LITERATURE REVIEW

School Effectiveness and Equity: Making Connections

A review of school effectiveness and improvement research - its implications for practitioners and policy makers

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Contents

Glossary

Ecological fallacy - an error in the interpretation of statistical data, whereby inferences about the nature of individuals are inferred from aggregate statistics collected for the group to which those individuals belong. For example, assuming because at a higher level (e.g. state or district) there is a correlation between % low SES students in an area and low literacy rates that this applies at the individual level equally strongly.

EPPE - Effective Provision of Pre-school and Primary Education Project

FSM - Free School Meals

HRS - Highly Reliable Schools

ISTOF - International Instrument for Teacher Observation

MORE - Methodology of Research in Educational Effectiveness

NICHD - National Institute of Child Health and Human Development

NLNS - National Literacy and Numeracy Strategy

OECD - Organisation for Economic Cooperation and Development

OL - Organisational Learning

PIPS - Performance Indicators in Primary Schools

PIRLS - Progress in International Reading Literacy Study

PISA - Programme for International Student Assessment – OECD

SEN - Special educational needs

SER - School effectiveness research

SES - Socio-Economic Status

SESI - School effectiveness and School Improvement tradition of enquiry

STAR - Student Teacher Achievement Ratio Study (Tennessee)

TIMSS - Trends in International Mathematics and Science Study

YELLIS - Year 11 Information System

Key Words

Educational disadvantage

Ecological fallacy

Equity gap

High poverty schools

Low attaining groups

Positive discrimination

School effectiveness

School improvement

Social exclusion

Underachievement

Introduction

Over the last decade globalisation has been recognised, with environmental change and population growth as one of the major drivers of social and cultural change. The growth of the Internet has dramatically affected the communication of information and ideas and played a major role in this change process. Increased awareness of the interdependence of societies, and the destabilising impact of poverty and environmental degradation is leading to a greater focus on promoting equity as a policy goal for many governments and trans-national organisations (such as the UN, OECD, World Bank).

Education is both affected by and influences the process of globalisation in different ways in different contexts. In many societies the prime concern is to increase access to education and IT, to achieve the goal of universal primary education for all children and, in particular, improve the education prospects of girls, given the high proportion of older women who are illiterate. The current gender gap in illiteracy for women over 60 in 105 less developed countries is projected to reduce from 28% to 25% between 2000 and 2010 but still 55% of women and 30% of older men will remain illiterate[1] The education of girls in particular is seen to promote health goals for children, reduce population growth and increase economic prosperity. In other contexts, however, the concern has changed from one of ensuring access to basic education into a greater concern with raising quality and educational standards, increasing participation rates in higher education and promoting autonomy and life long learning.

Raising standards of achievement is seen as fundamental to sustaining economic performance and the promotion of democratic engagement by increasing numbers of policy makers. Education reform has moved centre stage as many governments embark on substantial programs of reform in a bid to modernise their education systems to face the challenges of the 21st century, making schools more effective and demanding greater returns for their investment in education in terms of student achievement levels.[2] International surveys of student achievement such PIRLS, TIMSS and PISA receive considerable media coverage with the creation of ranked 'league' tables of country results. They have become increasingly influential with governments concerned to boost their average attainment levels and reduce the achievement gap between different groups of students (boys and girls, those from low compared with high SES, minority ethnic groups). The political impact of low performance has been considerable, for example in both Denmark and Germany major reviews of the education system were conducted in response to publicity about their relatively poor performance in PISA 2000 and interestingly both countries adopted a school effectiveness research (SER) informed framework to inform their reviews. In most countries, however, education reform strategies have not made explicit use of the growing school effectiveness and school improvement (SESI) knowledge base, although in the UK, particularly in England there has been increasing interest in SESI approaches during the last decade [3].

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[1] http://www.un.org/esa/population/publications/worldageing19502050/pdf/91chapterv.pdf
[2] Hopkins & Levin (2000); Earl, Watson & Katz (2003)
[3] Sammons (1999); Barber (2001); Earl, Watson & Katz (2003)

School effectiveness and equity

What are the messages from school effectiveness research for practitioners and policy makers concerned to create more successful schools? Many leading researchers in the field have sought to address this topic during the last two decades.[4]

This paper seeks to 'map the terrain' exploring the contribution SER studies have made to our understanding of school performance and the implications for school improvement. It is particularly intended to inform policy makers and practitioners concerned with the ongoing challenge of raising educational standards. The field's strong links with the study and promotion of greater equity in education are also relevant given the increasing attention paid to education as a means of promoting wider policies of social inclusion and reducing the achievement gap in many countries and the paper explores findings on the characteristics of successful or improving schools in challenging contexts.[5]

Attempts to define equality and equity in education draw on notions of social justice and social inclusion. Four aspects have been identified as relevant:

- Formal equality of access/provision;
- Equality of circumstance;
- Equality of participation;
- Equality of outcome.[6]

Since its inception in 1988 the International Congress for School Effectiveness and Improvement (ICSEI) has brought together researchers, practitioners and policy makers to co-construct knowledge about the study and processes of effective and improving schools in different international contexts and equity considerations have remained a key focus of many studies. This explicit encouragement of links between these groups has encouraged wide diversity and methodological innovation and eclecticism. The concern to work for evidence based improvement is seen as a major strength with an increasing emphasis on mixed methods approaches and a view that pragmatism is a valid paradigm for studying schools that has advantages over critical theory for studying schools and teaching influences and that the SER knowledge base has particular relevance for schools in disadvantaged contexts.[7]

In most systems students from disadvantaged backgrounds (especially those from minority ethnic backgrounds, and those experiencing a range of social disadvantages

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[4] Creemers (1994); Reynolds (1995); Mortimore (1998); Sammons (1999); Scheerens & Bosker (1997); Gray et al (1999); Teddlie & Stringfield (2000); Reynolds, Hopkins & Gray (2005)
[5] For further discussion of the definition of equity in education see Sammons (forthcoming)
[6] After Gillborn and Youdell (2000)
[7] See the discussion of criticisms of SER by Tedlie & Reynolds (2001) in a special issue of the SESI journal devoted to this topic

such as low income, parents lacking qualifications, unemployed or in low SES work, poor housing etc) are more likely to experience educational failure or under-achievement, though the equity gap in achievement is wider in some systems than others.[8] Multiple disadvantage can have a cumulative effect[9] while inter-generational transmission of disadvantage is illustrated by the concept of the 'cycle of disadvantage'. There is increasing evidence of the importance of the early years experience, the home learning environment and parents' educational levels as influences on young children's cognitive and social behavioural outcomes and risk of later identification of SEN.[10] The concept of *multiple disadvantage* focuses on the ways clusters of characteristics each associated with an increased 'risk' (likelihood) of low attainment can have a cumulative if not a directly additive effect, while the inter-generational transmission of disadvantage is illustrated by the concept of the *'cycle of disadvantage',* where poor opportunities in childhood lead to poor outcomes as adults including early child bearing and poverty thus perpetuating the divide. These may include a range of individual and family factors and also neighbourhood characteristics such as living in an area with many other disadvantaged families. Low attainment is thus seen as a manifestation or consequence of different combinations of disadvantage for particular groups (though this does not mean that all disadvantaged individuals have low attainment, as discussions of the ecological fallacy implies). Research indicates that multiply disadvantaged groups are significantly more likely than others to be identified as having some form of special educational need at school and requiring learning support. In addition to strong links with low attainment, disadvantage, particularly multiple disadvantage, is associated with poorer educational outcomes on a range of other indicators including attendance, behaviour, school exclusion and early school leaving.

Factors associated with low attainment can be divided into broad categories such as *individual characteristics* (age, birth weight, gender), *family socio-economic characteristics* (particularly family structure, parents' qualification levels, health, socio-economic status, in or out of work, and income level), *community and societal characteristics* (neighbourhood context, cultural expectations, social structural divisions especially in relation to social class) and *educational experiences* related to pre-school, school and peer characteristics (including access, quantity and quality of provision). In addition, research has drawn attention to the influence of family *cultural capital*, especially the powerful impact of the child's home learning environment, especially in the early years, as a predictor of attainment.

The term 'at risk' has been defined as referring to children and youth who are in danger of failing at school, or making a successful transition to work. Poverty is probably one of the greatest risk factors of poor life chances due to persistent associations with negative outcomes including school failure, teenage pregnancy, poor health and violent crime. It is argued that it is the multiplicative and interactive nature of risk factors that gives the concept of educational disadvantage its complexity. [11]

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[8] Oakes, (1990); Cox, (2000); NICHD, (2002); West & Pennel (2003); Equalities Review, (2007)
[9] Cox (2000) Sammons et al (1994); Sammons et al (2007a)
[10] See Sylva (2000); Sylva et al, (2004); Sammons et al (2007a)
[11] OECD (1995); Cox (2000)

The reasons for addressing school failure include:

- Philosophical/ethical – to promote fairness and improve the quality of life and opportunities for all groups, as well as to encourage positive attitudes to learning and promote self-esteem and self-efficacy;
- Political – to promote social cohesion and inclusion and empower young people as active and informed citizens to participate in a successful democracy;
- Economic – to promote future prosperity for individuals and families, prevent the waste of talent, reduce crime and avoid the social and economic burden on Government.

It is difficult to pinpoint the 'start' of SER exactly since many different sub-disciplines have studied schools and classrooms from a variety of perspectives.[12] In the US and UK the chief catalyst seems to have been the publication of influential studies during the 1960s and early 1970s which claimed that the particular school attended by a student had little influence on their educational outcomes in comparison with factors such as IQ, 'race', and socio-economic status (SES).[13] The focus was thus on structural inequalities rather than on the influence of schools. These studies suffered from a number of limitations and the subsequent SER studies conducted in the US, UK and a growing number of countries has pointed to the existence of significant school effects, while acknowledging the important influence of student background.[14]

The last decade has seen a rapid growth in research and in policy and practitioner interest in school effectiveness and its potential as a catalyst for school improvement. Government policy in the UK and elsewhere has sought to draw on school effectiveness and school improvement research in attempts to raise educational standards.[15] The *Every Child Matters* agenda in the UK and *No Child Left Behind* in the US suggest a new policy commitment to promote greater equity and greater recognition of the need for additional resources and better strategies to enhance the life chances of vulnerable groups. This paper attempts to summarise the key findings from SER and their implications for improvement. It thus seeks to take stock of current knowledge and how we can improve existing schools rather than speculating about radical new forms of schooling and learning or school for the Third Millennium.[16]

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[12] For more detailed discussions of school effectiveness see United States Department of Education (1986); Northwest Educational Research Laboratory (1990); Firestone (1991); Mortimore (1991, 1995, 1998); Scheerens (1992); Creemers (1994); Reynolds *et al* (1994); Goldstein (1997, 1998); Scheerens & Bosker (1997); Gray et al (1999); Sammons (1999), Townsend et al (1999); Teddlie & Reynolds (2000); Wendell (2000); Van Damme et al 2006.
[13] Coleman et al (1966); Jencks et al (1972)
[14] Edmonds (1979); Goodlad et al (1979); Rutter et al *(*1979); Madaus et al (1979); Willms & Cuttance (1985); Mortimore et al (1988); Smith & Tomlinson (1989)
[15] (Barber, 1999)
[16] Townsend (1999; 2002)

Criticisms of SER and SESI Research

The question of values in education, the purposes of schooling, the quality of students' educational experiences and of what constitutes a 'good school' rightly remain the subject of much argument and are unlikely to be resolved easily.[17] Views often differ amongst practitioners, parents and students, as well as amongst policymakers, within and between different cultural contexts and respect for diversity of opinion is an important feature of democratic society.

It has been argued that SER will always be politically controversial because it concerns the nature and purposes of schooling.[18] A variety of criticisms of SESI have been made particularly during the last decade as it has been received more attention from policy makers and practitioners and its international profile raised. Criticism has been particularly noted in the UK. These critics have attacked its pragmatic concerns with identifying 'what works' in education, and its perceived lack of attention to theoretical concerns and the influence of social structure. For more detailed discussion and responses to these by those active in the field see the special issue of the School Effectiveness and School Improvement (vol. 12, no 1 2001).[19] Critics have claimed that SER is underpinned by an ideology of social control, has a narrow and mechanistic view of educational outcomes and processes, fosters a culture of 'blaming' schools for failing their students and downplays the importance of social class as a determinant of student achievement.[20] Some critics have focussed especially on the issue of values in education and SESI's focus on measuring student attainment, arguing that, if the teacher-learning relationship is 'right', then educational outcomes will take care of themselves.[21] Against this the need to gauge student learning (which cannot be observed) by measuring its outcomes in some way, and to investigate **how** these outcomes are influenced by teachers' classroom practices and by wider features of school processes over several years, has been argued by proponents of SER.[22] Indeed, the very term 'right' is essentially problematic, since different groups of practitioners, parents and students may quite justifiably have very different views of what constitutes a good or quality educational experience and educational goals. Fitness for purpose needs to be explored before it is possible to ascertain what is 'right' in evaluating educational practices. SESI researchers seek to make a distinctive contribution to the debate about educational quality by the careful identification and study of different approaches to classroom practice and their relationships to a range of student outcomes (including academic and affective and social behavioural) about which there is fairly widespread agreement. It is argued that effectiveness is a narrower term but a necessary prerequisite for any acceptable definition of a 'good' school.

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[17] White & Barber (1997)

[18] Elliott, 1996

[19] Townsend (2001); Scheerens et al (2001)

[20] Willmott (1999); Thrupp (2001); Slee & Weiner (2001)

[21] Elliott (1996)

[22] For further discussion of this issues see the criticism of SER by Elliott (1996); White (1997) and the responses by Sammons & Reynolds (1997); Mortimore & Sammons (1997)

SER is most appropriately seen as a method of increasing our understanding of school and classroom processes and the way these can influence a range of measures of students' educational outcomes. Such research provides much needed empirical evidence, which should assist in the essential process of the development, evaluation and critique of classroom practice and educational policy. It is argued that the SESI knowledge base is especially relevant to schools serving disadvantaged students. [23]

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[23] Mortimore & Sammons (1997); Teddlie & Reynolds (2000)

Section 1: Measuring School Effectiveness and Identifying Effective Schools

The central focus of SER concerns the idea that, 'schools matter, that schools do have major effects upon children's development and that, to put it simply, schools do make a difference' [24] How can we try to measure the influence of schools, and by implication of teachers, on their students? This deceptively simple question lies at the heart of SER. In many ways SER reflects wider debates within the social and educational research communities about the merits and limitations of empirical research.

School effectiveness research seeks to disentangle the complex links between the student's 'dowry' (the mix of abilities, prior attainments and personal and family attributes) which any young person brings to school, from those of their educational experiences at school and to explore the way these jointly influence their later attainment, progress and development. The main foci are:

- the impact of social institutions (including size of school effects);
- the characteristics that promote students' educational outcomes;
- the influence of contexts on outcomes and processes, the processes of institutional change;
- and the long term impact of schooling on life chances.

SER seeks to provide empirical evidence to assist the evaluation and critique of classroom practice and educational policy.[25] The field offers the prospect of more appropriate and 'fairer' comparisons of schools, contributes to increased practitioner and policy understanding about the processes that promote effectiveness and can thus help to stimulate improvement. The key features of the SER methodology are that it:

- Is mainly quantitative, but case studies and mixed methods approaches are increasing in importance also;
- Values reliability and replicability;
- Seeks to make generalisations;
- Works in partnership with practitioners;
- Values the views and perceptions of teachers, students and parents.

The use of quantitative methods, however, does not mean that SER is deterministic or mechanistic in nature. Indeed, it stresses the probabilistic nature of the findings and highlights the need to measure change over time and the impact of context. The perceptions and views of those involved (stakeholder groups including students, parents and teachers) are seen as vital keys, sources of evidence that help to illuminate our understanding of the experience of schools and education and the way

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[24] Reynolds & Creemers (1990) p1
[25] See Mortimore *et al (*1988); Harris, Jamieson & Russ (1995); Sammons, Thomas & Mortimore (1997); Reynolds (1997); Gray (1998), Hill & Rowe, (1998), Grosin (1995, 2002)

in which school and classroom culture in particular can develop and influence both staff and students (further discussion of the role of culture appears in a later section).

Aims and goals of effectiveness research

'Effectiveness is not a neutral term. Defining the effectiveness of a particular school always requires choices among competing values' and it has been argued that that the 'criteria of effectiveness will be the subject of political debate'[26] Early SER studies in the US were committed to the belief that children of the urban poor could succeed in school.[27] Such early SER research incorporated explicit aims concerned with equity and excellence and focused on the achievement in basic skills (reading and numeracy) of poor/ethnic minority children in elementary schools. Such research helped to counter the view that schools could make little difference to the outcomes of disadvantaged students and provided a more optimistic view of the potential of schools to improve the life chances of such groups (Mortimore 1998).

More recent SER has studied broader samples of schools and is concerned with the concept of assessing student progress over time using value added approaches (typically over a school year or several years), rather than cross-sectional 'snapshots' of achievement at a given point in time. This broadens the clientele to include all students, not just the disadvantaged. In addition to academic achievement more attention is now paid to social and affective outcomes such as attendance, attitudes, behaviour, and self-esteem.[28] A recent review of British research on the school's influence on secondary school students' non-cognitive outcomes suggests that school influences   on attitudes and soft skills tends to be weaker than the influence on academic outcomes and aspects such as attendance and behaviour.[29]

SER has provided a powerful critique of the publication of raw league tables of examination or assessment results to monitor school performance and encourage public accountability. The crucial importance of school intake is now more widely recognised. SER specifically seeks to control statistically for intake differences between schools before any comparisons of effectiveness are made.[30] The major flaw in using raw test or examination results to make judgements about school performance is that they take no account of differences between schools in the talents and motivations of individual students, the nature of their families and

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[26] Firestone (1991) p2

[27] For example, Edmonds (1979) or Goodlad *et al.* (1979)

[28] For examples of SER studies which have explored social and affective outcomes as well as cognitive ones see Rutter et al (1979); Mortimore et al (1988); Knuver & Brandsma, 1993; Smyth (1999), Opdenakker & Van Damme (2000); Thomas et al (2001), and a review of British research on non-cognitive outcomesby Gray (2004)

[29] Gay (2004)

[30] A number of School Effectiveness researchers have demonstrated the need to make adequate control for prior attainment and other intake characteristics in comparing school performance and, in particular, shown that making fine distinctions (rank order league tables) is statistically invalid (Nuttall, (1990); Goldstein et al (1993); McPherson (1992); Scheerens, (1992); Mortimore (1991b); Mortimore, Sammons & Thomas (1994); Sammons (1996))

communities. 'Natural justice demands that schools are held accountable only for those things they can influence (for good or ill) and not for all the existing differences between their intakes' [31] Exploring the impact of such intake factors is crucial to attempts to promote social inclusion and widen the social distribution of achievement. In value added studies of effectiveness the progress of all students 'counts' in evaluating school performance.

Definitions of effectiveness

An effective school has been defined as *one in which students progress further than might be expected from consideration of its intake. An effective school thus **adds extra value** to its students' outcomes, in comparison with other schools serving similar intakes.* In order to assess value added, measures of individual student's prior attainment are needed to provide a baseline against which subsequent progress can be assessed. Other factors such as gender, socio-economic status, mobility and fluency in the majority language used at school have also been shown to affect progress. In addition to prior attainment, SER studies seek to include such factors in assessing the impact of schools. [32]

The promotion of social inclusion requires performance and monitoring systems that are fair to schools serving the most disadvantaged communities and receiving higher proportions of challenging students. Better ways of identifying and recognising the progress and achievements of these groups of students are required without lowering expectations. SER provides models for performance feedback, which can provide better estimates of school performance, and especially the potential to focus on effects for different student groups. In England, after much initial policy distrust of the use of statistical methods to adjust for the influence of prior attainment and other student intake characteristics, studying the value added by schools is now regarded as the fairest method of judging school performance and such measures are published annually for all schools although the use of raw results (unadjusted for student intake) are also published and remain influential (see the DCSF, formerly DfES School Achievement and Attainment Tables http://www.dcsf.gov.uk/performancetables in England). In the US examples of value added approaches to evaluate school performance have also been developed (e.g. the Tennessee value added project is a system of state accountability measurement as part of a comprehensive reform programme http://www.cgp.upenn.edu/ope_tn.html).

Size of school effects

A number of studies have sought to quantify the size of school effects on student outcomes. In a systematic meta-analysis it was concluded that net effects (after

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[31] Nuttall (1990), p25
[32] Saunders (1999) provides a detailed analysis of the development of the value-added concept

control for intake) are generally larger for mathematics than language, and largest for studies based on composite measures of achievement. Effect sizes are generally found to be much greater in studies of developing countries and seem to reflect a greater influence of resources, and variability in the availability of trained teachers, textbooks and materials. On average schools account for around 5-18% of the achievement differences between students after control for initial differences. This research that generated this finding indicates that classroom level or teacher effects tend to be substantially larger than school effects.[33] Teacher effects emerge most strongly in studies conducted across one school year and in primary school studies. For example in Australia the percentage of variance in value added measures of achievement put the class contribution at 55% for mathematics and 45% in English at the primary level, in studies controlling for intake differences in students' prior attainments and background characteristics.[34] The combined school and teacher effect may vary between 15-50% depending on the outcome and sample studied. A recent international review argues that school effects are 'moderately large'.[35]

However, despite this, some critics have argued that these differences, especially school effects, are relatively 'trivial' and thus assume school has little real impact compared with student background. This misses a crucial point, the school or class influence is calculated as a percentage of variation between individual students in their attainment or progress levels. Such criticisms fail to recognise that even background characteristics such as a student's gender, low income or family SES account for only a small proportion of the variance in student attainments (3-8% typically). Gender accounts for a lower percentage than income or SES measures. Of course this does not mean that SES, income or gender are unimportant influences on students likelihood of educational success or risk of poor outcomes, just that there is greater variation within than between social groups in achievement. Knowing a particular student's family SES, income or gender is not a very good predictor of his or her attainment and should not lower teachers' expectations.

At the group level, of course, SES differences in average achievement are large and account for much of the difference between schools in raw attainment measures, but this does not mean that school effects are unimportant. The mistake in interpretation is related to the ecological fallacy (a mistaken assumption that group level associations apply to individuals). A range of SER studies have drawn attention to the characteristics and processes of schools that serve students in disadvantaged contexts and will be further discussed in a later section [36].
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Using particularly detailed information about students' background characteristics, it has been demonstrated that, taken together, background factors (age, gender, ethnicity, fluency in English, FSM, & parents' occupational status), accounted for 20.6% of total variance in primary students' reading scores in year 5, and for mathematics the figure is lower at around 11%. In this study the school effect was found to account for 8-9% of the total variance in these outcomes. When student

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[33] See Scheerens & Bosker (1997)
[34] Hill (1997)
[35] Van Damme (2006) p.16
[36] Mortimore et al, (1988); Smith & Tomlinson, 1989; Teddlie & Stringfield (1993); Sammons et al (1997); Henchey, 2001; James et al (2006)

progress is considered over several academic years the school effect is found to be much larger than the influence of individual students' background characteristics.[37] Likewise other research reviews have concluded that when the numbers of students involved and the time spent in schools is added into the calculation, school influences are found to be of considerable interest.[38]

Even assuming a modest size of school effect (only 4%) research in the Netherlands, comparing the top 10% with the bottom 10% of schools based on their effectiveness, shows sizeable differences in terms of implications for students. 'Given the structure of the Dutch educational system, a pupil from an ineffective elementary school would be expected to need two extra years to reach the attainment level of an equally talented pupil from one of the very effective schools. This example demonstrates that moderately large school effects can have surprisingly serious consequences.'[39]

As well as considering the school level variance in value added studies of relative progress (through intra-school correlations and percentage of total variance accounted for) interesting new approaches are seeking to explore the absolute effect of schools through studies of the impact of different starting ages and influence of an extra year in school and through the assessment of impact via studying students' progress in out of school learning (in the summer) compared with term time learning.[40] The Methodology of Research in Educational Effectiveness (MORE) network is bringing together SER interested in furthering the methodological development of SER studies and new studies providing further evidence and confirmation of the importance of school effects using alternative approaches.

More and less effective outliers

Another way of considering the size of school effects is to consider the difference between *outliers* (significantly more or less effective schools) in terms of their impact on average attainment in public examinations. A large longitudinal study of secondary schools in Lancashire showed that, for a student of average prior attainment at age 11 years, the difference in total GCSE points score was 14 points (equivalent to the difference between obtaining 7 grade B or 7 grade D GCSEs) between the most and least effective schools.[41] In the *Improving School Effectiveness* study in Scotland, the difference reported was equivalent to six Standard Grades at Grade 3 rather than six at Grade 4.[42] It should be noted that Grade C at GCSE and Grade 3 at Standard Grade are seen as necessary for higher study in the UK.

The need to interpret estimates of individual school's effects (as in 'outlier' studies of highly effective or ineffective schools) by reference to the confidence limits

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[37] Sammons et al (1993)
[38] Scheerens & Bosker (1997)
[39] Van Damme et al (2006) p.17
[40] Luyten (2006), Downey, von Hippel & Hughes (2006)
[41] Thomas & Mortimore (1996)
[42] MacBeath & Mortimore (2000)

associated with such estimates is now widely recognised.[43] Multilevel analysis can distinguish between schools (or classes) where students' progress (or other outcomes) is significantly better or significantly poorer than predicted on the basis of their prior attainment and intake characteristics.

Studies suggest that the proportion of schools identified as significant outliers can vary between 15% and 33% of those included in an analysis, depending on the outcome. For example, *Forging Links: Effective Departments and Effective Schools*, a three year study of academic effectiveness based on secondary schools' GCSE results (national public examinations taken at age 16 years) in London, showed that, on average, 30 per cent of schools could be identified either as significant positive or significant negative outliers in a particular year, using value added methods. A small number showed internal variation, some significant positive and some significant negative results for different subject departments, around 20 per cent.[44] Only a minority of schools were identified as significant and stable outliers over several years (around 17% in the *Forging Links* study).[45] For most outlier schools the difference in attainment between the more and the least effective was equivalent to 10 or more GCSE points (the difference between 5 Grade B rather than Grade D points for a student with average prior attainment. Such differences are both educationally and statistically significant in enhancing or, by contrast, depressing future education and employment prospects.

While patterns in overall examination results may be fairly stable from one year to another, subject results can vary more from year to year. It is therefore important to monitor outcomes over several years (3 is the minimum to identify trends) to establish whether schools or departments are improving, declining or fairly stable in terms of effectiveness.

Table 1 shows results from the *Improving School Effectiveness Project* conducted in Scotland.[46] This is based on a value added analysis of reading and mathematics results for 44 primary schools. The results provide estimates of school effectiveness based on measures of pupil progress over two school years (from P4 to P6, age 8+ to 10+ years) taking account of prior attainment in reading and mathematics and pupil-level background characteristics (including age, gender, FSM, whether child receives Learning Support or has a Record of Need, whether English was a second language and the % pupils eligible for free meals). Schools were divided into four groups, significant positive outlier, positive effect but not an outlier, negative effect but not an outlier and significant negative outlier. More schools were identified as significant outliers (pupils' progress significantly better or worse than expected given their prior attainment and background) for mathematics.

Outlier schools are those where progress was significantly better or worse than predicted given pupils' prior attainments and characteristics (p<0.05). It can be seen that many more schools were found to be outliers in maths (49%) than in reading

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[43] See Goldstein et al (1993); Sammons et al (1994) Thomas & Mortimore (1996), Gray et al (1996)
[44] Sammons, Thomas & Mortimore (1997)
[45] Sammons, Thomas & Mortimore (1997); Gray et al (1999); Smyth (1999)
[46] MacBeath & Mortimore (2001)

(18%). SER tends to find larger school or class in some subject areas such as maths or science that are primarily learnt at school, suggesting that school effects tend to be domain specific.

Table 1:   Example of differences in effectiveness from *Improving School Effectiveness Project*: primary schools' AAP results

Value added effectiveness category	AAP Mathematics		AAP Reading	
	N	%	N	%
Positive Outlier (p<0.05) *	10	23	5	11
Positive (non-significant)	7	16	17	39
Negative (non-significant)	15	35	19	43
Negative Outlier (P<0.05) *	11	26	3	7

N of schools = 44 for reading, 43 for mathematics, * p<0.05

In a project involving over 100 primary schools in Surrey it was found that, in three quarters of the primary schools, student progress over Key Stage 1 (from primary school entry at rising 5 years to end of Year 2 at age 7 years plus) was significantly better or, by contrast, significantly below that predicted on the basis of prior attainment and intake characteristics in at least one of the three 'core' curriculum areas assessed (English, mathematics and science). Most schools had an area of strength or one of possible weakness, but few were highly effective (or at the opposite end highly ineffective) across the three core curriculum areas English, maths and science. Nonetheless, the typical pattern was either a broadly positive, or a broadly negative profile. Table 2 shows how using the confidence limits related to estimates of schools effects it is possible to provide a simple classification of schools and show their profiles across different outcomes. Such tables can be used to give feedback to schools to support institutional self-evaluation and review. Here the positive outliers show if a school's results are significantly better than would be predicted on the basis of pupils' prior attainment and other characteristics, while typical (as expected) performance indicates that pupil progress is in line with that predicted by their prior attainment and other characteristics.

Table 2: Comparison of Different Value Added Effectiveness Profiles for Three Primary Schools

	English	Maths	Science
Positive outlier	**X**		**X**
Above expected		**X**	
As expected typical' effectiveness	**W**	**W**	**W**
Below expected			**O**
Negative outlier	**O**	**O**	

X - Broadly more effective school profile, **O** – Broadly less effective profile, **W** – typical, as expected profile

Choice of outcomes

Rather than attempting to define 'good', and thus by implication 'bad' schools, SER research focuses deliberately on the narrower concept of effectiveness which concerns the achievement of educational goals using specific measures of cognitive progress, social or affective outcomes. It is argued that *effectiveness is a necessary but not sufficient condition for any acceptable definition of a 'good' school.*[47] A range of possible goals for students and thus foci for effective schools has been identified.[48]

- Literacy
- Numeracy
- Other academic goals (e.g. science, history)
- Behaviour
- Attendance
- Self concept
- Citizenship
- Employment
- Other educational goals (e.g. values, attitudes)
- Community goals

The study of a broad range of student outcomes - cognitive, social and affective - is needed to provide a satisfactory picture of school effects. As well as being important in their own right, evidence indicates that social and affective measures of student outcomes such as attendance, attitudes to school, behaviour, motivation and self-esteem can act as intermediate outcomes which affect, and can themselves be influenced by students' attainment and progress. Thus the promotion of better cognitive outcomes should never be seen as an alternative or in some way a barrier

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[47] Sammons (1999)
[48] OECD (1989); Mortimore & Stone (1990); Silver (1994); Gray & Wilcox (1995); Townsend (2002)

to concern with social and affective outcomes or vice versa.[49] Relationships are likely to be reciprocal. Improving a student's attainment and learning can improve self-esteem, engagement and attitudes to school and vice versa. Young students with low attainment are more at risk of developing poor attendance, poor self-esteem and behaviour as they grow older and move into secondary school, thus early intervention is vital. While the relationships between school effects on social, affective and academic outcomes may not be very strong at the individual level (except for behaviour and attainment) correlations are usually made in a significant and positive direction. In relation to school effects there is also evidence of weak positive associations between effectiveness in academic and affective domains.[50]

SER tends to support the view that there is a particular link between academically effective schools and improved behavioural outcomes for students. A recent discussion argued that 'schools which are among the most effective in cognitive outcomes were among the most effective in that other domain'.[51] Large scale monitoring studies such as YELLIS and PIPS have been set up to encourage school self-evaluation and review as an alternative to accountability driven approaches to performance.[52] Findings indicate that schools and teachers both vary in their influence on pupils' academic self-concepts as well as on their attainment outcomes.[53]

The importance of school for the development of children and young people's emotional well-being is receiving increasing attention and in the UK this fits well with the Every Child Matters policy agenda. In Flanders, research points to significant school variation in measures of secondary students' well being. However, SER generally suggests that differences between schools regarding the well-being, motivation and attitudes of their pupils are smaller than differences with respect to cognitive outcomes.[54] A recent review of SER studies in England focuses on secondary schools and suggests school influences on 'other' non-cognitive outcomes are smaller and that the factors that influence them may be different from those that are related to better academic outcomes.[55] However, this research did not explore behavioural outcomes that some studies suggest are more powerfully affected by school influences and that at the pupil level are moderately associated with academic results.

Students' perceptions or feelings of school 'connectedness' have been shown to account for 13-18% of the variation in adolescent emotional distress in the US.[56] Other US research has drawn attention to the relationship between students' sense of their school as a community and lower involvement in 'problem behaviours' such as drug use and delinquent behaviour. Such studies have concluded that where

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[49] Rutter et al (1979); Mortimore et al (1988); Louis & Miles (1992); Knuver & Brandsma (1993); Lee et al (1993); Smyth (1999); Opdenakker & Van Damm (2000)
[50] Sammons (1996); Knuver & Brandsma (1993)
[51] Kyriakides (2006) p.20
[52] FitzGibbon (1996)
[53] Tymms (1999; 2001)
[54] Van Damme (2006) p.27
[55] Gray (2004)
[56] Resnick et al (1997)

schools are experienced as communities, students' psychological resiliency may be enhanced.[57] Links between positive features of school organisational climate and adolescent health and health risk behaviours have been reported.[58] A recent review of a school based multi-focussed intervention programme (the Gatehouse Project) in Australia suggests that such initiatives can have a measurable positive impact on mental health and health risk behaviour of adolescents.[59]

Equity, complexity and effective schools

There is growing awareness of the issue of complexity in the study of school effectiveness and the need to develop appropriate models to study the variation in student outcomes and school and classroom processes.[60] The question of whether schools are equally effective for different groups of students, girls or boys, those from different socio-economic or ethnic groups, is highly relevant to the concept of equity in education. The study of differential effectiveness addresses such concerns.[61] The question of internal variations in secondary schools' academic effectiveness has also been explored by measuring departmental variations in different subject results and variations in the progress of different groups. It is concluded that effectiveness is best seen as a **retrospective, relative concept** that is both outcome and time specific. For secondary schools the term needs to be qualified to incorporate both school and departmental effectiveness.[62] Results also point to the importance of examining trends in effectiveness over time.

Judgements about school effectiveness need to address three key questions essential to the consideration of what is meant by an inclusive school and to the promotion of social justice:

- **Effective in promoting which outcomes?**   the what of effectiveness
- **Effective for which student groups?**   the who of effectiveness
- **Effective over what time period?**   the when of effectiveness

It is argued that such questions provide a sound basis for monitoring both an education system and an individual school's success in promoting equity and equal opportunities for all its students. They can also provide a clear focus for school development and improvement, planning and evaluation, as will be discussed in Section 2.

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[57] Battistich et al (1995); Battistich & Hom (1997)

[58] McLellan et al (1999); Vuille et al (2001)

[59] Bond et al (2004)

[60] As work by Sammons (1996, 1999); Scheerens & Bosker (1997); Goldstein (1998) and Gray (1998) have illustrated. Methodological considerations have been reviewed by Scheerens (1992); Creemers (1994); Hill & Rowe (1996); Goldstein (1997; 1998); Creemers & Reezigt (1997); Teddlie & Reynolds (2000)

[61] Mortimore et al (1988); Tizard et al (1988); Smith & Tomlinson (1989); Goldstein et al (1993)

[62] See Sammons, Thomas & Mortimore (1997)

The question of whether school effects differ for specific groups of students is of important to the promotion of social inclusion and equity. The monitoring of educational achievement is an important policy lever that helps to focus attention on the size of the equity gap and is a necessary backdrop to attempts to identify and raise the achievement of 'at risk' groups. In England the former Inner London Education Authority was the first LEA to introduce equity monitoring in relation to gender and ethnicity, but official Government interest in promoting such monitoring was not introduced until more than a decade later under a New Labour administration that focussed on the use of performance data for school review in its Autumn Package for all schools in England in 1998 (later developed into the Pupil Achievement Tracker and RAISE on line). In the US some States have likewise shown a strong focus on monitoring the differences in attainment levels of students from different ethnic groups (for example Texas) where it has been claimed to lead to marked improvements, although this remains a contentious and controversial area.

A major systematic review of SER concluded: *'Schools matter most for underprivileged and/or initially low achieving students. Effective or ineffective schools are especially effective or ineffective for these students'.*[63] This analysis highlighted some key findings relevant to the promotion of equity in education and social inclusion.

- School effects for Black students were almost twice as large as for white students in the US;
- Differences between public and private schools were almost twice as large for low SES students as for middle class ones, and the differences between schools for high SES students were small in the US;
- School effects vary for students by 'race' and low prior attainment in England. Secondary school effects are larger for low SES and initial low attaining students. There is some evidence of differential effects by 'race' and gender.

It must be stressed that SER findings do not suggest schools can, by themselves, overcome the powerful impact of social disadvantage.[64] Nonetheless, attending an effective school can have a significant positive impact. The *School Matters* research on primary school influences on children's progress over three school years illustrated that working class students attending the most effective schools made greater progress and had higher attainment at the end of the study than middle class students in the least effective schools. This has important implications for their future educational prospects. Within the most effective schools, however, middle class children as a group continued to outperform their working class peers, reflecting their initial higher starting point.[65] A follow-up of this research also pointed to a continuing primary school influence on secondary achievement levels, though the main

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[63] Scheerens & Bosker (1997), p.96
[64] Mortimore & Whitty (1997)
[65] Mortimore et al (1988)

influence was found to take place through promoting better attainment at entry to secondary school. [66]

Overall, research findings indicate that more effective schools do tend to improve the attainments of all students, but that they do not remove overall patterns of difference related to students' backgrounds. The consequences of attending a less effective school are more serious for disadvantaged or 'at risk' groups, however, since school effects tend to be larger for these groups. There is some evidence of differential effectiveness showing that more effective schools tend to make a particular difference to students with low initial levels of prior attainment by boosting their progress rates, again emphasising that academically effective schools have an important role to play in supporting attempts to increase equity. For example, a recent analysis of three years of value added results for all primary schools in England based on matched Key Stage 1 and Key Stage 2 results over three successive years (2002-2004) indicated that differences between schools in their academic effectiveness varied most for pupils with initial low attainment in Key Stage 1.[67] This research, par of the Effective Pre-school and Primary School Education project   (EPPE) demonstrates that both the effectiveness and quality of pre-school centre attended and the academic effectiveness of the primary school to which children moved continue to influence their attainment, progress and social behaviour at age 10 years.

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[66] Sammons et al (1995)
[67] Melhuish et al (2006)

Section 2: Effective School Processes

To what extent can SER illuminate the black box of how school and classroom experiences combine to foster or inhibit pupils' progress and their social and affective development? The study of the extent of variation in and relationships between specific features of school and classroom organisation, practices and climate and value added measures of effectiveness in promoting specific educational outcomes for students has been a crucial feature of SER and is of special policy and practitioner relevance. A range of studies have sought to identify the 'key characteristics' of effective schools through statistical analyses of measures that are found to be significant predictors of differences in student outcomes, after taking into account intake differences. In addition case studies of outlier schools, those identified as particularly effective has, often been used to illuminate understanding of what makes a difference and helps such schools to be more effective.

SER has adopted a pragmatic philosophical stance to research that is more concerned with practical implications and 'what works' than matters of ideology, although there is a growing body of theoretical literature and attention to contextual features.[68]

An important issue concerns the generalisability of SER findings. To what extent is the knowledge base applicable to schools in different national, regional or cultural contexts? A number of reviewers have identified common features concerning the processes and characteristics of more effective schools based on studies conducted during the last 30 years. These include: achievement oriented teachers with high expectations, sound educational leadership; good consensus and cohesion within the school team, a high quality curriculum; ample opportunity to learn; a favourable, orderly and safe school climate; a considerable evaluative potential in the school; a high degree of parental involvement; a favourable class climate; high effective learning time through excellent class management; structured instruction; the encouragement of autonomous learning; differentiation (adaptive instruction) and frequent sound feedback to students about their work. A synthesis of reviews linked these to distinguish the following set of more general factors:

- Productive climate & culture;
- Focus on central learning skills;
- Appropriate monitoring;
- Practice-oriented staff development;
- Professional leadership;
- Parental involvement;
- Effective instructional arrangements;
- High expectations.[69]

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[68] Teddlie & Reynolds (2001)
[69] Scheerens & Bosker (1997) p.207

The probabilistic nature of SER findings on effectiveness features has been highlighted. 'As a rule, schools which do the kinds of things the research suggests make a difference, tend to get better results (however these are measured or assessed). The problem is these are tendencies not certainties. In betting terms, the research would be right about seven out of ten times, especially if it could be supported by professional assessments'. [70]

The relationships between the correlates of effectiveness identified by researchers in the in the US and in the UK were mapped and distilled into nine process areas in the *International Handbook of School Effectiveness Research* (Table 3).[71] Case study research of highly effective and highly improved schools has tended to identify similar features of successful practices, while a number of SER have sought to integrate such findings into educational effectiveness models that can be used to guide future studies and are capable of empirical testing.

It has been claimed that the "touchstone criteria' to be applied to all educational matters should concern whether children learn more or less because of the policy or practice. Fads, fallacies and policy and practice fantasies hopefully pass us by because we try to form our views of the educational world on a scientific basis'. [72] In other words, SER is concerned with finding out about the school and classroom processes, which help to make some schools and departments more effective than others in advancing their students' educational achievements. In other words, those involved in SER do not just want to know what works in education, but also why certain things seem to work in terms of possible underlying explanatory mechanism.

Table 3 The Processes of Effective Schools	
1. The processes of effective leadership	Being firm and purposeful Involving others in the process Exhibiting instructional leadership Frequent personal monitoring Selecting & replacing staff
2. The processes of effective teaching	Unity of purpose Consistency of practice Collegiality and collaboration
3. Developing & maintaining a pervasive focus on learning	Focussing on academics Maximising school learning time
4. Producing a positive school culture	Creating a shared vision Creating an orderly environment Emphasising positive reinforcement
5. Creating high & appropriate expectations for all	For students For staff

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[70] Gray (1990) p.214
[71] Teddlie & Reynolds (2000)
[72] Reynolds (1996) p.59

6. Emphasising responsibilities & rights	Responsibilities Rights
7. Monitoring progress at all levels	At the school level At the classroom level At the level
8. Developing staff skills at the school site	Site based Integrated with ongoing professional development
9. Involving parents in productive & appropriate ways	Buffering negative influences Encouraging productive interactions with parents

All SER models are based on notions of links between student intake characteristics, school and classroom processes and student educational outcomes. Increasing attention is also paid to context recognising both national and local context as important potential influences. The basic structure of school models attempt to describe both the multilevel structure of schools, where students are nested into classes, and the hypothesised linkages between the different levels of the CONTEXT-INPUT- PROCESS-OUTPUT chain.

The levels involved comprise the individual student, the classroom, the school and the school environment (the latter covers matters such as the national or local context which would include in England, the influence of the National Curriculum and National assessment framework, the high profile publication of 'league tables' of examination results, the OFSTED inspection cycle, all of which can be seen as strong accountability mechanisms. Theories of learning and instruction, such as the Carroll model, underpin multilevel educational effectiveness models. Most view school-level factors as facilitating conditions for classroom-level factors. In addition, such models suggest that school-level factors tend to either promote cohesion between teachers (stimulate similar effective teacher behaviour in all classrooms) or control what is going on in classrooms. A proposed generalisable model developed from theories about how students learn, stresses the impact of three key concepts – quality, time for learning and opportunity – which are seen to be relevant to each level.[73]

Six possibilities concerning the nature of the impact of school-level processes on classroom practice have been proposed[74]:

- **Contextual effects** – in this case it is suggested that in a school with a majority of 'effective' teachers and feedback amongst staff, the performance of the <u>less effective minority will be improved</u>;

- **Mirrors** – in this case the congruence between evidence on effective schools and effective classrooms is highlighted. Congruence of factors (e.g., orderly

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[73] Creemers (1994)
[74] Bosker & Scheerens (1994)

climate, high expectations, achievement pressure etc.) <u>helps to create a consistent school culture</u>, which provides a general supportive background;

- **Overt measures** – in this case specific measures are taken to create effectiveness enhancing conditions at lower levels (e.g., the classroom). Examples given include the positive impact of instructional leadership, increasing allocated learning time, recruiting 'effective' teachers, selecting teaching materials, keeping records of student progress etc.;

- **Incentives** to promote effectiveness enhancing conditions at lower levels. This view would cover rewards for 'effective' teachers from senior managers and monetary grants from their districts for schools if they achieve certain standards.

The application of 'market forces' via open enrolment and publication of league tables can be seen as a crude focus of incentive-based approach in the UK context:

- **Material facilities** for conditions at lower levels. In this case the example given is a computerised school-monitoring system implemented at the school-level which gives teachers better information on student progress; and

- **Buffers** to protect effectiveness enhancing conditions at the classroom level. This view implies minimal expectations of the direct influence of school management on what the authors call the 'education production process' and covers administrative functions such as student involvement, dealing with government regulations, external pressure etc.

Of course these different interpretations are not necessarily mutually exclusive and it seems likely that higher level conditions can operate in more than one way simultaneously. On the basis of empirical research it is concluded that models of secondary school effectiveness need to analyse the impact of the department explicitly. The concept of secondary school effectiveness needs to be qualified to the term 'school and departmental effectiveness'. [75]

Features of Ineffective schools

It is generally recognised that ineffective schools are not merely mirror images of those that are more effective. Rather than simply lacking the key effectiveness of effective schools, they are likely to share specific features and problems that have a particular link with culture and staffing. A review of studies concerning the characteristics of *ineffective* schools and highlights four aspects:

- Lack of vision;

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[75] For examples of research examining the impact of the department see Ainley (1994); Luyten (1994); Harris, Jamieson & Russ (1995); Witziers (1994); Sammons, Thomas & Mortimore (1997); Smyth (1999)

- Unfocussed leadership;
- Dysfunctional staff relationships;
- Ineffective classroom practices.

Ineffective classroom practices were seen to be characterised by:

- Inconsistent approaches to the curriculum and teaching;
- Generally lower expectations for students of low SES;
- An emphasis on supervising and communicating about routines;
- Low levels of teacher-student interaction;
- Low levels of student involvement in their work;
- Student perceptions of their teachers as people who did not care, praise, provide help, or consider learning as important; and
- More frequent use of criticism and negative feedback. [76]

Research on under-performing schools in the Netherlands supports these conclusions. The wide-ranging study indicated the main weaknesses of such schools included:

- Learning material offered at school is insufficient to achieve core targets;
- Insufficient time devoted to achieving the minimum objectives of the curriculum;
- Poor instructional quality;
- Insufficient insight into students' performance levels (no use of nationally standardised tests);
- Insufficient or inappropriate special measures for struggling learners;
- Prolonged dysfunctional organisation of the school (lack of leadership, lack of cooperation amongst teachers, staff discord, conflict within or between school managers and governors).[77]

The importance of school culture is increasingly recognised. 'The ineffective school may also have inside itself multiple schools formed around cliques and friendship groups…there will be none of the organisation, social, cultural and symbolic tightness of the effective school'.[78] Such tightness appears to be a particular requirement for academic effectiveness in the context of the inner city.

Leadership

School effectiveness research has drawn attention to the importance of school leadership as a key characteristic of effective schools (see Table 3) and leadership judged to be poor is a well-documented feature of ineffective schools according to

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[76] Stoll & Fink (1996)
[77] van de Grift & Hootveen (2006)
[78] Reynolds (1995), p.61

inspection evidence in the UK.[79] School improvement research has highlighted the principal's role in the turn around of ineffective or failing schools and its importance for schools in disadvantaged contexts and a major review for the National College of School Leadership highlights seven strong claims about school leadership, including:

- School leadership is second only to classroom teaching as an influence on pupil learning.
- Almost all successful leaders draw on the same repertoire of basic leadership practices.
- The ways in which leaders apply these basic leadership practices – not the practices themselves – demonstrate responsiveness to, rather than dictation by, the contexts in which they work.
- School leaders improve teaching and learning indirectly and most powerfully through their influence on staff motivation, commitment and working conditions.
- School leadership has a greater influence on schools and students when it is widely distributed.
- Some patterns of distribution are more effective than others.
- A small handful of personal traits explain a high proportion of the variation in leadership effectiveness.

The LOSLO study in Australia shows how leadership influences both organisational learning (OL) directly and, through this, teaching and learning and student outcomes (indirectly). It indicates that leadership needs to be distributed amongst a range of school personnel not just focussed on the principal, and that four factors defined OL in schools:

- A trusting and collaborative climate;
- A shared and monitored mission;
- Taking initiatives and risks ;
- Ongoing, relevant professional development.[80]

A review for the OECD draws attention to the increased importance attached to the role, recruitment and development of school leaders for the improvement of education and evidence of their impact on teacher and school effectiveness and through this on student outcomes. [81]

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[79] Matthews & Sammons (2004)
[80] Mulford, Silins & Leithwood, 2004
[81] Mulford & Silins (2003); Also see the review of links between leadership and school effectiveness and improvement by Silins and Mulford (2007)

The centrality of teaching and learning

A number of SER authors have drawn attention to the centrality of teaching and learning and of classroom processes in determining schools' overall academic effectiveness.[82] It has been argued that the quality of teaching and expectations has the most significant role to play in fostering students' learning and progress.[83] Given this, school processes, including leadership, remain influential because they provide the overall framework within which teachers and classrooms operate.   In some schools (those that are more effective) the overall framework is more supportive for learning and classroom practice. Research on organisational learning, for example, has shown relationships between principals' transformational leadership and organisational learning, which influence teachers' work and student outcomes.[84]

Reviews of teacher effectiveness literature have identified a number of characteristics of effective teachers:

- They teach the class as a whole;
- They present information or skills clearly and animatedly;
- They keep the teaching sessions task-oriented;
- They are non-evaluative and keep instruction relaxed;
- They have high expectations for achievement (give more homework, pace lessons faster and create alertness);
- They relate comfortably to students (reducing behaviour problems).[85]

And a list of teacher behaviours, which promote achievement, stresses similar aspects:

- Emphasise academic goals;
- Make goals explicit and expect students to be able to master the curriculum;
- Organise and sequence the curriculum carefully;
- Use clear explanations and illustrate what students are to learn;
- Ask direct and specific questions to monitor students' progress and check their understanding;
- Provide students with ample opportunities to practise;
- Give prompts and feedback to ensure success;
- Correct mistakes and allow students to use a skill until it is over-learned and automatic;
- Review work regularly and hold students accountable for their work.[86]

The features of 'structured teaching' have been identified as particularly relevant to promoting cognitive attainment in the basic skill areas especially in schools serving higher proportions of socio-economically disadvantage groups.[87] Recent reviews of

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[82] See Creemers (1994); Scheerens & Bosker (1997); Hill & Rowe (1998)

[83] Sammons, Hillman & Mortimore (1995)

[84] Mulford & Silins (2001)

[85] For example Joyce & Showers (1988)

[86] Doyle (1987)

[87] Scheerens (1992); Muijs & Reynolds (2005)

constructivist approaches to teaching in comparison with more traditional approaches, indicate that there is little evidence that these boost attainment levels and results indicate that such approaches may be less appropriate for younger, low attaining and low SES groups tending to widen the achievement gap.[88]

Curriculum coverage has also been shown to be important. In a study of ethnically diverse inner city schools curriculum coverage was found to be an important predictor of young children's mathematics progress, after control for prior attainment and other characteristics. Mean curriculum coverage was lower in classrooms containing a substantial proportion of African-Caribbean students and it was concluded that African Caribbean boys in particular, were falling behind because they covered less of the curriculum.[89] Such findings about differences in educational opportunities for specific student groups have implications for inclusive schooling and equity.

A number of effective teaching strategies for primary teachers have been identified. These stress teacher communication, assessment and feedback practices such as:

- Informing children through explaining, instructing and modelling;
- Reinforcing knowledge through repeating and reminding;
- Supporting learning through bringing different strands of knowledge together.

The importance of different assessment strategies are also outlined:

- Assessment through interaction with children, such as questioning and testing;
- Assessment through closely observing children;
- Considering the evidence to understand progress and the learning of individual children.

The role of feedback in the teaching process is also addressed. Feedback is defined as 'imparting directly a judgement of a child, a child's strategies and skills or child's attainment (often in relation to goals) and giving information about the judgement'.[90] Feedback can be evaluative and descriptive and both are important in the learning process. There is a conceptual progress from the teacher giving evaluative feedback to the child suggesting ways for improving his/her own outcomes. This latter aspect can be seen as *enabling the development of metacognition in the learner.*

Research on teacher effectiveness in the UK has developed a model, which links three factors (professional characteristics, teaching skills and classroom climate) to progress. The teacher's role in creating an 'excellent classroom climate' is stressed. In primary schools, outstanding teachers scored more highly in terms of behaviours related to high expectations, time and resource management, assessment and homework. At the secondary level the biggest differences were in high expectations,

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[88] van der Werf (2006)
[89] Plewis (1998)
[90] Gipps et al (2000) p.91

planning and homework. Three factors as identified as important in shaping learning opportunities in the classroom:

- Lack of disruption;
- Encouragement to engage;
- High expectations.[91]

Teacher effectiveness research and reviews of the teaching of mathematics and reading informed the development of the Literacy and Numeracy strategies in England in the late 1990s. Both have been widely recognised in evaluations to have stimulated a significant improvement in primary school teaching and are associated with improvements in attainment. The importance of using appropriate strategies in the teaching of early reading has received particular attention in England in relation to an ongoing debate about the role of phonetics and the Rose Review (2006) on the teaching of early reading provides a thorough discussion of the most up to date research and guidance in this area.

School culture

Much SER has stressed the importance of a positive school climate or culture as a key feature that is associated with better student outcomes and effectiveness in value added terms.
The key aspects of an effective school and departmental culture include:

- Order - behaviour, policy and practice;
- Academic emphasis;
- Student-focused approach.[92]

An effective school manages to achieve an optimal balance between the social control task achievement and the expressive social cohesion domains.[93] Behaviour policy and practice, leading to a safe orderly working environment and an academic emphasis are necessary for task achievement (effective teaching and learning and thus students' academic progress), while the student-focused environment concerns social cohesion and creates a positive climate for learning. It is argued that the school principal plays an important role in setting the direction of the school and fostering a positive achievement focussed school culture, especially in schools in disadvantaged contexts and those showing rapid improvement from a low base.

A review of effective secondary schools in the US likewise finds evidence that schools with a common sense of purpose and a strong communal organisation (involving collegial relationships among staff and positive adult-student relationships) are more effective in promoting a range of academic and social outcomes reflecting student engagement and commitment. This stressed the importance of students' and staffs' experience of the school as a social organisation and the quality of human

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[91] HayMcBer (2000)
[92] Sammons, Thomas & Mortimore (1997)
[93] Hargreaves (1995)

relationships experienced within it.[94] In Hong Kong, research has also drawn attention to the benefits of a caring and supportive climate and a cohesive student-centred philosophy of teaching for the entire school.[95]

Effective and Improving Schools serving Disadvantaged communities

Many SER studies have focused on schools in inner city areas or serving diverse and disadvantaged communities, thus the SER knowledge base probably reflects effectiveness conditions for such schools most closely. Nonetheless, there is awareness of the importance of context, and some studies have explicitly sought to examine the features of effective or improving high poverty schools, often serving diverse communities.

A recent review of improving schools in disadvantaged settings suggests such schools focus on:

- Teaching & learning;
- Enhancing leadership capacity;
- Creating an information rich environment;
- Creating a positive school culture;
- Building a learning community;
- Promoting continuous professional development;
- Involving parents;
- Engaging external support.[96]

Studies of schools that make a difference generally indicate that while the challenges facing schools serving disadvantaged communities may be greater, the characteristics of successful schools in such contexts are not radically different from those that have been reported in the SER as a whole, although approaches to teaching may benefit from greater use of structured approaches and direct instruction, and the use of observation and professional development for teachers related to the improvement of classroom practice. One of the most influential long term studies of schools in disadvantaged contexts is the 10 year Louisianna School Effectiveness Study.[97] More recently a set of 12 case studies of successful low SES secondary schools in Canada drew a number of conclusions about what aspects seemed to contribute to their success in difficult environments (challenging contexts). These include:

- The role of the secondary school is especially important for students from low income environments. The case studies confirm schools can reduce social inequalities by stressing clear expectations and supportive structures and services.

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[94] Lee et al (1993), p.228
[95] Ming & Cheong's (1995)
[96] Muijs et al (2004)
[97] Teddlie & Stringfield (1993)

- There is a need for schools to tackle areas over which they have most control (culture, leadership & classroom practices).
- The importance of the role and person of the principal is greater in schools with low-income environments.
- The schools focus on three defining elements of climate: security, examinations and personal relationships.
- In their general approach to teaching and learning these schools appear to be fairly traditional, they do not have radically innovative approaches to teaching or the curriculum.[98]

Discussion of this research on high achieving low income secondary schools in Canada concludes that these secondary schools reduced social inequalities by stressing clear expectations and supportive structures and services which motivated their students. Structured classroom instruction and 'traditional' standards of behaviour and a respectful, secure school climate with warm relationships are also noted. 'High expectations coupled with support and warm relationships are especially effective in schools serving at-risk populations.' [99] It was concluded the elements of success in these schools do not seem to differ significantly from those found in the research literature. Successful low-income schools are simply successful schools. They are 'no excuses' schools, which have accepted the responsibility to create high achievement for all students, irrespective of their socio-economic backgrounds. The achievement of a positive and consistent school culture appears to be crucial for effectiveness at the secondary level and for schools serving socio-economically disadvantaged communities. Further broadly comparable findings and conclusions have been outlined using 21 High Performing High Poverty schools in the US.[100]

A recent set of 18 primary school qualitative case studies of high attainment Welsh primary schools in disadvantaged settings drew strongly on the SER tradition but went further by adopting a systems psychodynamics framework of analysis (using an institutional transformation perspective) to explore the factors that helped to promote their consistent success.[101] The authors argued that their results accorded with SER reviews of effective school processes and drew particular links with the earlier *Key Characteristics of Effective Schools[102]* review. They draw special attention to the role of leadership density and depth, team working and wide participation in decision making, including productive relations with a supportive and informed governing body. They highlight the overriding concern of staff to ensure that their teaching for learning was effective (led to improved measured pupil attainment) and enriching for all pupils and their proactive optimism and enthusiasm. The study provides further evidence of the important role of leadership as at the core of these schools' success and in creating a learning and achievement centred culture with a strong moral purpose. The study focuses on the important and original concept of 'mindset' as a feature of core culture in relation to effectiveness. This includes a confident, problem

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[98] Henchey (2001)
[99] Raham (2002) p.9
[100] Carter (2001)
[101] James et al (2006)
[102] Sammons, Hillman & Mortimore (1995)

solving group attitude, coupled with proactive optimism, a high level of reflectivity, high ideals and expectations and a culture of praise, warmth, and care.

In summary, the 18 case studies results pointed to important features of primary school culture in effective low SES primaries, including the:

- Key role of head teachers who actively developed leadership capability throughout the school – leadership density & depth supported by team working & participation in decision making;
- Important contribution by Governing bodies to support leadership;
- Staff 'passionate' about their work, high levels of commitment & engagement,
- Strong emphasis on parental participation to engender their engagement & commitment to work of the school; and
- Importance of the 'mindset' of the schools – defined as empowered & proactive optimism, highly reflective approach, an 'accept & improve' outlook, very high aspirations, ideals & expectations, a willingness to praise, a caring attitude & pride in the school.

In the US there have been a number of case studies of schools that have achieved high levels of success with students from low SES backgrounds. The findings indicate that the schools lay a high priority on the importance of raising and maintaining standards, recognise the need for improvement and have a strong moral purpose. They have a strong collective belief that all students can succeed (high expectations). The principals demonstrate strong leadership and recognise that this included all levels in the school, including the classroom. There was an emphasis on building strong teams within the schools.[103]

Implications for School Improvement

School improvement has been defined as 'a strategy for educational change that enhances student outcomes as well as strengthening the school's capacity for managing change'.[104] Others have described it as 'A collaborative, supportive and exciting process that involves all the stakeholders in learning how to make systematic progress in achieving the aims and accountabilities of the school.' [105]

School improvement efforts require a particular focus on the processes of change and understanding of the history and context of specific institutions, and depend upon the active support and engagement of practitioners.[106] Nonetheless, as argued in earlier sections, SER provides the necessary knowledge base to inform and stimulate the development of policies and practical initiatives to improve schools and the quality of students' educational experiences.

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[103] Cawelti (1999)

[104] Hopkins (1994) p.3

[105] See discussions by Reid, Hopkins & Holly (1987); Mortimore et al (1988); Creemers (1994); Sammons (1999)

[106] See Louis & Miles (1991); Fullan (1993); Ainscow & West (1994); Stoll & Fink (1994); Gray et al (1999); Joyce, Calhoun & Hopkins (1999)

The need to re-conceptualise both school effectiveness and improvement and to build better connections between the two has been highlighted by several writers in the field. In particular, an over-emphasis on 'managerialist' solutions to the problems of ineffective schools is seen to be less relevant than approaches derived from research and based on development work with schools. Critics have also commented on the tendency for many improvement projects to focus too closely on teachers' perspectives and concerns, while frequently *avoiding* the question of what impact is made on students' learning and outcomes.[107]

The importance of school culture has been stressed in the review of SER presented earlier. Five 'doors' to school improvement, which are seen to open a 'passageway' into promoting a positive school culture, which fosters improvement, have been described. The five doors are:

1. *Collegiality:* the development of cohesive and professional relationships between staff (and the community) to create a culture that embraces broad vision directed at improvement as well as day-to-day operations.
2. *Research:* acquainting staff with the findings of SER or research into teaching methods, which can be used to define local problems and identify solutions.
3. *Site-specific information:* Encouraging staff to collect and analyse data about their students, schools and the effects of change efforts.
4. *Curriculum initiatives:* Introducing change within or across subject areas.
5. *Instructional initiatives:* Staff development in teaching skills and strategies, for example generic teaching skills, repertoires of teaching methods, specific approaches or styles.

Some of the processes of improvement identified in the literature include:

- Clear leadership;
- Developing a shared vision & goals;
- Staff development & teacher learning;
- Involving pupils, parents & community ;
- Using an evolutionary development planning process;
- Redefining structures, frameworks, roles & responsibilities;
- Emphasis on teaching & learning;
- Monitoring, problem-solving & evaluation;
- Celebration of success;
- External support, networking & partnership.[108]

A broad comprehensive analysis of highly successful improvement programmes demonstrates a number of shared principles or features. Effective school improvement programmes:

- Focus closely on classroom improvements;

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[107] West & Hopkins (1996)
[108] Mortimore (1998); McGilchrist et al (2004)

- Utilise discrete instructional or pedagogical strategies, i.e. they are explicit in the models of teaching they prescribe;
- Apply pressure at the implementation stage to ensure adherence to the programme;
- Collect systematic evaluative evidence about the impact on schools and classrooms;
- Mobilise change at a number of levels within the organisation, including the classroom, departmental and school level;
- Generate cultural as well as structural change;
- Engage teachers in professional dialogue and development;
- Provide external agency and support.[109]

Approaches differ between those that are seen to be organic (suggesting broad principles or general strategies for improvement) and those that are seen to be more tightly structured and specific. More tightly structured research based programmes tend to be found to be have a stronger and more lasting influence and be associated with greater change in student outcomes, these are sometimes termed mechanistic programmes.[110] Examples of these will be used to illustrate their features and comparisons made with a looser approach.

The need for a close degree of 'fit' between programme and the developmental needs of the school has been emphasised by some authors. They distinguish three types:

Type 1
Strategies that assist failing schools to become moderately effective tend to need a high level of external support and involve a clear and direct focus on a limited number of basic curriculum and organisational issues to build confidence and support to continue. Often the identification of 'failure' acts as a catalyst for change.

Type 2
Strategies that assist moderately effective (more typical schools) to become effective. Such strategies are less likely to involve external support or intervention and are more likely to be school initiated.

Type 3
Strategies that assist effective schools to remain so. Here external support may be welcomed or even sought out but is not necessary.[111]

A study that focussed on achieving sustainable improvements in urban schools investigated the improvement approaches and strategies adopted by 34 initial low attaining secondary schools that showed sustained improvements in academic results over six years in England. The evidence was based on interviews with head teachers. It was noted that for many fear of closure brought on by a history of poor performance and falling pupil rolls and negative press and community perceptions

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[109] Harris (2002) p.29
[110] Harris (2002)
[111] Hopkins et al (1997); Harris (2002)

was the main catalyst for change (indicating the impact of strong accountability focus and pressure in the English education context). Most did not see the improvement strategies they adopted as radical but preferred common approaches pursued systematically. They stressed the importance of early successes to motivate and improve staff and student morale indicating a 'virtuous circle' where 'success breeds success' and the role of hard work by staff and students and importance of praise and celebrating success at all opportunities. There were no 'quick fixes'.

In terms of lessons learned the research stresses the importance heads attributed to going beyond the many, sometimes 'bewildering' problems confronting the school, to avoid a sense of helplessness and fatalism and engender cultural change that further motivated and raised expectations of staff, students and the community. A number of ingredients were identified although the authors caution against simple notions that these could be combined into a simple recipe for success. It was clear that in these schools the strong bonds between student behaviour, attainment and learning and their social and emotional development were appreciated. Thus, although heads stressed that they privileged teaching and learning as the focus of their school's improvement efforts, in practice many of their strategies intended to build relationships, morale and expectations. These appeared to be strongly linked to this overall focus on teaching and learning, so the concern to foster social and emotional development can be seen as a necessary feature of effective teaching in such contexts. The authors argue that the strategies and approaches reported by heads and identified in their study are best viewed as a bank of ideas that may help schools and headteachers in particular, to develop their own plans for their own circumstances. [112]This fits with the notion that school development phase can be categorised as illustrated by the three broad 'types' noted above, and that strategies and plans need to be adopted according to a diagnosis of stage development links with prioritising the main need/problem areas that should form the foci of action.

Case Study Example of a Highly Improved School

Case studies of individual schools in challenging circumstances, which have succeeded in making rapid improvements, again highlight the importance of school and classroom climate. An example is Robert Clack, a secondary school in Barking and Dagenham a disadvantaged area of London. In 1996 it was judged one of 'worst' schools ever seen by inspectors. It had serious problems of low attainment and poor student behaviour and some staff termed the school a *'zoo'* where students *'could do what they wanted, many kids were running riot'.* Staff morale was described as very low and there were difficulties in recruitment and retention, teaching quality was poor, pupil rolls were in steep decline and as a consequence, there was a serious budget deficit. In other words, the school was in a steep spiral of decline with a range of serious interlinked challenges. In terms of context the school served a highly disadvantaged community surrounded by high-rise council housing in which a Local Authority had tended to house 'problem families'. The borough in which it is located was also highly disadvantaged and had the highest proportion of council housing and one parent families and the lowest proportion of adults with

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[112] Ainscow & West (2006)

educational qualifications in country. The school itself served a high proportion of low-income families (pupils eligible for FSM) and termed its intake as mainly white working class. Although co-educational, there was a marked preponderance of boys in the intake because of the poor reputation, which made it especially unattractive to the parents of girls.

After an adverse inspection, a new head teacher (formerly a head of a very successful department in this school that otherwise was seriously under-performing) was appointed. During the period 1996-2006 sustained improvement occurred and the school is now judged as one of the most improved schools in the country, has attainment above the national average in all national assessment test results at Key Stage 3 and public examinations at Key Stage 4. It is judged to have attainment levels significantly above that of schools serving similar intakes and is recognized as an excellent placement for students in initial teacher training. It achieves excellent results in value added analyses of its pupils' progress. By and large the change process was reported to have occurred without much change in the composition of staff teaching in the school, particularly in the first four years. In terms of the influential indicator of public examination success at age 16 years the improvement has been striking.

 The percentage achieving 5 A*-C GCSEs rose consistently from well below the national average at 17%, (1996), 23% (1998), 39% (2001) 58% (2004) to 79% (2006), well above the national average. In total 49% of students achieve 5 A*-C grades including English and mathematics (using a more stringent indicator now used to define national standards).
There is no longer a significant gender gap in attainment, in contrast to the national picture and boys do well in traditional 'female' subjects such as foreign languages. The school is now oversubscribed and highly regarded by the local community. However, it still serves a highly disadvantaged intake (36% pupils are eligible for free school meals, and a higher proportion in the upper school) with a growing proportion from ethnic minority backgrounds and with English as an additional language. Its improved position allowed it to take on specialist status in Science as part of the SSAT.

A case study conducted early on in the improvement process (in the first four years) identified one of the key factors responsible for the improvement of this school as its success inA case study of the school attributed success to establishing a controlled and cooperative working atmosphere that enabled teachers to teach and learners to learn, also to increased cohesion and teamwork amongst staff. Specific features highlighted include:[113]

- Excellent leadership & support from governors and LEA;
- A culture of collaboration, high expectations of teachers and pupils, care invested in staff development, respect for students' right to learn and teachers' right to teach;
- 'We still have difficult pupils but we don't have classes out of control' (member of staff)';

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[113] Haydn (2001)

- Creation of a relaxed, cooperative learning environment where learning is enjoyed and teachers find professional satisfaction; and
- Emphasis on rewards and support, using data and target setting.

Inspectors later commented that: 'the good quality of teaching has been responsible for the significant raising of standards since the last inspection' and noted the importance of improved teaching.' And noted that the school had adopted a standard lesson model, the 'Robert Clack Good Lesson', developed by staff and used consistently throughout the school. The effective approach to behaviour management was also commended by inspectors. 'Behaviour is good in classes, learners are attentive and work well together .' Behaviour problems are dealt with quickly, in fair, consistent and positive ways' (Ofsted Inspection Report 2004).

The school itself has draw attention to the transformation of its culture.
'In some parts of the community there is a violent, aggressive, anti-social culture. Within the school we have created an alternative community in which achievement is 'cool' and caring for others is the normal expectation'
(Assistant headteacher)

'We teach students the meaning of responsibility. We have a responsibility to them, to provide them with a high quality education and ensure they achieve their potential. They also have a responsibility to themselves and to those around them to ensure that as a community we respect and support each other'
(Headteacher)

Inspectors noted the emphasis on celebrating achievement and a whole school approach, including literacy support across the curriculum with provision of a very wide range of extra-curricular activities and strong emphasis on participation in sport. Looked after children, SEN, EAL and those pupils identified as 'gifted and talented' were judged to receive good support and make good progress. The use of mentoring was praised, as was the use of data to track performance and identify students needing extra support. The inspection report observed that team work is a strength and morale high. It also stressed that leadership by the head teacher and senior management team was outstanding, with leadership good at all levels and communication within the school excellent. It concluded that the school shared a common commitment to improving the quality of education and that this influenced its culture and climate.

The results support the view that the strong emphasis on academic outcomes complemented and was strongly tied in with the focus on social and affective outcomes and improvement of behaviour.

The 'Improving the Quality of Education for All' Development Project

Improving the Quality of Education for All (IQEA) offers schools a developmental approach, which blends school improvement and effectiveness methods in fostering positive change. This ongoing development and research informed project involves a

large number of schools in England and has been operating for over a decade.[114] The approach involves Higher Education consultants working in collaboration with schools, which have opted to participate in an improvement project. It stresses that much more can be gained if development work is focused around the school's core business of teaching and learning and building a capacity for sustained improvement. Relatively few school improvement projects have been successful in combining both an organisational and a pedagogical focus.[115] IQEA is an example of such an approach.

Two case studies of schools in challenging circumstances, which used involvement in IQEA as a basis for improvement, were described and analysed to provide guidance on strategies likely to be most relevant to other schools in similar contexts. While recognising that each school's circumstances are to some extent individual and unique, an approach that is relatively systematic and strategic has been outlined. A framework, which comprises six related elements, is described.[116]

- The school sets itself a *clear and unifying focus for its improvement work*. A direct emphasis on the standard of student attainment and learning underpins all the school's development work and is used to marry together all the various initiatives that schools are engaged in.

- *The collection of data on its performance* is identified as a precursor to initiating an improvement strategy.

- *A School Improvement Group (SIG)* is identified at an early stage representing a cross section of staff views, experience and seniority to carry forward the school's development agenda. The SIG receive training in classroom practices most crucial to achieving the school's development goals. *The focus of training is on teaching strategies most appropriate to the learning needs of the students in the school.*

- There is considerable emphasis on *staff development* and this is likely to include*:*
  - Whole staff in-service days on teaching and learning and school improvement planning, as well as curriculum tours to share the work done in departments or groups
  - Inter-departmental meetings to discuss teaching strategies
  - Partnership teaching and peer coaching
  - The design and execution of collaborative enquiry activities, which, by their nature, are knowledge–generating.

It is argued that when these types of staff development are in place, schools find their cultures become increasingly collaborative and the development of a professional learning community within the school is facilitated. The study of

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[114] Hopkins, Ainscow & West (1994); Hopkins (2002)
[115] Harris (2000)
[116] Hopkins (2001)

IQEA schools suggests that a whole school emphasis is required to promote consistency of practice and high expectations.[117]

The development of *organisational capacity* is at the core of the IQEA model and is identified as especially relevant to schools facing challenging circumstances. More successful schools set priorities that are:

- Few in number;
- Central to the mission of the school;
- Relate to national reform requirements;
- Link to teaching and learning;
- Lead to specific outcomes for students and staff.

Many school improvement initiatives have been criticised for limited approaches to evaluation.[118] Evaluation requires the development of *adequate baseline measures* of student achievement and school and classroom processes *prior* to the introduction of changes, as well as the collection of information during the course of a project in order to gauge likely impacts on a range of relevant outcomes. Several authors have highlighted the need for sustained interactivity between the school effectiveness and improvement fields, and for more rigorous evaluation of different school improvement strategies to test their impact. [119]

An example of an evaluation of a school improvement initiative that sought to build on the SER knowledge base is described to illustrate some important features that can either facilitate or hinder implementation and thus influence the chances of successful improvement.[120] This used a range of sources of evidence in evaluating the impacts of the three year *Making Belfast Work Raising School Standards* (MBW RSS) project which involved four secondary schools and ten feeder primaries identified as having low attainment, poor attendance and serving highly disadvantaged communities in the city of Belfast. The main aim of the project was to provide additional support and resources to schools with the overall objective of raising standards of attainment and behaviour. The MBW RSS project combined external advice and guidance in seeking to develop participating schools' capacity to improve. It thus tried to integrate both a 'top down' external approach to improvement, with the encouragement of 'bottom up' strategies developed within individual schools. It is an example of a loosely coupled approach that allowed considerable autonomy to schools, in contrast to other programmes that are far more specific and tightly structured and prescribed.

The provision of significant additional resources (£3 million+ over 3 years, 1994-7) was widely welcomed and there was much evidence that the MBW RSS experience was beneficial in promoting curriculum and staff development in participating schools and that this had led to substantial improvements in the quality of teaching and learning. Better resources, improvements in facilities, greater staff collaboration, the

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[117] Hopkins (2001) p.5
[118] Barber & Dann (1996)
[119] Creemers & Reezigt (1997)
[120] Taggart & Sammons (1999, 2000)

development of networks of schools, the input of Local Authority Advisors, smaller classes and more teacher time for planning were seen as particularly positive developments resulting from the initiative. Improvements in schools' capacities for Action Planning, and monitoring and evaluation were marked. All schools laid greater emphasis on monitoring student attainment after the three-year initiative. These achievements indicated that in many cases, schools had developed their organisational capacity, as well as developing a range of pedagogical strategies to improve learning and teaching in the classroom.

The role of the Local Education Authority (BELB) particularly of its Advisors, and of a co-ordinator within each school were important in developing expertise in Action Planning, monitoring and evaluation. The provision of opportunities and resources for teacher development and collaboration between schools, particularly in the areas of reading and numeracy, provided catalysts for change. The role of the Principal in supporting and prioritising change was found to be crucial, where leadership and management remained weak, improvements were less obvious. A change of Principal was identified as an important stimulus for positive change in several institutions.

Barriers to improvement included the relatively short (3 year) time scale of funding, a hurried start leading to rushed plans in year one, over ambitious and unspecific Action Plans in year 1, lack of advice on collecting baseline measures at the start of the project, and the public naming of the four secondary schools as lowest achieving institutions in the press at the start of project leading to low staff morale. Lack of support by the Principal or a divided SMT had an adverse impact on the extent of change in some schools.

A number of specific factors were found to have helped school co-ordinators to implement their Action plans:

- Having the co-operation and support of other staff;
- Allocation of time for the school's project co-ordinator to work on the improvement initiative;
- The RSS improvement project receiving high priority from the Principal and SMT;
- Linking the school's development programme to the Action plan;
- A small number of clear and focused goals;
- Developing methods of monitoring and target setting;
- Keeping staff informed of developments and progress through regular meetings;
- Work at the start which had an immediate and visible impact on the school (e.g. re-decorating and re-equipping rooms, the introduction of new books and resources etc);
- Providing high quality in-service courses for staff;
- Sharing expertise with other schools and advisors through creating networks.

Some practical messages and implications for policy makers and practitioners were identified from the evaluation. Policy makers (in this context Local Education Authority Personnel) should consider their role in supporting, monitoring, evaluating any individual schools' specific 'successes' from the outset.

School Leaders (Principals and SMT) should be encouraged to develop Action Plans, which are set within a realistic time span, with a small number of specific and measurable goals. Building on existing school developmental frameworks can often maximise success where an 'audit' of good practice has already been conducted. In MBW RSS using action planning as an effective management tool was seen to have enabled advisors to work with principals and co-ordinators in schools on monitoring and evaluation and 'how you tie in finances and resources to your objectives'.

The results indicated that teachers (both primary and secondary) should be encouraged to focus on improving the quality of teaching and learning through collegiate planning, shared subject knowledge and development of a range of approaches to pedagogy. Opportunities for high quality staff development in specific areas of the curriculum and in different teaching practices are needed to improve the students' classroom experiences. A strong emphasis on gathering information on both students' baseline and outcome measures was identified as necessary in order to target resources effectively and to monitor progress. Developing literacy and numeracy skills were found to be successful in enhancing students' access to the wider curriculum in primary schools and the first year in secondary school.

The role of external evaluation in providing feedback to the LEA and to participating schools can assist organisational learning. The experience of the MBW RSS initiative illustrates the importance of working simultaneously on both organisational and pedagogical approaches to improvement, the need for adequate time scales and resources (staff and financial) and the role of planning and monitoring in achieving successful change.   In contrast to more tightly constructed approaches, the impact on student outcomes, especially on attainment and behaviour, was weak.

High Reliability Schools

The 'High Reliability Schools' (HRS) concept was created in the mid-1990s as an answer to global calls for school reform, in which many other projects had failed. Its web site provides a wide range of resources and reviews of key bodies of knowledge in a format accessible to practitioners.[121] It is an example of a strongly prescriptive, tightly structured approach seen to be particularly relevant to schools in challenging circumstances with a history of low attainment.

The HRS project was first implemented in schools in the UK in 1994. A highly reliable school (HRS) encourages the success of all of its students' learning and public examination performance through support, feedback and evaluation. High Reliability Schools depend upon research-based significant bodies of knowledge to assure instruction effectively supports student learning. The most important bodies of

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[121] http://www.highreliabilityschools.co.uk/Shared/Home.aspx

knowledge in this area are: teacher effectiveness, school effectiveness, middle management effectiveness, teacher professional development and enquiry, data-richness, specific intervention and school improvement. The fundamental characteristics of HRSs are a school-wide focus on a small number of goals, combined with a commitment to implement any reform with unusually high reliability. Specific reforms may be chosen by the faculty and administration either through an examination of prior research, or through analysis of "best practice".

In HRS schools, the efforts of its administration, teachers, and students focus on developing a limited number of core activities that have demonstrated consistent, high levels of student learning. The school also encourages support and commitment from parents and agencies for the goals of the school. To attain these consistent high levels of success, the HRS school faculty includes in their core goals a commitment to high levels of student attendance and support and expectation for the academic success of all students. The inclusion of these two goals is based on repeated research findings that students learn best when consistently attending a school that expects the students' best efforts academically. To support these goals, the HRS school works to create standard operating procedures (SOPs) and a system of monitoring these procedures to assure the school is reliably working to attain the goals. A system is also established to assess the effectiveness of the standard operating procedures and for identifying flaws in them and validating appropriate changes.

The ABC+ Model – is intended to provide a context sensitive, diagnostic and feedback model for school improvement that was developed after extensive study of relevant school, teacher effectiveness and school improvement literature. The model was developed to fill an unmet need for school process data by providing individual schools and districts with a mechanism to support evidence-based attempts at change in the absence of, or in addition to state or district-administered accountability systems for gathering process data at the classroom, grade/department, and school levels and for interpreting and applying that data to the development of context-specific school improvement planning that is driven by best practices in school effectiveness research and staff development research.[122]

Specific Reform Strategies: The Literacy and Numeracy Strategies in England

There is growing agreement that to promote improvement, schools should address "proximal variables", particularly curriculum, instruction and assessment which emphasise student outcomes.[123] The introduction of the National Literacy (in 1997) and Numeracy (1998) strategies (later termed National Primary Strategy) in primary schools provide two major examples of Government led reforms in England, which sought to focus explicitly on these proximal variables. Both these high profile

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[122] Teddlie, Kochan & Taylor (2000)
[123] Muijs & Reynolds (2000)

strategies drew extensively on school and teacher effectiveness research in developing their approaches. They have a strong classroom focus and involve a structured approach to teaching, with considerable in-service development, and led to the introduction of both a daily literacy lesson and a daily numeracy lesson in the vast majority of English primary schools. The government provided a clear focus, high level of resources, high profile attainment targets and an ambitious professional learning programme and high quality detailed materials linked with a recommended three part daily lesson format and an emphasis on interactive, whole class teaching. Expertise was located at both regional and LEA level with consultants, coordinators and expert and leading teachers providing support to schools on the basis of perceived need and linked with results and rate of improvement in results.[124]

A clear rising trend in students' attainments in national assessments in English, numeracy and science at Key Stage 2 (age 11 years) occurred after their introduction, though with some plateauing from 2001-2003, as is illustrated in Table 4, which shows results over the first 10 years.[125] Michael Fullan led the team that externally evaluated the NLNS strategies in England and has explored the policy lessons for Canada.[126] It is not possible to draw firm causal connections about the changes from the evidence of improved results. However, in combination with independent inspection evidence indicating important widespread improvements in teaching and learning in literacy and numeracy in primary schools, and the results of independent evaluations, the evidences are strongly suggestive that these reform strategies were indeed highly influential in raising standards. Nonetheless, their impact is likely to have been facilitated by the broader accountability and standards based reforms and context in England (particularly the combination of a national curriculum, assessment, and inspection framework, increased allocation of resources, professional development and changes in initial teacher education and training).

It is relevant to compare the impact of a more recent educational reform focussing on the promotion of network learning communities as a means to promote professional development and raise standards of pupil learning and achievement, the Network Learning Communities initiative (2002-206) led by the National College for School Leadership (NCSL) in England. While generally positively viewed by participants in terms of its role in fostering improvement in teaching and learning, and professional development and capacity building, it was less positively rated by those involved as a means to improve student outcomes in terms of attainment or behaviour. [127] The evaluation was generally favourable but provided little evidence of significant improvement in pupil attainment in schools involved in comparison with the generally rising trend.[128] The results support findings from SER and the study of school improvement programs that a limited series of goals and clear focus on student outcomes is needed to promote sustained improvement. Loosely structured and

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[124] Earl, Watson, Levin, Leithwood, Fullan & Torrence, (2003)

[125] See the evaluation of the literacy and numeracy strategies Earl et al (2001) and The Chief Inspector's Annual Report Ofsted (2001)

[126] Fullan (2002) p.5

[127] Sammons et al (2007b)

[128] See the external evaluation by Earl et al (2006) and the analysis of impact on attainment by Sammons et al (2007b)

flexible programmes tend to show little impact on outcomes in comparison with more focussed, research based approaches.

Table 4 National trends in Key Stage 2 Results over 10 years showing percentages for all students achieving Level 4 or above and Level 5 or above (English primary schools)

Level 4 or above	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005**
English	58	63	65	71	75	75	75	75	78	79
Mathematics	54	62	59	69	72	71	73	73	74	75
Science	62	69	69	78	85	87	86	87	86	86
Level 5 or above*										
English	-	-	17	22	29	29	29	27	27	27
Mathematics	-	-	17	24	25	25	28	29	31	31
Science	-	-	16	27	34	34	38	41	43	47

*Percentages for level 5 or above are not available for years 1996 to 1997

In order to draw conclusions about the enhancement of equity it is important to establish whether the attainment gap between schools that serve more and less disadvantaged communities, has narrowed. There has been a significant upward trend in the national assessment results of primary schools at Key Stage 2 from 1996 to 2004 in each FSM band (an indicator of level of disadvantage). The improvements in levels of pupil attainment has been greater for schools serving more socio-economically disadvantaged pupil intakes indicating some closing of the attainment gap (an increase of 29% for schools with above 50% students on FSM, compared with 14% for the most advantaged group of schools) as shown in Table 5. Further Government analyses of changes over 1998 to 2005 also confirm that improvement rates have been larger in high FSM schools. However this also finds that within high FSM schools, those pupils not eligible for FSM (i.e. the relatively more advantaged) still tended to have shown more improvement. Thus the evidence on equity is mixed, showing significant and strong improvement for all groups but relatively little closing of the attainment gap.[129]

Table 5: Improvement in Key Stage 2 English results 1996-2004 by Level of Social Disadvantage of Pupil Intake measured by eligibility for free school meals (FSM)

School FSM Band	Key Stage 2 English % Pupils attaining Level 4		
	1996	2001	2004
8% or less	74	87	88
8+ to 20%	64	78	81
20+ to 35%	51	69	73

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[129] DfES (2006)
http://www.dfes.gov.uk/rsgateway/DB/STA/t000657/SocialMobility26Apr06.pdf

35+ to 50%	41	61	67
Above 50%	34	57	63
Total	60	78	81

The long-term impact of the National Primary Strategy in England (as the NNS and NLS are now integrated) requires further investigation, particularly for disadvantaged and vulnerable groups of students, however the results over the last decade are promising. In light of US evidence, it might be expected that such approaches would be of particular benefit to disadvantaged groups.[130] Research on mathematics teaching has shown that the benefits of interactive whole class teaching are greater in classes where there were higher proportions of low ability and disadvantaged students. It concludes that structured teaching methods are most effective for teaching basic skills and that more disadvantaged students benefit most from such approaches at the primary level.[131]

The improvement and relatively high attainment of English students at age 11 in reading (ranked third) in the PIRLS 2001 comparisons provides external indicators of improvement and supports conclusions concerning the positive impact of the national literacy strategy. For mathematics and science international comparisons in the TIMSS 2003 international survey likewise suggest there has been significant improvements in attainment levels of primary pupils at Grade 4 in England in maths, it is likely that this reflects the impact of the National Numeracy Strategy in primary schools, at least in part and accords with the improvement recoded in national assessment results at the end of Key Stage 2 shown earlier. England showed the most improvement in maths results between 1995 and 2003 of all countries at Grade 4. Science attainment levels remained high at both Grade 4 and Grade 8 in comparison with other countries. Mathematics results at Grade 8 however show little sign of relative improvement and are below those of reference countries. It should be noted that the Grade 8 pupils in the 2003 survey would not have experienced the National Numeracy strategy in their primary education.

Maths – TIMSS 2003 Key results

England average   531
International average   495
Comparison group average 532

From 1995 to 2003 England's performance increase was much larger than the average change in comparison countries moving from below average to above average.

Other relevant policy developments have sought to build on the potential benefits of providing schools with better performance data and have drawn on the SER knowledge base. Various developments to facilitate schools' use of performance data have taken place in the UK during the last decade, particularly in England, with

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[130] Ross, Smith & Casey (1999)
[131] Muijs & Reynolds (2000)

annual analyses of national, LEA and individual school data, including interactive web based resources such as the Pupil Achievement Tracker (PAT) subsequently RAISE on line, intended to support self-evaluation and review the use of data to inform the improvement process.[132] These data based resources, have a particular emphasis on promoting equity by encouraging schools to monitor the progress of different student sub-groups and advocates student target setting.[133]

Comprehensive School Reform (CSR)

CSR models have received considerable attention and investment in the US. They are school improvement programmes that have been specially developed and tested and are intended to be replicable in different contexts. Funding and training are key components along with a high level of school staff commitment to the programmes. A major authoritative meta analysis of CSR in US drew some important conclusions:

- Across the range of school poverty levels CSR was found to be equally effective in relatively lower and higher poverty schools.
- CRS achievement effect sizes were on average 0.17 in first year of implementation. After the 5th year of implementation achievement advantage doubled, and at 7 years the effect size reached 0.39.
- The strongest evidence of effectiveness was found for three different models: *Direct Instruction, School Development Program,* and *Success for All.* All can be seen as examples of detailed, structured, research based improvement programs rather than loosely structured approaches.

The review concluded that:

- The successful expansion of CSR shows that research based models of improvement can be brought to scale across many schools and varying contexts.
- A long term commitment to high quality evaluation is needed to increase understanding through the identification and study of research proven reform.[134]

Improvement through Inspection

While it is difficult to draw firm conclusions about the influence of different teaching approaches, the introduction of the National Curriculum and associated assessment, particularly teacher assessment, was accompanied by considerable professional development in England during the 1990s. Changes to initial teacher education are also likely to have been important. The introduction of the Framework for Inspection, publications on effective literacy and numeracy teaching and the role of LEA Advisers

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[132] https://www.raiseonline.org/login.aspx?ReturnUrl=%2findex.aspx
[133] For further discussion see Elliot & Sammons (2000)
[134] Boreman et al (2003)

and Inspectors in pre-Ofsted inspection preparation, have influenced teaching approaches and school leadership.[135]

A major evaluation of the impact of Ofsted after its first decade of operation paid particular attention to its role in relation to school improvement. It argued that inspection played an important role in supporting and ensuring the implementation of the national curriculum and assisted the implementation of subsequent national strategies in England. Improvements in the observed quality of teaching have been striking, particularly at the primary level and closely match the trend in improved pupil attainment in English and mathematics, national assessment and examination results over 1996 to 2003. This was seen to be linked the introduction of the national strategies.

Inspection judgements indicate that the quality of teaching in primary schools, has improved steadily from 1994. Inspection data, shows relatively little unsatisfactory teaching (4-5 per cent) in the three years 2000-2003, compared with the incidence in the first two inspection cycles. The proportion of 'good' or better (rather than satisfactory) teaching gives another indication of trends in the quality of teaching. Around three quarters of lessons inspected are now classed as 'good' or better, compared with only 45% in 1996/97.

The Impact evaluation supports the findings of earlier research that inspection frequently played an important role as a catalyst for change and improvement during the period 1993-2003, particularly for weaker schools.[136] Over 1 million students were estimated to have benefited from improvements in the quality of education provided by schools which moved out of special measures (now termed notice to improve) and substantially larger numbers are estimated to have gained from improvements to schools formerly classed as in serious weaknesses. Table 6 gives details of the numbers of schools identified as requiring special measures over a 10- year period. Overall more than 85 per cent improved, with improvement being more common for primary schools (nearly 90%) but less common for Pupil Referral Units (PRF).

Table 6: Outcomes of 'Special Measures' (SM) over 10 years

|	Primary		Special		Secondary		PRUs		Total	
	N	%	N	%	N	%	N	%	N	%
Removed from SM	799	89.6	114	77.0	167	76.6	18	60.0	1098	85.3
Closed	93	10.4	34	23.0	51	23.4	12	40.0	190	14.6
Total	892		148		218		30		1288	

As noted earlier, inspection evidence also suggests that improvement is more evident for weaker schools. Further comparisons reveal a marked reduction in the proportion of lessons judged to be unsatisfactory or poor in the vast majority of primary schools after coming out of special measures. Figure 1 illustrates the improvement in teaching observed in SM primary schools.

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[135] Sammons et al (2004)
[136] Gray J (2000)

Figure 1: Percentage of unsatisfactory or poor teaching in lessons in primary schools going into special measures and from all that were inspected in 2002/03 two years after coming out

Lessons from S10 inspections when schools went into special measures

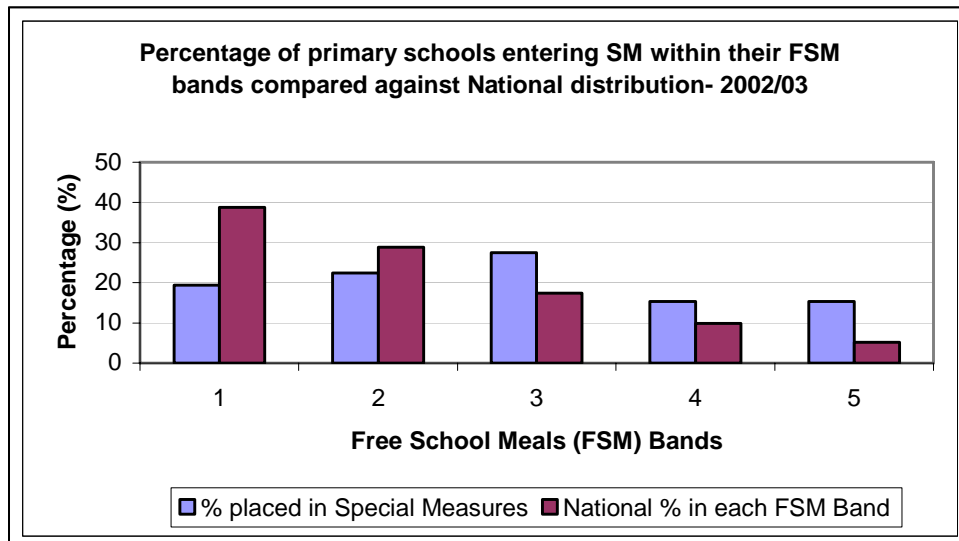Lessons from S10 inspections two years after coming out of special measures
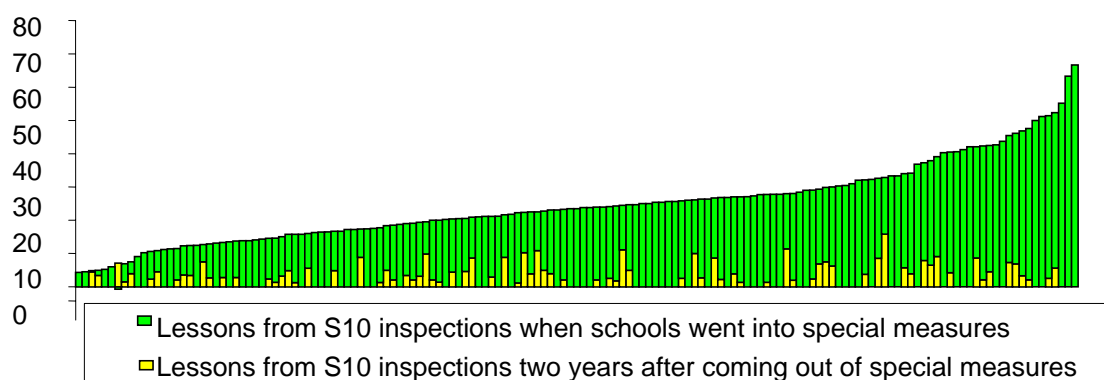
The pattern for secondary schools in terms of judgements of teaching quality was before and after entry into and removal from special measures was very similar to that shown for primaries again indicating significant reductions in the incidence of unsatisfactory or poor teaching.[137] The evaluation provided similar evidence on the extent of improvement in standards in terms of public examination results at age 16 using the 5A*-C benchmark for secondary schools placed in special measures when they went into special measures and compares these with those two years after coming out for the period 2000-2003. Of the 22 secondary schools concerned, only 3 failed to show an improvement in attainment levels, the extent of improvement in attainment which was substantial in over half the cases. Analyses revealed a similar pattern in relation to improvements in primary schools' Key Stage 1 and Key Stage 2 national assessment results.

Proportionately more schools placed in special measures serve socio-economically disadvantaged intakes (Figure 2). Nearly 40% of schools are in the lowest (most advantaged) FSM band, but they represent only 20% of schools placed in special measures. By contrast, schools in the higher FSM bands (4 and 5) are over represented in the special measures group. Nonetheless, the majority of high FSM schools are not placed in special measures.

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[137] Matthews & Sammons (2004; 2005)

Figure 2: Primary schools' FSM band and Special Measures status

Percentage of primary schools entering SM within their FSM bands compared against National distribution- 2002/03

It can be argued that, in combination with other system wide initiatives, particularly the combination of a national curriculum and assessment framework, and from 1998 the national strategies, inspection has played an important role as a lever for school improvement. At the primary level there is evidence of some closing of the attainment gap between schools serving the most disadvantaged pupil groups, at a time when pupil attainment levels have risen overall. At the secondary level there again have been improving trends across all types of school, irrespective of level of disadvantage of pupil intakes but as yet little sign of a closing gap. A review of the improvement of weaker schools in England drew on the Ofsted evaluation evidence and highlighted the importance of leadership for the improvement of schools in special measures.[138] An example of the typical improvement trajectory of a school placed in special measures is shown in Figure 3.

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[138] Matthews & Sammons, 2005

Figure 3: Example of a typical improvement trajectory for a school in special measures [139]
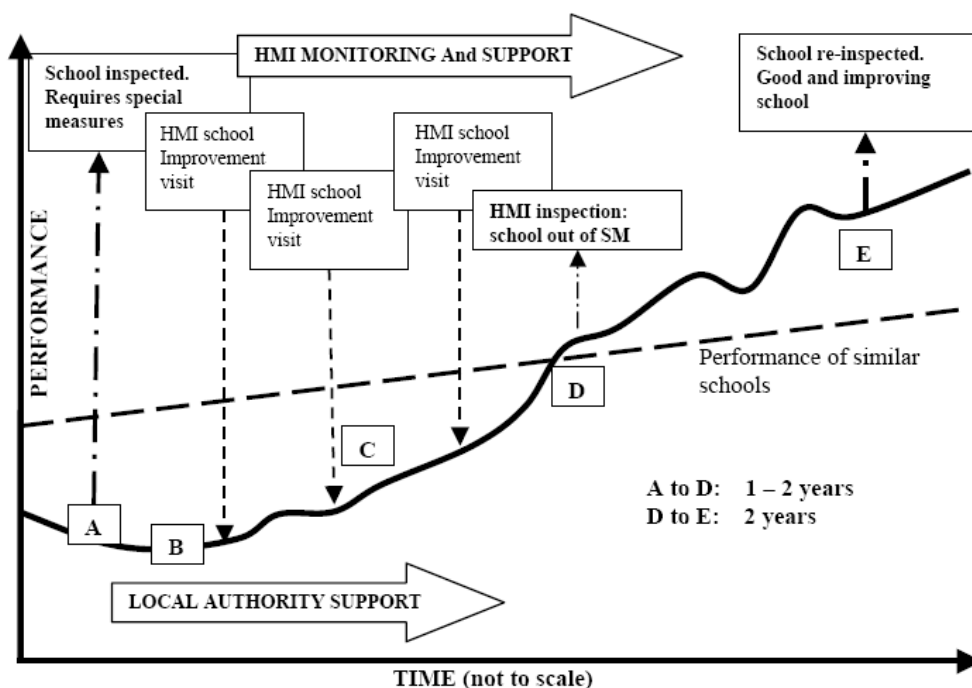

Figure 2.   A typical improvement path of a school in special measures

The public identification of weak or failing schools has proved highly controversial in England and elsewhere. It is argued by some that this is unhelpful adding to staff distress, making it harder to recruit new staff where shortages exist and demoralising parents and students adding to problems of falling rolls and budget deficits.[140] Nonetheless, the identification appears to act as a much stronger catalyst for positive change in most instances (indeed special measures schools improve at a faster rate than those placed in the lesser serious weaknesses category). Some schools indeed even claim that the identification was needed to bring staff together to recognise the problems and need for change. [141]

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[139] After Matthews & Sammons (2005)

[140] Touchton, & Acker-Hocevar (undated) Acker-Hocevar & Touchton (undated)

[141] Ainscow & West (2006)

Summary and Conclusions

This paper has explored the knowledge base of SER developed over the last three decades and identified some of the issues involved in measuring effectiveness and identifying more effective, or, by contrast, less effective schools. It provides guidance on the best ways to encourage fairer comparisons and shows how SER has been used to criticise simplistic 'league table' approaches to accountability and comparisons of performance by demonstrating the powerful role of intake. Key features of SER and their implications for the promotion of greater equity in education and social inclusion have been noted. School effectiveness is seen as a *relative* concept, which is both outcome and time dependent. It does not seek to measure the impact of schooling as a whole, instead it examines differences in the impact of one institution in comparison with another, taking account of intake. It is recognised that there can be internal variation in effectiveness at the department or class level, and teacher effects tend to be substantially larger than school differences.

- Rather than attempting to define 'good' or by implication 'bad' schools, SER focuses on the narrower concept of effectiveness;
- Promoting progress is seen as a fundamental purpose of all schools;
- Effectiveness is a necessary but not sufficient condition for any acceptable definition of a 'good' school;
- School effects are generally larger for disadvantaged and ethnic minority students;
- A focus on students' social and affective, as well as cognitive, outcomes is necessary to obtain a rounded picture of effectiveness;
- A number of common features of effective schools and effective teaching have been identified in research conducted in a range of countries;
- SER provides an important evidence-base on the correlates of effective schools and teachers and has stimulated school improvement initiatives at national and local level;
- The SER knowledge base is particularly relevant to schools serving socio-economically disadvantaged communities;
- Schools serving disadvantaged groups face additional challenges and require additional support for improvement. The development of leadership capacity and a focus on the core purposes of teaching and learning and creating a safe, supportive orderly school climate with high expectations are essential features;
- Pre-school provides children with a better start to school and is particularly important in improving attainment for low SES pupils.[142]
- For the most vulnerable groups of pupils intensive, high quality, structured and targeted interventions are needed at an early age.

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[142] Sylva et al (2004)

Many school improvement initiatives are poorly conceptualised in the precise ways in which they might impact upon learning in the classroom.[143] Although examples of organisational and curriculum reform are common in many education systems few specify in detail how changes are intended to influence student learning at the classroom level.[144]

It has been claimed that education reform in many systems could learn much from the SER tradition and evaluations of school improvement. Although it is recognised that reform does require sufficient extra resources committed over several years, these must be linked to clear plans for improvement based on the best available evidence. Policy alignment needs to be both vertical and horizontal, with a focus on supporting instructional goals and strategies. [145] The evidence summarised in this paper points to the need for careful and realistic planning, clear and limited goals that are student outcome directed, and for a strong focus on organisational and pedagogical change simultaneously in order to achieve positive effects. The findings also indicate that most successful improvement programmes require clear and proactive leadership and focus on changing school culture, in particular.

In examining evidence of educational improvement in England, as part of an international comparative project based on systems with high performance in international comparisons, research leads to the conclusion that a 'cocktail effect' of national curriculum, national assessment, financial devolution, inspection, increased professional development and changes to teacher education, later supported by national strategies and development of curriculum and assessment resources and materials has promoted substantial school improvement and raised attainment levels in England over the last 15 years.[146] The result of an evaluation of the impact of Ofsted over the last decade indicates that it has played an important role in raising standards and promoting improvement. Identification and action triggered by the identification of special measures status has acted as a particular catalyst for the improvement of the weakest schools judged to be failing to provide an adequate education for their students and this has benefited disadvantaged pupils especially, because they are over represented in such schools.[147] The provision of additional resources and special help for schools in challenging circumstances to recruit and retain experienced teachers is also required when national shortages of teachers are experienced. We must recognise that blaming teachers or schools is not the best way to motivate professionals to improve while accepting the need for public accountability. There remains evidence in many systems that schools in disadvantaged areas have greater difficulties in attracting and retaining staff and that teacher quality issues may contribute to the poor outcomes and reduced effectiveness. In the US it has been found that significantly fewer teachers in high poverty schools have more than three years experience and that they are likely to be inadequately prepared for the challenges in teaching in such schools.[148]

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[143] Harris (2000)
[144] Earl et al (2003)
[145] Hopkins & Levine (2001); Hopkins, Reynolds & Gray, 2005)
[146] Sammons (2004; 2006)
[147] Matthews & Sammons (2004, 2005)
[148] National Partnership for Teaching in At Risk Schools (2005)

An innovative example of a large-scale comparative study of the Features *of Successful School Systems* studied six countries (Canada, England, Finland, France, the Netherlands, Sweden) with high results in PISA 2000 and adopted a framework for the review of national/ state education systems that was informed by the SER tradition. The study was funded by the German Federal Government and was a response to recognition of its poor performance in the PISA 2000 international survey. The DIPF led the consortium and expert consultants wrote individual country reports on the main features of their system. A cross country case study comparative analysis of similarities and differences of the six countries and of Germany drew attention to the benefits of pre-set educational standards (partly linked to a national curriculum) increased responsibility for schools combined with regular evaluations or centrally determined tests. These features may be seen to characterise 'standards based reforms'.[149]

Research has shown that there are important connections at the student level between academic achievement, motivation, behaviour, attendance and self-esteem. These links are often reciprocal, poor attainment increasing the risk of subsequent poor behaviour and attendance and vice versa.[150] There are strong arguments for focusing on these links in improvement initiatives since programmes which address only one aspect in isolation (be it academic achievement, attendance, behaviour or self-esteem) are liable to have less impact in the long term. Focussing on students' experiences and views of school and increasing the involvement of students and parents are important foci for school improvement projects and initiatives designed to promote social inclusion.[151]

Action planning and monitoring are valuable tools for school improvement to help evaluate performance, set targets, assist in school development planning and provide evidence of any impact. [152] SER provides a basis for fairer evaluations and interpretations of school performance because it both acknowledges and seeks to control for the impact of differences in the characteristics of student intake served and so helps to ensure 'like with like' comparisons. Developing robust measures of student progress and other educational outcomes can provide a valuable input into school improvement initiatives and assist in monitoring their success over time. Measurements and comparisons on their own cannot engender change, but taken together with information from professional judgements, provide a sound basis for institutional self-evaluation and a catalyst for action. It can complement and extend evidence based on school visits and professional judgements by inspectors. The need to raise expectations and monitor the educational outcomes of different groups, especially those from socio-economically disadvantaged and ethnic minority backgrounds and those with low levels of initial attainment, is important, given the strong links between students' educational outcomes at age 16 years and their later life chances. In the US, it has been argued that schools need to evolve into 'High Reliability Organisations' (HROs), particularly in relation to the education of 'at risk' and disadvantaged students.[153]

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[149] Dobert & Sroka (2004)
[150] Rutter et al (1979); Reynolds (1982); Mortimore et al (1988); Smyth (1999)
[151] Riley et al (2000)
[152] Fitz-Gibbon, (1996) Elliot, Smees & Thomas (1998)
[153] Stringfield (1994)

School effectiveness and improvement literature highlights the importance of school (and in secondary schools, departmental) culture. The impact of key individuals, often the principal, in promoting the change process is also evident. A clear focus on a limited set of aims shared by staff is associated with more successful improvement initiatives, in particular increasing the school's focus on the teaching and learning process. Linking whole school planning and specific classroom pedagogical approaches to improvement is likely to have a greater impact on student outcomes than strategies, which focus on just the school or on just the classroom level in isolation.

Messages from research, development projects and evaluations suggest that by focussing on school culture, addressing the quality of teaching and learning and by monitoring students' academic progress and their social and affective outcomes, schools can work towards improvement. It must be recognised that successful school improvement cannot be externally mandated but involves careful and realistic planning and the conscious commitment and involvement of teachers and managers in schools.

> '*A general lesson for all school reform is that teachers cannot operate effectively to change classroom behaviours without concrete supports to guide their efforts, and time to learn and assimilate new behaviours. Schools cannot hope to accomplish the changes envisaged by the designs, unless the implementation strategy supports all the staff and enables them to work together toward reform…Long-term commitment by teachers was developed over time in a working relationship where a team and a school staff interacted with each other towards common goals. Strong assistance toward change, concrete models, coaching, and time produced change and, therefore, more commitment'.* [154]

A recent review of large-scale educational reform has some implications for the school improvement knowledge base. It sought to identify the factors that support and those that inhibit reform and draws attention to the importance of policy coherence, reforms becoming part of daily work, teacher motivation and organisation and teacher capacity and the extent of support from government agencies and LEAs/School Boards or districts.[155]

Policy makers can assist if they provide a helpful external context and support, particularly for schools facing the greatest challenges. An emphasis on external accountability, and the identification of under-performing schools appears to act as a catalyst for change and may be necessary to promote public confidence in the quality of the education system. However, the development of institutional capacity and promotion of self-evaluation and review based on evidence from school effectiveness and school improvement research findings, coupled with the availability of

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[154] Stringfield, Ross & Smith (1996), p 320
[155] Earl, Watson & Katz (2003)

performance data, contextualised information about student attainments in comparison with similar schools and value added approaches, are needed to support improvement.

In an analysis of the positive effects of schooling it has been concluded that: '*Although the differences in scholastic attainment achieved by the same students in contrasting schools is unlikely to be great, in many instances it represents the difference between success and failure and operates as a facilitating or inhibiting factor in higher education. When coupled with the promotion of other pro-social attitudes and behaviours, and the inculcation of a positive self-image, the potential of the school to improve the life chances of students is considerable'.* [156]

Similarly it is right to be concerned with school processes and the experience of school as important in their own right for both students and those who work in schools, as well as to seek to investigate their influence on educational outcomes and potential for increasing effectiveness. In some schools students may feel scared, unhappy and lonely. They may be bored because the work and curriculum may be regarded as dull, lacking in challenge or perhaps irrelevant. Other schools, by contrast may be experienced as safe, warm, caring institutions, work may be appropriately challenging, interesting and exciting, the curriculum and teaching approaches varied, and students feel they are well prepared for life beyond school, future learning and employment.

Though schools certainly matter, health, housing, income and the home learning environment remain powerful influences and 'joined up' policies aimed at combating social exclusion are called for. Multi-agency approaches are receiving increasing attention in a number of countries with the development of full service, extended and new community schools. It has been concluded that '*significant educational reform is more likely to occur when school and home are jointly addressed*'[157]

The way school influences may either reduce or alternatively compound the powerful impact of social disadvantage requires further investigation by SER. In particular evidence in many systems indicates that disadvantaged students are over-represented in schools that are judged to be poor in quality (for example, by inspectors' professional judgements) and found to be less effective (in value added terms) when intake differences are controlled) is a major challenge that is beginning to be addressed in some systems (for example the London Challenge in England has focussed on identifying and supporting Key to Success secondary schools as part of a London wide strategy to improve attainment levels and educational opportunities.[158]

Education cannot remedy social exclusion by itself but remains an important means of implementing policies intended to combat social disadvantage. Interestingly the biggest estimated impact in the research tends to be in early years schooling and the smallest in secondary. [159] The social empowerment argument is a vital one, because

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[156] Mortimore (1998) p.143
[157] Hopkins, Reynolds & Gray (2005) p.6
[158] Matthews et al (2006)
[159] Hopkins, Reynolds & Gray (2005) p.22

over three decades of SER research suggests that the life chances of students from socio-economically disadvantaged backgrounds in particular are enhanced by effective schools, those which foster both cognitive progress and promote social and affective outcomes including motivation, self-esteem and student involvement.

The demands on schools in the 21st century are increasing and coping with the rapid pace of change will remain a major challenge. Education is seen by Governments in many countries as the key change susceptible to policy influence and essential for both economic prosperity and social cohesion. Schools are thus subject to much greater pressures for accountability and improvement, especially in educating students from disadvantaged backgrounds. SER is seen almost as a threat by some because of the explicit focus on students' outcomes and the outcome focus remains a source of criticism by some in education who prefer to focus on the role of social structure and/or of school processes. Nonetheless, those in the field believe that disseminating the knowledge base should be viewed more positively as an important means of empowering principals and teachers to reflect on their practice and stimulus for improvement efforts. School improvement can be seen as a major focus for all schools, not just those in difficulties. Widening educational opportunities and equity and improving students' attainment levels and social and effective outcomes is essential to promoting active citizens capable and motivated to participate in a democratic society.

This review suggests that the International Congress for School Effectiveness and Improvement (ICSEI) continues to have an important role to play in bringing together educators and researchers to link research, evaluation and development evidence in the co-construction of knowledge about the characteristics and processes that promote effective schools, the influence of context, the most promising strategies and approaches to promote and sustain improvement and the extent to which the existing school effectiveness and improvement knowledge base travels internationally. SER's early roots reveal a strong equity focus and moral concern to improve the quality of education for disadvantaged students. Systematic evaluations are needed to identify the best improvement programmes and ICSEI should do more to promote better evaluation and evidence based reviews.

The MORE network set up at ICSEI 2005 is developing an international instrument for teacher observation (ISTOF) that seeks theoretical and methodological advancement of the field through more rigorous and democratic comparative studies involving a wider range of countries. The greater use of inspection evidence and joint research projects is likely to become a fruitful area for further development of SESI approaches. Other developments to watch during the coming years include the role and impact of different collaborative arrangements such as networking, school federations, consultant leaders, and specific programmes designed to enhance leadership capacity of senior management teams and middle managers.

It is predicted that, over the next decade, policy makers and practitioners will increasingly recognise the benefits of using research evidence to improve the focus on teaching and learning and to promote a supportive school culture for both staff and students. The growing links between school effectiveness and improvement research and development work, and the increasing emphasis given to their findings

by policy makers and practitioners may be regarded as a source for guarded optimism for the future. The importance of comparative research in different countries and contexts is vital to improving the evidence base and increasing understanding of the most appropriate policy levers to promote improvement and increase equity in educational outcomes.

This review of SER and the implications for school improvement suggest that greater emphasis needs to be given to developing policies and creating schools systems that:

- Focus on learning and promote the ongoing professional development of practitioners and the development of organisational capacity;
- Foster collaboration and create a positive culture for learning with high expectations;
- Match accountability pressure by support for schools (professional, & in curriculum, financial and material resources);
- Recognise that schools serving disadvantaged communities need extra support to attract and retain good teachers and leaders;
- Make the recruitment of disadvantaged students financially attractive to schools so promoting more balanced intakes;
- Ensure that planning for improvement is seen as the norm, encourage reflective practice and institutional self-evaluation;
- Maintain an emphasis on fostering students' progress and promoting other important affective and social behavioural educational outcomes and recognise that the two are complementary
- Monitor equity in outcomes for different student groups and focus on reducing the achievement gap, with greater attention to the benefits of early intervention;
- Do not regard widespread failure for specific student groups as inevitable and ensure that disadvantage groups are offered the highest quality educational experiences;
- Celebrate, study and spread successful practice;
- Use both research and inspection evidence to promote improvement;
- Recognise that schools do make a difference, that good teaching matters and that we already know much about strategies and practices, which foster success for all students.

This paper is not intended to suggest that SER is a universal panacea which can be applied to eliminate all educational ills, but seeks to summarise and make more widely accessible the current knowledge base and its potential as a resource for practitioners and policy makers seeking to bring about improvement. It provides an illustration of how this tradition of enquiry can inform, empower and challenge educators to make schools more successful for more students more of the time. The challenge for the future remains for countries to improve educational access and enhance the quality of education experienced by all students but particularly that of 'at risk' disadvantaged and minority student groups, to promote greater equity in outcomes, enhance life chances and encourage the development of informed, active citizens with the skills and capabilities to face the uncertain and rapidly changing future of societies in a global world.

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