Chapter 1

School Effectiveness: the problem of reductionism

Numbers are autocrats. They command belief. They impress us with their reality. They compel our respect. (David Perkins, 1995:41)

Everything counts, and nothing matters. (Lord Northcliffe, at the start of the 20th Century*)*

Research into school effectiveness has played a central role in setting the agenda for the improvement project in many parts of the English-speaking world. Although in common usage school *effectiveness* and *improvement* are often used interchangeably, the former is, strictly speaking, a statistical attempt to distinguish between more and less successful schools, using correlation techniques to identify reasons for success or failure. In its search for objectivity, it has distorted priorities for development towards outcomes which are most easily measured, placing overwhelming emphasis on test results as the desired goal. The impact of this research genre has been so serious that it is crucial to subject it to rigorous analysis.

A number of critics have pointed towards the reductionism of school effectiveness research. As far back as 1980, in a critique of Rutter's *Fifteen Thousand Hours*, Tony Burgess commented:

> My fear has been that managerial goals are being offered as a substitute for more fundamental debate about curriculum and pedagogy. (Burgess1980:13)

In the same volume, Hazel Francis pointed to its methodological simplification:

> It takes no account of the nature of the situation in which these variables are identified and measured… What we really want to know is how these

[variables] and the many others that we could think of, together with the ecological variables we could identify, are interrelated for a particular child, or for many, in a complex real-life fifteen thousand hours story. (Francis 1980:19-20)

This critique has re-surfaced periodically (e.g. Angus 1993; Grace 1995; White and Barber eds 1997) and recently with increasing strength of argument (Slee and Weiner eds 1998; Morley and Rassool 1999). The aim of this chapter is to draw these arguments together in a systematic way, setting them alongside statements from the principle defenders of school effectiveness, in order to understand the problems with the research paradigm and its impact on policy and practice.

Firstly, I wish to emphasise that I am not denying the existence of a 'school effect'. Even if claims are sometimes overstated, it seems indisputable that some schools achieve much greater success than others in similar environments, in terms of examination success and of a wider sense of achievement. More precisely, the problem lies in understanding adequately:

- *what* counts as success
- *why* some schools achieve more of it
- *how* other schools can become more successful.

The term *school effectiveness* has been in use only since the 1970s, and in Britain since around 1985; it has some international currency, partly due to OECD projects, but not as much as is often claimed. It is only strongly established in Britain, USA and the Netherlands, with firm roots in a few other countries such as Australia, Taiwan and Hong Kong.

> Whereas in German and French speaking countries, a quite broadly defined concept of 'quality' is prominent, the Anglo-Saxon countries prefer the narrower concept of 'effectiveness' which is empirically tangible but consequently limited to only a few of the effects of schooling. (Xaver Büeler, 1998:666)

According to David Hopkins, probably Britain's most established school improvement researcher, school effectiveness research shows:

- a pragmatic response to policy initiatives
- a commitment to quantitative methods
- a concern with the formal organisation of schools rather than with their more informal processes

- a focus upon outcomes which were accepted as being a 'good' that was not to be questioned
- a focus upon description of schools as static, steady-state organisations generated by brief research study. (Hopkins 2001:57)

By contrast, he suggests that the school improvement tradition has a bottom-up orientation, a qualitative research methodology, an emphasis on the dynamics of organisational processes, and a concern to 'treat educational outcomes as not *given* but problematic' (ibid:56). Hopkins' distinction is helpful, though I have serious reservations about his final claim for School Improvement, which has itself been too ready to rely on test results as the prime outcome.

Biology, psychology and education

An interesting precedent for this evaluation of school effectiveness can be found in critiques by Steven Rose and colleagues of attempts to reduce psychology or sociology to biology or physical sciences. He argues that, although scientific method often makes tactical use of simplification (for example, when experimental method seeks to hold other factors constant in order to measure the relationship between a specific input factor and a chosen output) there are dangers if this is taken too far.

Reductionism is a belief that:

> events in high-level sciences can be reduced on the basis of a one-for-one correspondence to events and hence laws appropriate to the lower-level science. (H and S Rose eds 1976: 97)

That book, as also Rose, Kamin and Lewontin (1984), explores topics such as genetic determinism, intelligence testing, behaviourism, and 'biologism' (e.g. the belief that war is simply a manifestation of animal aggression). Building on their analyses, we can categorise some major aspects of reductionism which it is possible to apply to school effectiveness research:

i) a mechanistic causality, including a belief in one-to-one correspondences (which I have called *methodological* reductionism)

ii) a failure to examine environmental influences and effects when tracing causal relationships (*contextual* reductionism)

and in addition, a failure to question:

iii) how ideas develop, and why they become popular at a particular time (*historical* reductionism)

iv)   the theory's social impact (*moral*, or political or teleological, reductionism).

An example: measuring 'intelligence'

These categories may become clearer for the subsequent discussion of school effectiveness by looking at Rose and colleagues' critique of how intelligence has been conceptualised as a single, measurable and innate capacity. Specifically, they examine the writings of Cyril Burt, the first British educational psychologist and the man responsible for applying 'intelligence tests' to select pupils for higher-level schools. (See also chapter 5 of this book.)

Methodological reductionism The concept of intelligence quotient (IQ) collapses a broad spectrum of abilities into a single quantity. Burt misappropriates the concept of physical capacity to argue that there must be fixed limits to what most children can learn:

> Capacity must obviously limit content. It is impossible for a pint jug to hold more than a pint of milk; [likewise] for a child's educational attainments to rise higher than his educable capacity permits. (Burt, in Rose et al 1984: 87)

Contextual reductionism Ability (quantified as IQ) is seen as innate and unaffected by learning. When Burt found that the children of Oxford University lecturers scored higher on intelligence tests than manual workers' children, he leapt to the conclusion that it had to be hereditary. (ibid:87))

Historical reductionism Burt's ideas were accepted uncritically at the time because they were politically expedient, while alternative notions of intelligence were ignored (see Chapter 5). His theory served to justify the retention of almost all working-class children in the elementary schools, where they received a cheap and inferior education until leaving school at 14. Only a few moved on to join more advantaged children in the grammar schools – a necessary exception in order to relieve a skills shortage after World War I. Flaws in his research reports were overlooked, and it was only after his death that his data turned out to be fictitious.

Moral reductionism Supposedly scientific methods help place policies beyond debate. They support the view that there is no point in giving working-class children an education which is supposedly beyond them because they've inherited low IQ? The common-sense of pseudo-scientific determinism held back the establishment of a more equitable system of comprehensive secondary schools – perhaps the most significant school improvement of the last half century.

School effectiveness : a reductionist paradigm

It may seem strange to compare school effectiveness research, which claims to be progressive, with the concept of innate intelligence, which certainly is not. Leading effectiveness researchers insist that their work is a way of overcoming a sociological determinism which makes working-class failure sound inevitable.

> We have convincingly helped to destroy the belief that schools can do nothing to change the society around them, and have also helped to destroy the myth that the influence of family background is so strong on children's development that children are unable to be affected by school. (Reynolds and Teddlie 2001:103)

> In its commitment to maximising the educational quality of schools, both for its own merits and to generate wider social change, school effectiveness is the discipline in which radicals should situate themselves. (ibid:111)

Unfortunately, this tends to sow the illusion of a freedom to succeed by educational effort alone, without challenging the structural inequalities in the social and economic order. Through its limited parameters, it helps to place out of bounds arguments about social inequality and prevents a more grounded examination of school failure.

Methodological confusion: what makes schools effective?

School effectiveness research (SER) attempts to mimic traditional models of natural science in establishing linear input-output relationships. This brings many problems of logic and methodology.

a) Schooling has many outcomes, and there is no objective way of deciding which to focus on. SER veers towards measurable outcomes, and especially test scores. (Occasionally social outcomes are included, such as attendance or even, negatively, police arrests, but these are scarcely adequate indicators of social development.)

> In Germany, there is an intensive debate about good and bad schools, but case studies are preferred to systematic empirical-analytical research. That is because we no longer see schools as mechanical input-output-systems but as complex social systems which are defined by processes rather than products. If you see holistic personal development as the aim of such systems, then school effectiveness analysis becomes rather difficult. (Büeler 1998:669)

b) Student development is affected by multiple factors within and beyond school which relate to each other in complex ways. A one-to-one causal link of inputs to outputs fails to represent the complex interrelationship and mutual reinforcement and interference of specific actions. Effectiveness studies typically conclude with a list of key characteristics of effective schools, with no explanation of how they interrelate. (Improvement research, on the other hand, prefers a less linear and more holistic study of the school *culture* as a nexus of meaningful actions and symbols – see Wrigley 2000:27-30; Harris and Bennett eds 2001)

c) It is a mistake to assume that statistical correlation amounts to causality. Only careful qualitative investigation within case study schools can establish which factors truly influence outcomes, rather than just being associated with them. (For this reason, effectiveness researchers often prefer the term 'key characteristics' to 'inputs', though in the end it amounts to the same thing within the logic of their argument.)

d) School effectiveness research tries to distinguish 'malleable' factors (Scheerens 1998:1099) which schools can control from those which they cannot, such as socio-economic factors. In reality, this is not so simple: attitudes, organisational choices and behaviours do not develop in a vacuum. School cultures are a 'product of the interaction between the official culture of the school and the cultures of pupils' (Hatcher 1998:280).

e) Many factors are better seen as intermediate factors or process variables. On one level, good attendance is a necessary input - pupils who do not attend school are less likely to learn – but it is also an outcome: pupils are more likely to go to school if they enjoy the place and if they feel they are succeeding.

f) Perhaps the greatest problem is the vagueness of the language used to define the key characteristics of effective schools. How do researchers decide that one school shows a 'clear focus on teaching and learning' but another does not – it is rarely a matter of yes or no, and what exactly do the words mean? Since the definitions are less exact than the calculations which follow, this undermines the reliability and validity of the mathematical calculations. Though it is not too hard to accept that weak leadership can create difficulties, we are left with the problem that 'strong leadership' can mean many different things, from supportive and inspiring to dictatorial. When the importance of assessment was identified in London primary schools in the late

g) 1980s (Mortimore et al 1988:223), this was to contrast those teachers who handed to the next year's teacher either a grade or examples of work, with others who provided no information at all to their colleagues. This distinction is worlds apart from the current obsession with data collection.

The looseness of terminology is hidden by the sense of certainty conferred by mathematical exactness. Though characteristics of effective schools are rarely capable of precise delineation, the appearance that they can be conveys the aura of scientific objectivity while simultaneously leaving them open to political reinterpretation and manipulation.

School effectiveness tends not to think too much about these problems. It has developed increasingly complex statistical methods, but assumes that a quantitative correlation can explain the dynamic interactions within schools and between schools and society.

However sophisticated the statistics, we are left wondering how it is possible to distinguish and apportion a wide range of characteristics to their consequences. How can one decide which of the numerous possible factors has a significant bearing on a school's effectiveness? In fact, the classic British study (Mortimore et al 1988: 248) acknowledged that the choice depends on professional judgement rather than any statistical objectivity. Likewise, when Sammons et al (1995) condensed the multitude of factors they derived from previous American and British studies into eleven key characteristics, they had to use professional judgement rather than some statistical method.

Recently, a leading Dutch effectiveness researcher has conceded many of these points:

> It is not easy to assess the exact empirical basis of the list of factors… Most reviews do not state the statistical significance nor the size of the effects of the various factors in terms of association with adjusted achievement results… The fact that numerous designs of school improvement projects have already taken these factors as a source of inspiration underlines that 'they appear to make sense'… The messages that we can draw from the school effectiveness literature are general orientations rather than very precise recommendations. (Scheerens 1998:1110-3)

> In complex systems, causes always appear in bundles, and only the presence of a whole series of conditions guarantees success. Linear thinking is not good enough: we need to think of causal networks, in which multiple factors make each other operational. (Büeler 1998: 672)

> The ultra-Darwinists' metaphysical concept of genes as hard, impenetrable and isolated units cannot be correct. Any individual gene can be expressed only against the background of the whole of the rest of the genome. Genes produce gene products which in turn influence other genes, switching them on and off, modulating their activity and function. (Rose, 1998:215)

Finally, the hegemony of statistical forms of evaluation distorts what we mean by a worthwhile education; it robs the word *value* of its meaning as personal, social or cultural worth, reducing it to a monetary token, the exchange value of measurable outputs. It places important curricular questions beyond discussion; what children learn is seen as a given, and the teacher's role is merely to 'deliver' curriculum so that the impact of its transmission can be measured (more below).

Contextual reductionism: pushing the world to one side

No school is an island. School effectiveness research recognises this only tangentially and perversely, in its attempt to separate out the relative influence of home and school on attainment.

The relationship between a school and its environment is complex, dynamic and reciprocal. Some schools in high-poverty areas become more successful through an intelligent and hopeful engagement with the community; the school's improvement may sometimes even contribute to an area's economic regeneration. In other cases, school and community seem bound to each other in a downward spiral of helplessness and despair. Effectiveness research takes our attention away from the interrelationship, since its methods involve statistically removing the environmental effects from the frame in order to concentrate on the 'school effect'.

> Family background, social class, any notion of context are typically regarded as 'noise', as 'outside background factors' which must be controlled for and then stripped away so that the researcher can concentrate on the important domain of 'school factors'. (Angus 1993:361)
>
> Social class is reduced to a variable to be controlled for and thereafter ignored, rather than recognized as a vital element in terms of accounting for the level of measured effectiveness and strategies for school improvement. (Riddell et al 1998:184)

When Teddlie and Reynolds (2001:57) argue that effectiveness research does not 'ignore context variables', their choice of words simply confirms

what is being denied – as if the communities which schools serve can be reduced to numerical data sets.

A wide range of problems are generated by this limited grasp of the relationship between school effectiveness and situational issues such as social class.

i) Having factored out the social context, the research typically concludes that schools can raise attainment by applying a neutral set of recommendations. In reality, the interaction of successful schools with their environments is problematic, and one which teachers and school leaders have to renegotiate on a daily basis. Successful multiethnic schools (Blair and Bourne 1998; Wrigley 2000) have qualities which are not captured by the generalised lists found in effectiveness research; they depend on cultural empathy, political sensitivity and a desire for social justice. These schools have a capacity to listen to the community voice, a curriculum which is inclusive towards community experience and traditions, and an ethos which is open and welcoming while challenging negative aspects of the street culture. Arguably, successful schools in adverse circumstances are effective precisely because they take the background fully on board. 'Turning around' a struggling inner-city school involves precisely that - turning around to connect and negotiate with the community and its circumstances, as opposed to building higher institutional walls.

ii) School effectiveness research appears to be playing fair by accounting for background factors, but the cards remain stacked. By age 16, even the most effective schools with high poverty levels struggle hard to match the attainment of the least effective schools in more affluent areas (DfES 'Autumn Package'). Even value-added analysis does not correct this, as the impact of poverty is cumulative and the attainment gap grows substantially between age 11 and 16.

iii) A few schools in poorer areas match or even outperform some less effective middle-class schools, but this does not alter the general trend, and it often serves as a pretext to blame the rest. Across the whole system, the attainment gap remains, correlating strongly with social class factors such as parental occupation, income and education. The high levels of dedication, time and effort and the exceptional leadership required to become a relatively effective school in an area of social deprivation are underestimated and unrewarded.

If the general level of attainment across an entire education system rises but the attainment gap between rich and poor areas stays as

iv)   wide, this does not help the poor. The currency of examination results can become debased, and students from more disadvantaged backgrounds remain as disadvantaged as before, despite rising exam success.

Connecting with the community

As a school it sought to create a moral groundwork based upon internal and external solidarity that would be worthy of the creative genius and generosity of its students and constituent communities. For its founding and organic connection was with its community – to involve, reflect, affirm and develop it in whatever ways it could, particularly in its actional dimension. This means primarily that the school gives authority to its community, it offers reason, involvement, dignity, solidarity and hope. (Searle 1997:xiii)

The support of parents has been won by reassuring them that their children are in safe hands. After a theatre trip, Asian students are delivered to the door. The parents come out, shake hands, invite the teachers in, though this has to be declined in order to get the others home. (in Wrigley 2000:87)

The previous head had refused to pay attention to important community concerns and this had led to conflicts which were stirred up further by the press… Now I think I've achieved a level of respect and I'm very honoured to be invited to speak at the mosques. I had to listen a lot in the early days, as there was a lot of anger and people needed to voice their concerns. (in Wrigley 2000: 133)

Given the extent of misunderstandings, it is crucial that effectiveness researchers should be outspoken in countering false conclusions. Sadly, few have followed Peter Mortimore's example in speaking out publicly against the illusion that greater school effectiveness can overcome poverty on a broad scale. Mortimore has been a forthright critic of politicians' abuse of research to excuse the neglect of welfare, employment and housing provision. (Mortimore and Whitty, 1997)

Historical reductionism: research in a vacuum?

In recent decades, scholars in many different fields have learnt the importance of professional self-awareness – of being conscious of their personal perspectives and of the origins and current role of their disciplines. Since Foucault, it is no longer possible to regard academic disciplines as fixed entities floating outside time. Even in natural sciences, the current paradigm and the surrounding culture (not to mention cruder factors such

as sources of research funding) influence how research questions are framed.

School effectiveness research seems remarkably unaware of its own history. Its advocates generally see its origin as a reaction to the Coleman report (1966), as if this were merely a methodological turn. In fact the Coleman report, repeatedly denigrated for emphasising that social background has a far bigger effect than the differences between schools, was a groundbreaking document for the United States: it articulated what had been unmentionable, the impact of poverty and racial oppression on school attainment. School effectiveness research, by separating itself off from wider sociological studies to focus on the size of school effect, simultaneously deflected attention from the issues Coleman raised. Its conclusions - indeed the entire discourse which results from its chosen terms of reference - have comforted politicians intent on cutting welfare benefits.

School effectiveness research took off in Britain in the 1980s in the context of the Thatcher Government's marketisation of education (see Morley and Rassool 1999:12-13; Rea and Weiner 1998:22). The quasi-market and effectiveness research are mutually reinforcing: competition pressures headteachers to scan the literature for quick fix ways of raising attainment, and conversely the emphasis on statistical measures of success increases this competition by giving parents (as 'customers') misleading reasons for choosing one school over another. Effectiveness research has paid scant attention to the intense and unfair competition which actively *produces* failing schools. (A typical example, 'named and shamed' as one of the worst schools in Britain, was Rydings, in Halifax, an 11-16 'non-selective' school in a very poor de-industrialised area, surrounded by grammar schools, other schools with sixth forms and church schools operating covert forms of selection.) The term 'ineffective' implies that schools are autonomous units responsible for turning inputs into outputs by operationalising key characteristics. Angus called this:

> an isolationist, apolitical approach to education in which it is assumed that educational problems can be fixed by technical means and inequality can be managed within the walls of schools and classrooms provided that teachers and pupils follow 'correct' effective school procedures. (1993:343)

Moral reductionism: schools without values

The positivism of effectiveness research is not just a methodological problem: it is intimately linked with the moral reductionism whereby

researchers wash their hands of responsibility for the social impact of their work. Lauder, Jamieson and Wikely (1998) refer to an 'abstracted empiricism' which ignores 'cultural, political and historical questions'. The academic discourse leads its researchers to see themselves as objective and scientific and thereby absolved from moral judgements.

Here, in fact, the gatekeepers of the effectiveness paradigm condemn themselves from their own mouths, openly insisting upon acquiescence with dominant political forces.

> The 'narrow agenda' of pragmatists working in SER is more realistic at this point in time than the 'redistributive policies' of the critical theorists… Pragmatists, working within the SER paradigm, believe that efforts to alter the existing relationship between social class and student achievement by bringing about broad societal changes are *naïve, perhaps quixotic*. We prefer to work *within the constraints of the current social order*. (Teddlie and Reynolds 2001:70-71, my italics)

They fail to ask: progress towards what? Like other scientists researching nuclear fusion or genetic engineering, they wash their hands of any responsibility for the application of their research – the defence of Pilate. (ibid 2001:51) This is disingenuous given the intimate relationship, especially in the UK, between their research and its government sponsors. Stephen Ball (1998:73) rightly speaks of a 'Faustian deal-making between the academic and politicians'.

Researchers have to rely on funding from official bodies, but there is a loss of integrity if they do not speak out against the misuse of their findings, which are often channelled via media soundbites into moral panics and then by government into quick fix initiatives.

With some honourable exceptions, there has been a failure to acknowledge the adverse consequences of the effectiveness research and discourse:

- that highly visible comparisons between school results affect teacher supply and thus damage the effectiveness of many schools in poorer areas

- that accountability, assessment and target-setting marginalise parts of the curriculum which are less easily measured, such as the humanities and the arts. (See OISE/UT 2001 and HMI 2001 for an account of how high-profile testing in literacy and numeracy is squeezing out other studies in primary schools)

In its rare engagement with more successful schools in areas of deprivation, effectiveness research has tended to praise those which reduce the curriculum to basic skills instruction (e.g. Teddlie and Stringfield 1993; Hallinger and Murphy 1986). Literacy is of vital importance, but needs to be developed within a meaningful and lively curriculum. The Accelerated Schools network (see Meier 1998; Levin 1998) is a reaction against the practice of consigning many poor and minority students to a curriculum of tedious decontextualised exercises. These schools, alongside intensive teaching of key skills, deliberately engage with higher-level cognitive challenges which connect with the students' lives. This project, involving over a thousand schools in the USA and rigorously evaluated, receives the barest mention in the International Handbook of School Effectiveness Research (Teddlie and Reynolds 2000), which instead highlights some small-scale research praising schools with a restricted curriculum. It appears that the school effectiveness paradigm is not simply a methodological specialism, but a 'selective tradition' in Raymond Williams' sense.

Reductionism and political reaction

The relationship between reductionism and political conservatism is complex. It would be wrong to suggest that effectiveness researchers have deliberately set out to produce a reactionary discourse; in fact, many operate from a genuine concern to improve educational opportunities for disadvantaged students. It is rather the paradigm, the discourse and the associated set of practices which steer the research in particular directions.

This chapter is certainly not intended as a general attack on statistical studies. The problem is, more precisely, that effectiveness research is limited by working in one direction. This is acknowledged by three well established effectiveness researchers from the Netherlands, who define it specifically as an attempt to correlate outcome variables with 'malleable school and classroom conditions' to explain school differences after 'adjusting for student intake characteristics' (Scheerens, Bosker and Creemers 2001:132). The privileging of 'school effect' distorts the picture by systematically pushing other factors into the distance. In effect, it regards the background factors as 'assigned conditions' – an unalterable fact of life.

The very same techniques favoured by school effectiveness research can also be used in the opposite direction. Instead of factoring out socio-economic factors as a fixed background, research can also highlight these factors precisely because they *are* politically changeable if there is the

clarity and the will to tackle them. A key example is Gillborn and Mirza's (2000) influential study of the relative importance of class, race and gender in the UK. This demonstrates, among other things, (a) that the attainment gap between professionals and manual workers' children has grown; (b) that African Caribbean children leave school with the worst qualifications despite being more advanced when they enter; and (c) that there are places where this problem has been overcome. Bruce Biddle (1997) uses statistical modelling to challenge the USA's funding system which reinforces disadvantage; he shows how poverty compounded by poor funding in the poorest school districts is largely responsible for the relatively low attainment in the USA. Jürgen Baumert and colleagues at the Max Planck Institute in Berlin expertly use regression analysis to demonstrate the injustice and ineffectiveness of a selective school system (Deutsches PISA-Konsortium 2001; summarised in Baumert and Schümer 2002).

Such studies, along with statistical research relating to linguistic and cultural diversity, is totally sidelined by the gatekeepers of School Effectiveness. The 400-page *International Handbook of School Effectiveness Research* (Teddlie and Reynolds 2000) presents a selected canon, neglecting for example the rich and extensive studies on the impact of bilingual education (cf Cummins 2000:247, summarising studies such as August and Hakuta 1997). It becomes clear, by scrutinising such contrary examples of statistical studies, that School Effectiveness is a paradigm which is defining itself ideologically as well as methodologically.

> Children of ten and younger have developed an ability to speak two languages fluently, moving in and out of each from one minute to the next… A Pakistani child who accompanies her mother to the DSS and translates into Punjabi for her, unravelling the massive social inequality within the complex bureaucratic wordmaze of her second language, and bringing it into meaning and sometimes additional benefits for her mother: what a testing! Yet what reward or recognition, beyond a service of love – while a middle-class child of the suburbs gets an 'A' in a 'modern language' like French or German, which she learns dutifully through books and teachers but rarely speaks or uses in any organic, life-centred way. So what is achievement: is it the banking of passive fact by an individual learner, or the use and application of living experience in the service of others and the struggle to develop your own community? (Searle 1997:2)

The terms in which the whole field is framed tend to sow illusions that increased efforts by teachers will result in greater social justice. We have a modern version of the Victorian ideology of the 'self-made man':

> Any capitalist there, who had made sixty thousand pounds out of sixpence, always professed to wonder why the sixty thousand nearest Hands didn't each make sixty thousand pounds out of sixpence, and more or less reproached them everyone for not accomplishing the little feat. What I did you can do. Why don't you go and do it? (Dickens: *Hard Times*,1854)

Effectiveness researchers are inevitably affected by a political and cultural environment in which financial values predominate over human ones. The dominant discourse is that of economic rationalism whose tacit purpose is concealed by the non-discussion of educational aims. Lingard, Ludwig and Luke (1998) relate economic rationalism in education (the replacement of a values discussion by one about performance and efficiency) to the wider moral reductionism within capitalist economy and culture:

> Economism recognises no other form of interest than that which capitalism has produced, through a kind of real operation of abstraction, by setting up a universe of relations between man and man based, as Marx says, on 'callous cash payment'… (originally Bourdieu 1990:112)

The postmodernist denial that any shared 'Enlightenment' values are possible, the extinction of any 'grand narrative', the fragmentation of a public values discourse, has merely served to reinforce the power of the raw cash nexus of a society which remains *late capitalist* rather than *post*-something.

By contrast, Gerald Grace (1998:120-4) appeals for a 'values-added' inquiry, not just 'value-added' research. He argues that it is no use just talking of effectiveness and schools making a difference - we must ask: difference to what? He speaks of a 'mission reductionism' which is particularly uncomfortable for the Catholic schools he has researched.

But the reductionist paradigm and discourse of school effectiveness does not merely *derive* from the ideology of the wider society. Through its discursive closure to debates about educational and social values, it actively *reinforces* the hegemony of economism by placing essential issues 'out of bounds'.

The result is a hegemonic version of School Improvement which concerns itself with the management of change irrespective of where that change might lead.

An alternative model of school development can be built by analogy with the development histories of other living systems, and described in ecological rather than linear terms:

- The evolution of living systems is self-organising and dynamic (i.e. not simply the result of causes, but of a long and accident-prone learning history on the system-environment border)

- Developments can only be sustained if they have an equilibrium between innovation, verification and preservation

- Development takes place through exchange effects, more exactly, through the synchronisation of processes on the macro and micro levels. (Schools must connect effects on a personal and social plane. School development involves personal, social and organisational learning.)

- The evolution comes about through a reciprocal interplay of biological psychic and social development actions. (Learning processes are necessarily holistic – head, heart and hand. If you ignore this, you end up with medium- and long-term damage to personal development.)   (Büeler 1998: 675)