario, school effects seen as moderated by school context.

This point is well made by May, Huff, and Goldring (2012) in a study that failed to establish strong links between principal behaviours and attributes in the sense of relating the time spent by principals on various activities to student achievement over time. This failure led the authors to assert that 'contextual factors not only have strong influences on student achievement but also exert strong influences on what actions principals need to take to successfully improve

teaching and learning in their schools' (May, Huff, & Goldring, 2012: 435). The authors rightly conclude in a memorable paragraph that:

[O]ur statistical models are designed to detect only systemic relationships that appear consistently across the full sample of students and schools . . . if the success of a principal requires a unique approach to leadership given a school's specific context, then simple comparisons of time spent on activities will not reveal leadership effects on student performance.

(May, Huff, & Goldring, 2012: 435)

Early work in this area had tended to look at the school composition effect in terms of how the composition of the entire body of students in a school had effects upon outcomes *in addition to* the effects of the students as individuals (Murnane, 1981; Willms, 1986). Later work, particularly in the United States (Hallinger & Murphy, 1986; Teddlie & Stringfield, 1993), focused upon the differences in the processes of effective schools that occurred in different SES areas, with the particularly interesting finding that the schools in low-SES areas actively pursued policies to disinvolve parents from their children's education!

More recently, the distinct characteristics of what is needed to improve in very socially challenged communities has been a focus in the United Kingdom (Harris et al., 2006; Muijs et al., 2004; Reynolds et al., 2001), with hints that whilst many of the effective practices needed are in line with the 'global' correlates outlined earlier, three specific additional areas seem particularly important:

- making the school a learning community that can, in a lateral fashion, identify and transmit 'good practice';
- support from outside the school in key areas; and
- additional resources to potentiate innovation and change.

Contextual effects, of course, need not be restricted to those relating to socio-economic backgrounds only. They could be associated with:

- urban/rural differences;
- differences in school improvement trajectories;
- differences in school initial effectiveness level; and/or
- differences in school 'types' (for example religiosity factors).

In recent years, the study of effective processes has been given an international 'dimension' by the increased focus upon contextual variation in country differences emanating from the Programme for International Student Assessment (PISA) studies of the Organisation for Economic Co-operation and Development (OECD) in particular. There have been productive reviews of the literature from multiple countries that show interesting similarities – and differences – in 'what works' (Townsend, 2007b). There have been ambitious attempts to look at the student experience in selected countries to see whether

the same factors explain variance as in the reviews outlined in this chapter (for example Reynolds et al., 2002). Interestingly, in this latter study, the usual teacher- or instruction-level factors did ‘travel’ internationally, both conceptually and operationally, but the school-level factors ‘travelled’ only conceptually, meaning, for example, that whilst the leadership of the principal ‘mattered’ in different contexts, the precise characteristics of that effective leadership (directive in Oriental cultures; more ‘lateral/vertical’ in Anglo-Saxon ones) is context-dependent. However, it is clear that the overall lack of attention to exploring issues to do with possible contextual variation may not have facilitated the sensitive discussion of school interaction with communities and local contexts that would be useful – a point to which we now turn.

Studying the interactions of schools, communities, and families

If we need to analyse our school-level data with a better knowledge of the contexts of schools, then we clearly need also to focus far more upon the factor of community and parental context within which schools exist. Again, our early research traditions encouraged us to assert the importance of ‘the school’ rather than of the home, and indeed ‘school effects’ were seen as something to be analysed separately from ‘home’ or ‘community’ effects. The ‘school effects’ and ‘home effects’ paradigms were seen as oppositional, not potentially synergistic – a consequence of the endless debate about whether schools made the difference, or families/communities did. Subsequently, the use of multilevel modelling also acted to separate out the analysis and study of different ‘levels’.

Now, we may need to bring the community/home ‘back into view’ for the following emerging reasons.

- As EER has further explored what effective schools do, the ‘levers’ that these schools use have increasingly been shown to involve considerable attention to home and community influences within ‘effective’ schools.
- It seems that, as a totality, schools themselves are focusing more on these extra-school influences, given their clear importance to schools and given schools’ own difficulty in further improving the quality of already increasingly ‘maxed out’ internal school processes and structures.
- Many of the case studies of successful school improvement and school change, and indeed many of the core procedures of the models of change employed by the new ‘marques’ of school such as the ‘academy’ chains in the United Kingdom and charter schools in the United States, give an integral position to schools that are attempting to productively link their homes, their community, and the school.
- The variance in outcomes explained by outside school factors is so much greater than that explained by school factors that the potential effects of even a limited, synergistic combination of school and home influences could be considerable in terms of school outcomes.

- The variation in the characteristics of the outside school world of communities, homes, and caregivers is itself increasing considerably with the rising inequalities of income and health status in many societies. It may be that these inequalities are also feeding into the maximisation of community differences in wealth, directly affecting (in societies like the United States) the funding available to schools in different areas and even states.

The need to understand school processes better

Although our knowledge of effective school processes has improved over time, even a cursory glance at recent reviews of the field (Chapman et al., 2012) and at other older relevant reviews of the field (Teddlie & Reynolds, 2000; Townsend, 2007b) shows that our understanding of the level of ‘the school’ has not increased as much as that concerning various other areas. We know considerably more about the ‘scientific properties’ of EER in terms of the size of educational effects, and in terms of the importance of the teacher and classroom ‘levels’ in generating outcomes. We have seen research move outwards from the compulsory years of education to the non-compulsory, but the volume of research – and its quality, in terms of its insights – into the school processes of primary and secondary institutions has been much smaller in these latter areas.

No doubt reductions in funding opportunities for research internationally have had an effect, given that research into the school ‘level’ needs to be wide-ranging and broad, encompassing, as it must, a school’s relationship with its community hinterland, the multiple levels of provision within schools, and the interactions between those levels, such as between the school and its classroom teachers. Research into the scientific properties of educational effectiveness could, until recently, have been done utilising existing national datasets, such as the English Pupil Level Annual School Census (PLASC) or additional local authority versions, at minimal cost, but research into the processes in operation at school level necessitates considerable additional data collation.

Many of the intellectual sources of ideas that facilitated the growth of school-level understanding in the 1990s also appear to have run their course in the 2000s and 2010s. The insights from the sociology of the school that were so influential, taken from the work of Bernstein, Hargreaves, and Lacey, have not been built upon or supplemented, except to a limited extent from the more recent qualitative work done on classrooms.

The sum of all of these factors is that research has continued to adopt a somewhat simplistic ‘whole-school’ view of what is being measured in schools, which does not involve disaggregating the school to investigate the processes actually experienced by the varying populations of children within it. Pupils do not experience a ‘whole school’, but a particular niche within it, yet, in virtually all research, schools are seen as a common and constant factor across the students, regardless of gender, age, social background, and ethnicity.

There have been some attempts to look at these issues, but these have been limited in scope both theoretically and methodologically. In a number of the

American school effectiveness studies, there have been attempts to study schools by utilising the 'range' or 'dispersal' at the level of the school, when aggregating together the results from the study of factors such as the expectations of teachers, the use of rewards, or the nature of the classroom environment, yet this work is based upon the relatively one-dimensional views of the school level that were surfacing twenty years ago (such as Teddlie & Stringfield, 1993).

There has been work on the differences between departments within secondary schools in the United Kingdom (for example Chapman & Mongon, 2008; Reynolds, 2007, 2010b; Sammons, Thomas, & Mortimore, 1997), but little attempt to understand the school-level factors implicated in the production of variability in these differences. The interactions between the school and departmental levels, and the factors responsible for variation in their quality, are not studied in detail, any more than are the interactions between the school and the classroom levels, which generates a wide variability between teacher effectiveness in some schools and lesser variability in others.

Additionally, we do not have enough understanding of which school-level factors may be responsible for the differential school effects by ethnicity, SES, and gender that are now one of the established scientific properties of the field. Schools will vary considerably in the 'gender achievement gap' between boys and girls, for example – are the usual collections of school-level factors able to explain this? In all likelihood, the gender differential effects are a product of specific factors at school level that may not be the usual 'school' factors – perhaps the gender composition of the staff, the school's emotional tone, or the role models the school offers to its boys and girls. These and similar factors may need to be measured to capture this school effect.

There will be variation in academic achievement by social class too – more in some schools than others. Children from disadvantaged backgrounds are likely to be more affected by their schools than other groups across all schools, but there will be variability in this across schools, reflecting perhaps factors such as the strength of school structuring and the school disciplinary climate.

Lastly, there will be the differential effects of school upon their different kinds of outcomes, with schools differing in their 'added value' in cognitive, affective, social, relational, and other areas, yet the precise explanations for variation in the non-cognitive areas may be difficult to ascertain given that our conventional school-level factors have been mostly designed to explain variation in academic/cognitive achievement outcomes. In one of the earliest studies in the British field (Mortimore et al., 1988), the school-level factors associated with the non-cognitive outcomes for students were different from those associated with the cognitive, and there were many fewer of them, even where the variance explained by the school level was the same, suggesting that whatever it was that affected the children's self-esteem, self-conception, and attitudes to school was not being tapped by the conventional school-level factors. Recent studies (such as Opdenakker & van Damme, 2000a) have confirmed this finding, in that only some variables seem to be related to both cognitive and non-cognitive outcomes, with others affecting these

areas differentially. The study of factors that affect non-cognitive outcomes is therefore an area that requires further expansion.

The absence of a fine-grained understanding of the experience of different subjects, different student groups, and different student groups within different subjects has limited our understanding of schools, limited the extent to which EER is relevant for practitioners who work in the niches in 'whole schools', and impoverished school improvement even more, leading to a fondness for whole-school solutions and/or school-to-school transfer in which policies are thrown at whole institutions in the hope that they will reach all of the (highly variable) internal school niches (further speculations on these themes can be found in Reynolds, 2010a, 2010b). The use of more specific measures of the educational environments inhabited by students could be a further step along the road towards 'student-specific' school factors, whereby students as individuals accrue educational experiences that are measured and tagged to them individually, permitting a much fairer test of the power of the 'educational' factors against those connected with the student and his or her social background. This would reflect the increasing international tendency to listen to student 'voice'.

The effect of this 'whole-school' perspective on what are, in reality, the multiple schools that multiple students inhabit has not only been to impoverish our understanding; it has also encouraged corresponding whole-school policies, interventions, and systems of accountability. The English inspection regime under the Office for Standards in Education, Children's Services and Skills (Ofsted), for example, is clearly based upon a whole-school model, notwithstanding both recent attempts to look at the experience of particular groups in the classroom and recent acknowledgement of within-school variation in academic subject performance. Interventions in the English system, such as the academies programme or 'National Challenge', likewise assume that school-level interventions may help to raise overall standards, but there is little evidence that they have reduced within-school variation or narrowed equity gaps in performance. Given our lack of knowledge about the school-level levers to pull at a policy level, it is not surprising that we appear to be unable to design programmes that reliably do this.

The requirements of future research on effective school processes

Future directions for research on effective school processes probably grow naturally from the findings and emphases of EER over time.

- They should involve further concentration upon teaching and teachers simultaneously, with attention to the school level, moving beyond a historic focus on only their behaviours to include foci such as their attitudes and values, in which may lie some of the 'levers' for changing their practices and behaviours.

- Leadership (which has historically been seen as a stand-alone issue), its characteristics, and its future possible changes should be integrated more fully into the field. There should be 'more studies where leadership is integrated within a model of school effectiveness which is theorized and takes into account the ways in which leadership interacts with other key school factors' (Day et al., 2011: 26; Sammons et al., 2011).
- More longitudinal studies should study the same students and teachers over time, permitting the study of the 'naturally occurring experiments' that comprise the 'day to day' and 'year to year' life in educational systems, and thus enabling a detailing of the processes creating stability and change in schools.
- Sampling taken *across* socio-economic contexts, kinds of school governance, school types and school districts should be axiomatic, rather than attempting to control out such variation to aid statistical analyses. This would facilitate the much-needed production of 'contextually specific' accounts of schools.
- More international comparative work will benefit the field, since the range of 'school factors' is likely to be much greater in such work than in the within-country work that is still the foundation of the field. This expansion of work on variance in processes at the school level may indeed expand the variance explained at that level beyond the present rather low base. It may also show interesting educational factors for experimentation within different societies.
- More work should be undertaken on the links between school and classroom levels, concerning which much ignorance still reigns. It is clear that there is variation within schools according to the backgrounds of the students, and indeed for all students attending different subject departments/faculties within schools (at secondary level, obviously, where teaching is organised by different groups of teachers). This variation is itself variable in different schools, but the research enterprise has continued to adopt a whole-school perspective, which fails to look at the variable processes actually experienced by different pupils of different background characteristics and in different subjects. Students do not experience a 'whole school'; rather, they experience different niches within it – yet in virtually all existing research their schools are seen as a common factor. This needs to be addressed.
- More work should be undertaken on information and communication technology (ICT). This is a major component of school and classroom instructional methods, but one that has not generated comparable research effort. The 'bolt-on' nature of ICT and its lack of a close relationship to pedagogy in many societies may explain this, as may disappointment at its impact, leading to researchers' unwillingness to study the educational equivalent of a 'train wreck' because of likely negative (and therefore difficult-to-publish) findings. The difficulty of measuring ICT use in any aspect other than the basic 'quantity or quality of kit' utilised is probably responsible for this.
- More studies of the long-term ineffectiveness of schooling are required to understand their continued dysfunctionality (Teddlie & Reynolds, 2000) and

how that cycle might be broken. Intensive longitudinal case studies of samples of these low-performing schools might help us to better understand the complex relationship between ineffectiveness and effectiveness. One research question might concern the relationship patterns among teachers at less effective, as opposed to more effective, schools, which could be examined using sociograms and other measurement techniques. While Luyten, Visscher, and Witziers (2005) initially called the suggestion to focus on dysfunctional schools a radical recommendation, they later supported the call 'to pay more attention to clearly ineffective schools as a starting point for expanding the school improvement knowledge base' (Luyten, Visscher, & Witziers, 2005: 267).

- Spanning studies of the effects of SES, school effectiveness, and school improvement, there is a great need for case studies and proactive change studies of efforts to improve chronically low-performing schools. Herman et al. (2008) conducted a wide-ranging search for evidence of successful efforts at 'turning around' schools in which the great majority of students had been performing at very low levels for several years. Tellingly, they could identify only a scattering of case studies and no focused, proactive, multiyear research. Edmonds (1979) famously observed that we could turn around such schools 'whenever and wherever we choose'. Four decades later, systemic data to substantiate that claim is in strikingly short supply, and is needed for both scientific and ethical reasons.

Conclusions

The material within the EER paradigm in the area of effective school processes has developed most rapidly in the field over time. This is not surprising given the explicit values commitment among many members of the research and practice community to the improvement of student outcomes through improving the quality of educational processes, in a desire to 'make a difference'. It is also not surprising since many of those from the EER community have been former teachers and educators who went into the field specifically to affect the practice of which they had been a part.

We know, then, much about the precise factors that generate outcomes, and also about the importance of leadership in generating them and the processes associated with ineffectiveness. Issues of importance that have emerged over the years since the publication of the original handbook (Teddlie & Reynolds, 2000) include the extent to which 'what works' in terms of processes may be different in different contexts, and the importance of understanding how school *and* home *and* community may all have synergistic influences. They point to the need for future research in the area of school processes, which has been outlined in this chapter.