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School and system improvement: a narrative state-of-the-art review

David Hopkins[a]*, Sam Stringfield[b], Alma Harris[c], Louise Stoll[a] and Tony Mackay[d]

[a]*Institute of Education, University of London, London, UK;* [b]*School of Education, University of Cincinnati, Cincinnati, OH, USA;* [c]*Institute of Educational Leadership, University of Malaya, Kuala Lumpur, Malaysia;* [d]*Centre for Strategic Education, Melbourne, Australia*

Over the last 4 decades, the school effectiveness and school improvement research bases have gained prominence and recognition on the international stage. In both a theoretical and empirical sense, they have matured through a wide range of well-documented projects, interventions, and innovations across a range of countries, describing how efforts to help schools become increasingly effective learning environments for the full range of their students have been more or less successful. This review presents evidence of the effects of reform efforts at the school and system levels, through articulating 5 phases:

- Phase 1 – understanding the organisational culture of the school;
- Phase 2 – action research and research initiatives at the school level;
- Phase 3 – managing change and comprehensive approaches to school reform;
- Phase 4 – building capacity for student learning at the local level and the continuing emphasis on leadership;
- Phase 5 – towards systemic improvement.

The review concludes by reflecting on how the phases evolve and overlap and offers 3 concluding thoughts about how to identify those levers that together provide more powerful ways to enhance the learning and achievement of our students within a systemic context.

Keywords: educational effectiveness; school effectiveness; teacher effectiveness; educational ineffectiveness; educational policy

Introduction

Since the early 1980s, we have learned much about how to improve individual schools, but successful efforts at systemic improvement have been less common. As we shall see in more detail later, there have recently been ambitious attempts to reform whole systems in a wide range of local authorities, districts, provinces or states, and nations. What is needed is the development of a series of potentially testable theories of systemic change in education. This article reviews research to date in an effort to make a modest contribution to that worthwhile and necessary goal.

For the sake of historical completeness, it is important to recognise the pioneering work of Aikin (1942) in the Eight Year Study, and a number of reviews take this important event as their starting point (Nunnery, 1998; Stringfield & Teddlie, 2011). For the broader purposes of this review, we begin 2 decades later, at a time when it is possible to argue

*Corresponding author. Email: profdavidhopkins@hotmail.com

that the field was beginning to evolve in a number of distinctive phases as practitioners and researchers gained expertise in implementing and studying educational change.

Hopkins and Reynolds (2001) provided an analysis of the field through the identification of three different phases of school improvement. Their three phases have influenced the analysis that follows. This review, however, highlights the increasing shift from individual school improvement initiatives to system-wide (i.e., national, state, or district) change (Harris & Chrispeels, 2008). We spend more time here discussing the most recent phase as all this activity occurred after the publication of the original Hopkins and Reynolds (2001) paper.

Dividing the review into a series of phases enables us to develop a stronger narrative about the evolution of the field and its potential future. As such, the review claims to be conceptual rather than exhaustive. We are also conscious that this review is limited by our own experiences, knowledge, and scholarship; this is another reason why we cannot claim that the review is fully comprehensive. We have, however, tested the direction of this narrative against international reviews, both through our involvement in international symposia, such as the *International Education Leaders' Dialogues* (Barber, Fullan Mackay, & Zbar, 2009) the G100 *Transformation and Innovation: System Leaders in the Global Age* workshop (Hopkins, 2007b), and research compendiums such as the *International Handbook of Educational Change* (A. Hargreaves, Lieberman, Fullan, & Hopkins, 2009). We also tested it at a symposium at the International Congress for School Effectiveness and Improvement (ICSEI) in 2011 in Cyprus, from which we received much helpful feedback.

An overview of the five phases described in this paper is provided in Table 1, which serves as an advance organiser for the review that follows. These could be regarded as a

Table 1. Five phases of research on school and system improvement.

Phase of School and System Improvement	Key Features of Each Phase
Phase 1 – Understanding the organisational culture of the school	• The legacy of the organisational development research • The cultures of the schools and the challenges inherent in change
Phase 2 – Action research and research initiatives at the school level	• Teacher research and school review • Research programmes such as the Rand Study, Dissemination Efforts Supporting School Improvement (DESSI), Special Strategies and the Organisation for Economic Co-operation and Development (OECD) International School Improvement project
Phase 3 – Managing change and comprehensive approaches to school reform	• Managing centralised policy change • "Comprehensive" approaches to school reform, such as: Success for All, New American Schools, High Reliability Schools and Improving the Quality of Education for All (IQEA).
Phase 4 – Building capacity for student learning at the local level and the continuing emphasis on leadership	• Professional learning communities and networks • Recognising the continuing importance and impact of leadership
Phase 5 – Towards systemic improvement	• The influence of the knowledge base and the impact of national and international benchmarking studies • Differentiated approaches to school and system reform

sequence of loose, but overlapping chronological phases. In some ways they are, but they are also substantive, as most systems have progressed through them in this order as part of their improvement journeys, for the reason that each phase builds capacity for the next. Given the existing knowledge base, such a movement perhaps could be accelerated in systems and schools just embarking on improvement efforts. If nothing else, new efforts could avoid mistakes of the past.

Phase 1 – understanding the organisational culture of the school

Mindful of the pioneering work of Aikin (1942), we trace the beginnings of the modern field of school improvement back to the development of organisation development (OD) and the social psychological writings and practice of Kurt Lewin (1947) with his emphasis on the influence of the organisation on the behaviour of its members. From the early experimentation with group dynamics, through the emergence of T groups, McGregor's work with Union Carbide, and the ESSO experiment in the late 1950s, OD developed a distinctive character, with an attendant technology and philosophy (Hopkins, 1984).

Matt Miles' (1967) seminal paper on "organisational health" advocated the adaptation of OD techniques to schools. Miles was one of the first to understand the dynamic between the organisational condition of schools and the quality of education they provide. This insight laid the foundation for much contemporary work in the area of educational change, school effectiveness, and school improvement. Miles (1975) described organisational health as:

> A set of fairly durable second-order system properties, which tend to transcend short-run effectiveness. A healthy organization in this sense not only survives in its environment, but also continues to cope adequately over the long haul, and continuously develops and extends its surviving and coping abilities. (p. 231)

Miles (1967, 1975) described 10 dimensions of organisational health. His first 3 dimensions were relatively instrumental and dealt with goals, the transmission of information, and the way in which decisions are made. His second group of 3 dimensions related to the internal state of the organisation and with maintenance needs; more specifically, the effective use of resources, cohesiveness, and morale. His final set of dimensions was concerned with the organisation's ability to deal with growth and change – notions of innovativeness, autonomy, adaptation *vis-à-vis* the environment, and problem solving.

When Miles (1967, 1975) analysed schools as organisations against these criteria, he diagnosed them as being seriously ill! His analysis presaged subsequent descriptions of the pathology of schools as organisations such as Weick's (1976) characterisation of them as "loosely coupled" systems, and comments such as schools "are a collection of individual entrepreneurs surrounded by a common parking lot", or a "group of classrooms held together by a common heating and cooling system". This also explains the twin emphasis in authentic school improvement strategies on the organisational conditions of schooling as well as the teaching and learning process.

Miles (1967, 1975) then described a series of strategies designed to induce a greater degree of organisational health such as team training, survey feedback, role workshops, target setting, diagnosis and problem solving, and organisational experiment. Some of these strategies may have an anachronistic ring, but there are a number of common themes flowing through all of them that have a more contemporary flavour. Examples include

self-study or review, the promotion of networking, increased communication, culture as a focus for change, the use of temporary systems, and the importance of external support.

The publication of *Organizational Development in Schools* (Schmuck & Miles, 1971) was the first mature expression of the impact of OD in education. In a later state-of-the-art paper, Fullan, Miles, and Taylor (1980) concluded that OD in schools had "diffused to a larger extent than we and others had realised". An example of a well-developed approach to institutional self-renewal based on OD techniques is found in the *Handbook of Organizational Development in Schools* (Schmuck & Runkel, 1985). This work also served to provide insights into what constitutes the school's capacity for problem solving. According to Schmuck (1984, p. 29), it is reflected in a series of meta-skills – systematic diagnosis, searching for information and resources, mobilising collaborative action, "synergy", and the staff's ability to evaluate how effectively previous meta-skills were implemented.

Three conclusions can be drawn from this brief analysis. First, OD approaches emphasise the importance of the organisational health determinant of effectiveness. Second and consequently, a major emphasis in many school improvement interventions has been based on an approach that attempts to "humanise" the organisational context within which teachers and students live. Third, and underemphasised at the time, was the empirical support given to the effectiveness of strategies, such as survey feedback, that diagnosed the internal conditions of the organisation as a precursor to development. It is on such approaches to OD in schools that much of the process emphasis in school improvement interventions was initially based.

Paralleling the specific application and development of OD techniques was the beginning of widespread research into, and understanding of, the change process and the school as an organisation. The OECD Centre for Educational Research and Innovation (CERI) project Case Studies of Educational Innovation (Dalin, 1973) and the Rand Change Agent study (Berman & McLaughlin, 1977; see also McLaughlin, 1990) highlighted the limitations of externally imposed changes, the importance of focussing on the school as the unit of change, and the need to take the change process seriously. Similarly, the research on schools as organisations, of which Sarason's (1982) *The Culture of the School and the Problem of Change* is an outstanding example, demonstrated the importance of linking curriculum innovation to organisational change. This emphasis on user-led improvement provides the transition into the second phase.

Phase 2 – action research and individual initiatives

During the 1980s, school improvement research tended to be mainly practitioner oriented, located in the work of those involved. This work was typified by the "teacher as researcher" movement that had the iconic Lawrence Stenhouse as its guru (Rudduck & Hopkins, 1985; Stenhouse, 1975). Stenhouse died prematurely, and John Elliott picked up the mantle and through many projects and networks in the UK and elsewhere developed the movement (Elliott, 1991).

There was a marked change in the character of school renewal efforts in the late 1970s and early 1980s. Three influences accounted for this change in emphasis: an increase in demands for school accountability; more focus on school leader development; and the international trend towards large-scale, national educational reforms that began in the 1980s (Hopkins, 1994). Social and political forces were therefore highly influential, for example, it could be argued that the greatest single change in US schooling in the last

half-century was a result of the 1964 Civil Rights act that caused the racial de-segregation of schools in 13 Southern states.

During the early 1980s, school-based review or evaluation, despite confusion over purpose, established itself as a major strategy for managing the change process and institutional renewal. The empirical support for its success as a school improvement strategy was at best mixed (Clift, Nuttall, & McCormick, 1987). For most schools, it proved easier to identify priorities for future development than to implement selected targets within a specific time frame. Because of this, and a failure to implement the total process, especially training for feedback and follow up, school self-evaluation had, despite its popularity, limited impact on the daily lives of schools and student achievement.

For these reasons, school improvement during this phase was often defined as implementing an innovation or engaging in action research projects. In several countries, especially the United States and Australia, it was also driven by federal funding to address the needs of schools serving disadvantaged students. In the USA, there was the 1965 passage of federal Title I legislation, with additional funding focused on the education of poor children, and Australia mandated the establishment of school-based improvement councils.

In the case of the United States, and perhaps several other countries, a sea change in the history of school change research came with the publication of *A Nation At Risk* (National Commission on Excellence in Education, 1983). This report focused policy-makers' attention on the need for measures of success nationally and internationally, and on a search for "what works". Into this gap was slotted the school effects research (Edmonds, 1979; Purkey & Smith, 1983, 1985). The US Congress' General Accounting Office (1989) famously reported that in the 1980s over half of America's 15,000+ school districts either were already using or planned to soon be using "school effectiveness research" as a part or all of their improvement initiatives.

Hopkins and Reynolds (2001) suggested that this phase of school improvement was encapsulated by the holistic approaches of the 1980s and was epitomised by the OECD's International School Improvement Project (ISIP) (Hopkins, 1987). Hopkins and Reynolds note, however, that this phase of school improvement tended to be "loosely conceptualised and under-theorised. It did not represent a systematic, programmatic and coherent approach to school change" (p. 12).

This second phase produced an emphasis upon organisational change, school self-evaluation, and the "ownership of change" by individual schools and teachers. But, once again, these initiatives were not strongly connected to student learning outcomes. They tended to be variable and fragmented in both conception and application. As a consequence, these change practices struggled to impact significantly upon classroom practice and student achievement (Hopkins, 2001). It was this concern that led to the increasing emphasis on managing change, comprehensive school designs, and the emphasis on leadership in the next phase.

Phase 3 – managing change and comprehensive approaches to school reform

The third phase of development rose to prominence in the early 1990s. In these years, the school improvement tradition was beginning to provide schools with concrete guidelines and strategies for the management and implementation of change at the school level.

By the mid-1980s, the amount of change expected of schools had increased dramatically, mainly in response to various nations' citizens' (and hence governments') unease with a sense that their students increasingly were ill prepared to hold reasonably well-paid

positions and to perform as fully functioning citizens in an increasingly complex, integrated, knowledge-based world economy. One oft-cited example of this un-ease in the United States was the *A Nation at Risk* report (National Commission on Excellence in Education, 1983). This anxious increase in expectations was also accompanied by fundamental changes in the way schools were managed and governed. Although this went by different names in different countries – self-managing schools, site-based management, development planning, local management of schools, restructuring – the key idea of giving schools more responsibility for their own management – and student outcomes – remained similar.

The common aspiration of these initiatives was the promise that "self-management" would free schools from presumably harmful central control, and result in a substantial increase in student achievement. Although in a number of jurisdictions it was probably not so much a strategic commitment to whether a school was "renewing" or not, the nations, states, or local education authorities (LEAs) just wanted to get out of the bottom half of international benchmarking league tables and wanted to assure parents that their children would be able to obtain the kinds of family-supporting jobs that were becoming increasingly hard to obtain.

The concept of the "self-managing school" was developed in Tasmania and Victoria, Australia, and "site-based management" was rising in the United States in the mid-1980s. Since then, it has been adapted and emulated in many other school systems, most notably in Edmonton, Alberta. The approach, described by its originators (Caldwell & Spinks, 1988) as "collaborative school management", aspired to integrate goal setting, policy making, budgeting, implementation, and evaluation within a context of decision making that involved the school's staff, students, community, and governing body.

The Government-sponsored project on "school development plans" in England and Wales was also an attempt to develop a strategy that would, among other things, help governors, heads, and staff change the culture of their schools. Development planning provided an illustration of an "authentic" school improvement strategy, combining as it did curriculum innovation with modifications to the school's management arrangements (D. H. Hargreaves & Hopkins, 1991). In Canada, efforts at the local level in Ontario were based on a blend of school development planning with findings from school effectiveness research (Stoll & Fink, 1996). A wide range of similar efforts were ongoing in the United States and elsewhere.

In addition to providing funding for individual school improvement efforts, various state and national governments began playing an ever-more-active role in school improvement. They enhanced the power of individual schools by diminishing the power of intermediate or local educational authorities (LEAs) and agencies. The national government in New Zealand dissolved its local education authorities altogether. Israel, having already moved towards school decentralisation in the 1970s and 1980s, moved towards a full-scale model of school-based management (SBM) in the 1990s, while countries like Austria began their decentralisation efforts more recently. Various state governments in Australia, with Victoria leading the way, redefined the role of Regional Office (middle tier) in that country. In the United States, where locally elected boards of education remain the primary mechanism for citizen input into local education (Alsbury, 2008; Land, 2002), many school boards implemented site-based management as an engine for teacher empowerment and school improvement.

These approaches were facilitated by the more systematic interaction between the externally developed school improvement design teams and the school effectiveness research communities (Desimone, 2002; Vinovskis, 1996). There was a greater focus on

organisational and classroom change reflected in approaches to staff development premised on models of teaching (Joyce & Showers, 1995). In addition, there were two trends that emerged during this phase. The first trend was the expansion of site-based management within schools, which resulted in the further reduction in power of local authorities and local boards of education. In England, New Zealand, Australia, and the United States, national and state governments started to play a more active and central role in school improvement. (This presaged the evolution of systemic reforms, discussed later.)

The second trend during this phase was the growth, especially in the United States, of comprehensive models of school reform that could be adopted by individual schools. These include approaches such as the *Comer School Development Program* (Comer, 1992), Glickman's *Renewing America's Schools* (1993), Levin's *Accelerated Schools* (Hopfenberg & Levin, 1993), Sizer's *Coalition of Essential Schools* (1989), Slavin's *Success for All* (Slavin, 1996; Slavin & Madden, 2001, 2009), and the "New American Schools" designs (Stringfield, Ross, & Smith, 1996). The largest and most enduring of those today are *Success for All* and *High Schools That Work* (Southern Regional Education Board, 2010), each of which continues working in over 1,000 schools. These "whole-school-design" approaches combined elements from the school effectiveness and school improvement research bases. The diverse reform designs focused in varying degrees on school structures, interpersonal communications, professional development, explicit use of diverse measures of success, and elementary or secondary school curricula. Internationally, some of these approaches were designed to meet particular curriculum needs in literacy, such as New Zealand's "Reading Recovery" (What Works Clearinghouse, 2008) and "Success for All", which has subsequently been adopted in many other countries (Slavin & Madden, 2009). Others, such as the "Coalition of Essential Schools", tended to reflect a broad set of principles for organisational change and development and were not targeted at any specific curriculum or subject area. In many countries, large amounts of resources have been targeted at programmes and projects aimed at improving schools and raising standards of performance. The evidence to date, however, suggests that many of these external interventions, although very well intentioned, have had patchy and variable success (Borman, Hewes, Overman, & Brown, 2003). In an excellent, longitudinal review of whole-school reforms and their effects, Nunnery (1998) concluded that while externally developed, locally implemented reforms had uneven success rates, 100% locally developed reforms were even less likely to result in achieving initially desired outcomes. Nunnery's explanation for this consistent finding was that local efforts typically required a year of planning pre-implementation, and often ran out of energy before actual implementation.

The externally developed whole-school reforms arose in part through frustration with the frequent failure of existing approaches in their attempts to make measurable differences in schools on the larger scales. Pockets of success could be seen and were duly celebrated, but scaling up measured success from the one school to the many had proven elusive. In particular, success seemed to elude schools in large urban areas serving the most disadvantaged, and the evidence from major programmes such as "New American Schools" frequently confirmed the limitations of "off the shelf" improvement or of most "whole-school designs" to secure long-term and widespread system and school improvement (Berends, Bodilly, & Kirby, 2002). The third phase of school improvement attempted to draw upon its most robust evidence and to produce interventions that were based on tested practices. Programmes such as *Improving the Quality of Education for All* (IQEA; Hopkins, 2002) and *High Reliability Schools* (HRS; Reynolds, Stringfield, & Schaffer, 2006; Stringfield, Reynolds, & Schaffer 2008, 2012) in England, the *Improving*

School Effectiveness Project in Scotland (MacBeath & Mortimore, 2001), the *Manitoba School Improvement Program* in Canada (Earl, Torrance, Sutherland, Fullan, & Ali, 2003), and the *Dutch National School Improvement Project* (see Van Velzen, Miles, Ekholm, Hameyer, & Robin, 1985) were all examples of projects in this third phase (see Harris & Young, 2000; Hopkins, 2001; Hopkins, Ainscow, & West, 1994; Reynolds, Sammons, Stoll, Barber, & Hillman, 1996; Teddlie & Reynolds, 2000). All of these interventions took advantage of a key finding from Nunnery (1998) that, in general, schools are more likely to achieve measurable improvements in student performance if they are connected to an external reform-assistance team than if they try to go it alone.

In this third phase, the school improvement field moved toward a more specified approach to educational reform by transforming the organisation of the school through managing change in the quest for enhanced student achievement. These emphases have laid the basis for extending these approaches at scale. In conjunction with the development of research on specific school improvement approaches, there has been a large amount of new research on the efficacy of various specific components, ranging from curricula to professional development processes that can be used by schools and systems to affect desired student outcomes (for reviews, see the Best Evidence Encyclopedia [http://www.bestevidence.org/] and the U.S. Department of Education's What Works Clearinghouse [http://ies.ed.gov/ncee/wwc/]). In theory, the presence of well-researched specific components should allow schools to engage productively in organisational development change processes to achieve desired, measurable gains. How successful this will be remains a topic for future empirical research.

Phase 4 – building capacity for student learning at the local level and the continuing emphasis on leadership

Harris and Chrispeels (2008) have argued that a fourth phase of school improvement is largely concerned with system-level changes through collaboration and networking across schools and districts (Harris, 2010). Harris and Chrispeels further suggested that district reform and network building (including professional learning communities) need to occur side by side, and they need to be linked. This essential linkage is provided by the exercise and emphasis on leadership. The stimulus of organisations such as the National College of School Leadership (NCSL) in England is a paradigmatic example of how school leadership can be linked to networking in the pursuit of system transformation. In this phase, the emphasis is on networking complemented by an increasing emphasis on leadership.

The research base on the impact of the district role on student achievement has a relatively recent history. There are a number of examples from the research on school districts in North America and Great Britain during the 1990s that illustrate that under the right conditions, significant and rapid progress can be made in enhancing the learning of students. The following five examples in their different ways are illustrative of the ways through which several of the more successful regions or districts have balanced top-down and bottom-up change in order to make measured differences in student achievement.

- Elmore (2004) reported on several successful school districts in California. Elmore concluded that these districts showed a much greater clarity of purpose, a much greater willingness to exercise tighter controls over decisions about what would be taught and what would be monitored as evidence of performance, and a greater looseness and delegation to the school level of specific decisions about how to carry out an instructional programme.

- Stringfield and Yakimowski (2005) reported on a pro-active case study of district-level reforms in the historically very low-performing, 90+% minority Baltimore City Public Schools. As a result of the creation of a new board and additional state funding support, over a 7-year period the district increased district focus on student learning, closed under-used facilities, greatly expanded targeted professional development opportunities for teachers and administrators, greatly raised district-wide student achievement on a range of measures, and dramatically increased high school graduation rates.
- Fullan (2007) reported on progress in the New York City school system. His analyses indicated that strong vision coupled to intensive staff development on instructional practices and capacity building within a constructive accountability framework led to significant increases in levels of student achievement.
- In Great Britain, Reynolds et al. (2006) (updated in Stringfield et al., 2008, 2012) reported on two district-wide efforts at implementing a High Reliability Schools initiative, and on a third effort that only involved half of the secondary schools in another district. While there were multiple differences among the various implementations, the authors noted that the two whole-district efforts lead to dramatic improvements in secondary students' outcomes, and the third, not-district-wide and not-widely-district-supported effort produced no measurable effects on student outcomes from the same reform efforts.
- Fifth, Childress (2009) reported on Montgomery County (Maryland, USA) Public Schools (MCPS). In the conventional educational jargon of the day, the district for the past 10 years has engaged in a sustained effort to "raise the bar and close the gap" in terms of student performance. An illustration of their success is that the top quartile of performers in MCPS from 2003 to 2008 raised their scores significantly and the lower quartiles improved even faster.

This phase of reform efforts has not focused exclusively on the role of districts and local authorities – there are other middle-tier organisations that have spawned and supported networks. Muijs' (2010) introduction to the special issue on networking and collaboration for school improvement in *School Effectiveness and School Improvement (SESI)* provided an authoritative overview. There is evidence that where NCSL's Networked Learning Communities were focused on student learning with greater teacher commitment, there was a link with outcomes (Earl & Katz 2005). There is evidence of impact of professional learning communities and their role in capacity building (Stoll, 2009, 2010; Stoll & Louis, 2007; Vescio, Ross, &Adams, 2008,). As noted earlier, Borman et al. (2003) found that several organisations that formed support among schools across districts and countries have produced gains in student achievement.

By way of summarising this evidence, it is helpful to draw on Hopkins' (2011) recent review of the key variables in any regional approach to school improvement that relates directly to increases in student achievement. They are:

- a clear and comprehensive model of reform;
- strong leadership at the regional level;
- substantive training related to the goals of the programme;
- implementation support at the school level;
- an increasingly differentiated approach to school improvement.

In all of these Phase 4 instances, a desire to link school improvement to student learning outcomes has been a main goal and was pursued with varying degrees of intensity. This has included a much richer and deeper appreciation of the importance of "learning about learning" and the differences this emphasis towards learning can make in school improvement (Stoll, Fink, & Earl, 2003; Watkins, 2010) and is backing this with an evidence base about the science of learning (Brandsford, Brown, & Cocking, 1999; Lucas & Claxton, 2010). The OECD's *The Nature of Learning: Using Research to Inspire Practice* (Dumont, Istance, & Benavides, 2010) situates such perspectives within an international context.

The focus on the core of professional practice in such initiatives has also led to an increased focus on the skills and models associated with effective teaching. Reviews of the pedagogic approaches associated with school improvement efforts have been provided by Rosenshine and Stevens (1986), Good and Brophy (2008), Hopkins (2001), and Hopkins, Harris, Singleton, and Watts (2000), among others. The work of Bruce Joyce (Joyce, Calhoun, & Hopkins, 2009; Joyce & Weil, 2008) has been particularly influential. His *Models of Teaching* (Joyce & Weil, 2008) simultaneously define the nature of the content, the learning strategies, and the arrangements for social interaction that create the learning environments of students. The critical point being that the variety of models are not just models for teaching but are models of learning that increase the capability of students to become effective members of the knowledge society.

During this phase, there has also been a return to a strong focus on leadership. This is not to say that leadership hitherto had not been regarded as important. Recall that "principal as instructional leader" was one of Edmonds' (1979) "five correlates" of school effectiveness. However, the 1980s were the time that a comprehensive approach to the study of leadership was linked to student learning. The history of educational leadership tells of a much more conventional evolution. Murphy (1991), for example, suggested that the thinking about leadership falls into a number of phases – the focus on trait theories of leadership, on what it is that leaders actually do, awareness that task-related and people-centred behaviours may be interpreted quite differently, situational approaches to leadership – all building towards the then current interest in the links between leader behaviour and organisational culture. This represented a movement towards the notion of leadership as transformational, having the potential to alter the cultural context in which people work, and, importantly, the potential for school leaders to "drive" increases in student achievements.

At the dawn of the 21st century, however, it became clear that the "transformational approach to leadership" may have been a necessary but was an insufficient condition for measurable school improvement. It lacked a specific orientation towards student learning that is a key feature to this specific approach to school improvement. For this reason, the complementary historical notion of "instructional leadership" has become attractive (Dwyer, 1984; Hallinger & Murphy, 1985). Leithwood and Riehl (1999) defined instructional leadership as an approach that emphasises "the behaviours of teachers as they engage in activities directly affecting the growth of students" (p. 8). During this period, the concept of distributed leadership has also come of age and won a consistent place in the reviews and research outcomes highlighted above (Harris, 2010).

Since then, there have been two clear trends in the research and policy related to school leadership. The first has been a consolidation of the links between leadership practices and student outcomes. The work of the Wallace Foundation has been highly influential here**.** Under commission from Wallace, Leithwood, Seashore Louis, Anderson, and Wahlstrom (2004) provided one of the clearest definitions of those

leadership practices most closely associated with enhanced levels of student outcomes. These are:

- *Setting Direction*: to enable every learner to reach their potential, and to translate this vision into whole-school curriculum, consistency, and high expectations.
- *Managing Teaching and Learning*: to ensure that there is both a high degree of consistency and innovation in teaching practices to enable personalised learning for all students.
- *Developing People*: to enable students to become active learners and to create schools as professional learning communities for teachers.
- *Developing the Organisation*: to create evidence based schools and effective organisations, and to be involved in networks collaborating to build curriculum diversity, professional support, extended services.

A subsequent series of international studies have confirmed and to an extent deepened these conclusions. For example, research sponsored by the Wallace Foundation has taken understanding further in terms of the link between leadership and student outcomes, with distributed leadership and professional community playing important roles (Louis, Leithwood, Wahlstrom, & Anderson, 2010). Robinson, Hohepa, and Lloyd's (2009) international best evidence synthesis showed that leaders promoting and participating in teachers' professional development has at least twice the effect size of any other aspect of leadership in terms of the link with student outcomes. Hallinger's (2010) *Leadership for Learning* reviewed 30 years of empirical research on the impact of leadership on student learning confirms these trends. The "School leadership and student learning outcomes" research study has provided empirical detail to support these perspectives that are summarised in the two "strong claims" pamphlets that have been particularly influential (Day et al., 2010; Leithwood, Day, Sammons, Hopkins, & Harris, 2007). With the greater emphasis on instructional leadership, described in a recent OECD initiative on improving school leadership as leadership of teaching and learning (Pont, Nusche, & Hopkins 2008; Pont, Nusche, & Moorman, 2008), a number of countries have developed national leadership initiatives with an emphasis on leadership that focuses on student learning, for example, Lithuania's Time for Leaders Project, and work in The Netherlands (Schildkamp, Visscher, & Luyten, 2009) and Flanders (Verhaeghe, Vanhoof, Valcke, & Van Petegem, 2010) supporting school leaders in interpreting data to enhance the focus on student learning.

There are, however, some empirical, mainly Dutch, studies that do not support this conclusion; Scheerens' (2012) careful analysis summarises this body of work. Our interpretation of this evidence is that the "no leadership effect" makes sense in Dutch primary schools. This is because they generally average fewer than 200 students and the management function is largely seen as a negative duty that all the teachers must rotate through at some point. This counter-argument is supported by the outcomes of the Reynolds, Creemers, Stringfield, Teddlie, and Schaffer (2002) study of student effects at 6–12 elementary schools in each of nine countries. One of their conclusions was that the fundamental characteristics of positive outliers schools at the classroom/teacher level were the same across the sample – student engagement, active questioning, and so forth. How schools got there, however, varied by country and culture. It is interesting that English-speaking countries seemed to employ similar strategies, and principal leadership played a clear role. The most strikingly different countries (from this sample) were Norway and especially The Netherlands; both had uniformly small elementary schools, often managed

by a community organisation or "School Board". As a result, nobody exercises "leadership" in the sense that most educational systems would recognise the term; hence, there is little impact on student learning.

The second trend in leadership during the last decade has been the emergence of "system leadership" (Fullan, 2004, 2005). Following research to map the emerging system leadership landscape, Higham, Hopkins, and Matthews (2009) propose five key categories as innovative leadership practice:

(1) Head teachers who are developing and *leading successful educational improvement partnerships* between several schools.
(2) Head teachers who are choosing to "change contexts" by choosing to *lead and improve low achieving schools in challenging circumstances*.
(3) Head teachers who are partnering another school facing difficulties in order to improve it.
(4) Head teachers who act as a community leader to broker and shape partnerships or networks of wider relationships across local communities.
(5) Head teachers who are working as *change agents* or *expert leaders*.

These roles have been validated in internationally based research, such as the two-volume OECD *Improving School Leadership* study already cited (Pont, Nusche, & Hopkins, 2008; Pont, Nusche, & Moorman, 2008) already cited and the recent McKinsey study, *Capturing the Leadership Premium: How The World's Top School Systems are Building Leadership for the Future* (Barber, Whelan, & Clark, 2010).

Harris and Chrispeels (2008) have argued that the fourth phase of school improvement is now fully underway. The evidence presented in this section supports that contention. This phase reflects the growing recognition of the nested nature of schools in systems and the frustration, especially of policymakers, of scaling-up and transferring more quickly the touted success stories of individual school reform. To speed the school improvement process, system changes are occurring at three levels: (a) system changes at national and state levels, (b) renewal and redefinition of the role and work of local education authorities/districts, and (c) the federation and formal collaboration between schools (Chapman et al., 2010). This section, besides emphasising the importance of school leadership in educational reform, has also focused on regional approaches. The following phase explores how systemic change is being pursued at a national and system-wide level as a way to direct local improvement processes. It must also be emphasised here that, although we are moving onto a fifth phase that focuses on systemic development in the next section, this is not to say that developments in the fourth phase are in any sense complete.

Phase 5 – toward systemic improvement

Barber (2009) observed that it was the school effectiveness research in the 1980s that gave us increasingly well-defined portraits of the effective school that led in the 1990s to increasing knowledge of more effective school improvement processes (i.e., how to achieve effectiveness). In the same way, we have in the last decade begun to learn more about the features of an effective educational system, but are only beginning to understand the dynamics of improvement working simultaneously at the various system levels. It is this progression that we chart in this phase of the narrative. We examine first and briefly the global spread of the school improvement knowledge base and then focus on the impact of international benchmarking studies such as Programme for International Student

Assessment (PISA) on our understanding of the dynamics of system-level change. The cutting edge of work here is on differentiated strategies for both school and system reform (for a review, see Hopkins, 2013).

We begin with a brief review of the global range of school improvement work. For example, Fleisch's (2007) chapter on the history of the school effectiveness and improvement movements in Africa in the *International Handbook on School Effectiveness and Improvement* (Townsend, 2007) emphasises the importance of the work of the Aga Khan Foundation's school development work in countries such as Tanzania, Uganda, and Kenya. This has also been well documented by Steve Anderson (2002) in *Improving Schools Through Teacher Development: Case Studies of the Aga Khan Foundation Projects in East Africa*. Fleisch comments that this work not only illustrates school improvement strategies in these contexts but also brings in perspectives on curriculum adaptation and the language of instruction, two themes not typically featured in school effectiveness and school improvement studies.

Beatrice Avalos' (2007) "School Improvement in Latin America: Innovations over 25 Years (1980–2006)" explains how there has been a steady stream of policies and reforms in Latin America and the Caribbean since 1979 directed towards improved coverage, better learning results, eradication of illiteracy, more efficiency in management of systems, better teachers and better schools. In her words, the United Nations Educational Scientific and Cultural Organization's analysis of what came to be known as the Major Project of Education in Latin America and the Caribbean (UNESCO, 2001) – *Overview of the 20 years of the Major Project of education in Latin America and the Caribbean* – notes, "the greater concentration on improvement of access in the eighties, and from the nineties onward, an emphasis on the quality of education" (p. 185). So, for example, in the 1990s there were incentives for school improvement and innovation projects in Chile, Colombia, Paraguay, and Uruguay. At the same time, school quality for excluded populations – indigenous, rural, poor – was happening in Argentina, Bolivia, Chile, Costa Rica, Ecuador, Mexico, Nicaragua, Panama, Paraguay, Peru, and Uruguay. Many of these countries also had initiatives around evaluation of learning systems. Avalos adds that there has been a certain amount of change as result of the reforms of the 1990s, but that further professional development is necessary.

School improvement strategies of the types outlined in this review have often specifically focused – with some evidence of success – on the educational challenges facing various minority populations. For example, Russell Bishop and colleagues in New Zealand have recently published a book *Scaling Up Educational Reform: Addressing the Politics of Disparity* (Bishop, O'Sullivan, & Berryman, 2010), describing the work they have been doing in the Te Kotahitamnga Project that blends school improvement approaches with those specifically targeted at Maori populations. Bishop et al. (2010) argue for system-wide support for sustainability, one of the elements being communities of practice as reflected in the previous discussion.

This brief review of the broader international school improvement experience is intended both to confirm the trends identified in the previous phases of the review and also to highlight the importance of international comparisons and learning from international experience that is at the heart of the fifth phase of the narrative.

Two further points here: The first is the move from individual schools to local school systems and now to nation-level systemic approaches to school improvement; the second is the proposition that we can only learn about system change by studying systems, their components, and the interactions among their components (e.g., Datnow, Lasky, Stringfield, & Teddlie, 2006; Hopkins, Munro, & Craig, 2011) and working on how to

improve them. We note that diverse nations, states, and communities have, over time, developed very different systems for providing education to their children. Hence, as is seen below, both the description of educational systems and the necessary levers for "systemic reform" will vary greatly by national "systemic" context (see, e.g., Reynolds et al., 2002).

By "system", we mean the entirety of the educational support network for schools. School "systems" vary greatly by country, and a couple of examples can quickly illustrate the range of "systems" involved in "systemic" reform. In the United States, most educational work is presumed to be the responsibility of the 50 states, but over the past 50 years the federal government has played an increasingly active role. Today, the US federal government (Congress, the administration, including the several hundred employees of the Department of Education) mandates testing policies and accountability systems for all states, support for children with special needs, and that a range of other services be provided by all schools. States then develop policies and mandate procedures for the local education authorities (LEAs). States have numbers of LEAs that range from 1 (Hawaii) to over 800 (Montana and California). In Southern states, LEAs tend to be county based (e.g., Maryland has only 24 LEAs), and others (e.g., Texas, but also elsewhere) have hundreds of LEAs that are almost comically gerrymandered small communities specifically created to focus tax dollars on specific – typically affluent – neighbourhoods within communities. In the United States, an LEA governs schools serving from under a hundred to over a million students. LEAs oversee budgets and typically coordinate everything from decisions to open new schools to paper purchases. LEAs are overseen by (typically locally elected) school boards that hire one superintendent (for discussion, see Alsbury, 2008; Land, 2002; Shelton & Stringfield, 2011). Under the LEAs, there are between one and over a thousand schools. Depending on state and LEA, schools may or may not have the power to hire, mentor, and provide professional development for all their staff members. All of the above is influenced by a range of locally and nationally elected politicians, often powerful teachers' and superintendents' associations and unions, universities, for-profit and not-for-profit organisations, and various local, state, and national parents' advocacy groups. It is almost impossible to imagine any change that one or more components of the above "system" would not advocate, and one or more would not actively oppose.

This "system" creates an extremely complicated environment in which to affect almost any school- or "system"-level change. It also creates a requirement that persons seeking systemic change define which part(s) of the system they intend to change, and to specify how the would-be-change agents propose to work through the various components of "system" to affect their desired changes. In the United States, it is extremely likely that many laudable change efforts have now disappeared because "they didn't work", when "didn't work" meant that the developers had not adequately taken into account the full complexity of working in a very complex, dynamic system.

Hong Kong provides a contrasting case of "system" definition. In Hong Kong, the state determines the core curriculum and the funding level per student. Under the state are a diverse series of school governing bodies. Some may be churches, others workers' unions, and so on. Before the beginning of each school year, the state sends a check to the governing body of each school, based on the number of students expected at that school. The state later audits the financial books of the schools and periodically conducts somewhat British-style instructional audits. The complexities of change in such a system are dramatically different from those in the United States. Most countries' "systems" lie somewhere in between. Readers should be aware when reading articles and books on

"systemic" change that the authors may be referring to national systems, state or local systems, or cross-school and cross-state systems of school reform teams.

Keeping these caveats in mind, it is worth pointing out that the equivalent of the school effectiveness research at the system level has been initiated during the last 2 decades by the advent of international benchmarking studies such as the Trends in International Mathematics and Science Study (TIMSS) and the Third International Mathematics and Science Study Repeat (TIMSS-R). Currently, probably the best known and most influential is the OECD's Programme for International Student Assessment (PISA). The OECD launched PISA in 2000. Subsequently, OECD, through PISA, has been monitoring learning outcomes in the principal industrialised countries on a regular basis. As a result of this work, we have learned a great deal about high-performing educational systems over the past 10 years. This is not only from PISA but also from secondary analyses such as Fenton Whelan's (2009) *Lessons Learned: How Good Policies Produce Better Schools*, the McKinsey group's *How the World's Best Performing School Systems Come Out on Top* (Barber & Mourshed, 2007) and *How the World's Most Improved School Systems Keep Getting Better* (Mourshed, Chijioke, & Barber, 2010). A range of other multinational effectiveness studies have contributed to this field (e.g., Reynolds et al., 2002).

Fullan (2009) reviewed the evidence on the success of large-scale improvement efforts over the past dozen years. He identified three phases that such reform efforts have passed through with increasing effectiveness. Fullan wrote that during his second period – roughly 1997 to 2002 – educators began to witness some cases of whole system reform in which progress in student achievement was evident. Consider three examples:

- As regards states in the USA, Leithwood, Jantzi, and Mascall (1999) reviewed the impact of a number of "performance-based" approaches to large-scale reform. Although there was some initial impact on test scores, this was not sustained over time. Leithwood et al. opined that one cause of these non-sustained changes was the fact that these reform strategies neglected to focus on instruction and capacity building.
- England, in 1997, saw the first national government use an explicit theory of large-scale change as a basis for bringing about system reform (Barber, 2007; Hopkins, 2007b). The National Literacy and Numeracy Strategy was designed to improve the achievement of 11-year-olds in all 24,000 English primary schools. The percentage of 11-year-olds achieving nationally expected literacy standards increased from 63% in 1997 to 75% in 2002. In numeracy, the increase was from 62% to 73%. However, the achievements in literacy and numeracy were not sustained post-2002, and subsequent success was the consequence of a different strategic approach.
- Finland, now recognised as one of the top-performing school systems in the world, is the third example. A. Hargreaves, Hala'sz, and Pont (2007) argued in their OECD review that Finland's gains between 1997–2002 were the result of a medium-sized country (5 million people) turning itself around through a combination of vision and society-wide commitment to education.

Based on the evidence in the studies reviewed in this section, we forward a hypothesised set of features of high-performing national and regional educational systems. Each principle has a high degree of operational practicality. We surmise that highly effective educational systems:

(1) develop and disseminate clarity on goals and on standards of professional practice;
(2) ensure that student achievement is the central focus of systems', schools', and teachers' professional lives;
(3) as a consequence, locate the enhancement of the quality of teaching and learning as central themes in the systems' improvement strategies;
(4) partially achieve their success through selection policies that ensure that only highly qualified people become teachers and educational leaders; and then by
(5) putting in place ongoing and sustained professional learning opportunities that develop a common "practice" out of the integration of curriculum, teaching, and learning;
(6) emphasise school leadership with high expectations, an unrelenting focus on the quality of learning and teaching, and the creation of protocols that ensure that their students consistently undertake challenging learning tasks;
(7) have procedures in place to enable this, providing timely, ongoing, and transparent data to facilitate teachers' abilities to make improvements in their teaching and students' learning;
(8) intervene early at the classroom level to enhance school performance;
(9) address inequities in student performance through good early education and direct classroom support for those students who have fallen behind;
(10) establish system-level structures that link together the various levels of the system and promote disciplined innovation as a consequence of thoughtful professional application of research and on "best practice" which is facilitated by networking, self-reflection, refinement, and continuous learning.

Of course, it is possible that low-performing systems may also have some of these features.

Even specifications like this, however, are more like a list of ingredients rather than a recipe of what can work in different contexts. In any specific, necessarily unique educational context, there is no "reform in a box" that can be brought in and implemented insensitively to local context and culture. What is now needed is finer grained knowledge of how to manage system reform over time. In *Every School a Great School*, Hopkins (2007a) suggested that the key to managing system reform is to strategically re-balance "top-down and bottom up" change over time. Barber (2009) stressed the need for system leadership along with capacity building. A. Hargreaves and Shirley (2009) argued for a "Fourth Way of Change" that consisted of combining top-down "national vision, government steering and support with 'professional involvement' and 'public engagement' all for the purpose of promoting 'learning and results'." Harris (2011) has suggested that system improvement requires a professional infrastructure predicated on the most effective models of professional learning.

However, the transition from "prescription" to "professionalism" implied by these commentaries is not easy to achieve in practice. In order to move from one phase to the next, strategies are required that not only continue to raise standards but also develop social, intellectual, and organisational capital within individual educators, schools, and systems. The guiding image of both successful schools and systems is their ability to balance "top-down/bottom- up" and "inside-out/outside-in" change over time in the pursuit of sustained excellence in student achievement.

It is not just "rebalancing", however; it is also the use of different strategies for school and system improvement at different phases of the performance cycle. It is clear that

schools at different stages of development require different strategies not only to enhance their capacity for development but also to provide a more effective education for their students. As a corollary, strategies for school development need to fit with the "growth state" or culture of the particular school. Strategies that are effective for improving performance at one "growth state" are not necessarily effective at another.

Some early work on differential improvement strategies was done with schools in which different strategies were identified for different levels of school performance (Hopkins, Harris, & Jackson, 1997). Schools at the lower end of the performance spectrum require more top-down intervention, but this will not work at the top end of performance and perhaps will not work in the middle range either. Rather, as confidence and competence increase, then so must district- and school-based decision making. In the *Improving Schools* study, Gray et al. (1999) explored how schools became effective over time, and identified three different "routes to improvement": tactics, strategies, and capacities for further improvement. These can be regarded as different narratives or school improvement journeys.

Similarly, in the Welsh implementation of the High Reliability Schools (HRS) project (Stringfield et al., 2008, 2012), the secondary schools in the LEA had produced percentages of students' with 5+ A*-C scores on the national General Certificate of Secondary Education (GCSE) of between 13% (very low) and 40% (at the time, above the national average) in the year before involvement. The HRS reform presented general principles, measures and supports, but insisted that "the world's leading authorities on your school are you". The school heads and department heads were highly supportive of one another acknowledging that they were starting at different places and needed to address quite different issues. By supporting one another on often divergent courses, the schools raised their GCSE scores dramatically, becoming the "most value-added" LEA in Wales for several consecutive years.

This type of approach has been confirmed in the research of Day et al. (2011) in which 20 schools that had made sustained improvement over time were seen to have followed similar patterns of improvement, again increasing autonomy after the basic regularities of schooling had been established. The clear implication of this research is that there is a developmental sequence in school improvement narratives that requires certain building blocks be in place before further progress can be made.

We believe that this progression applies to systems as well as schools. Building on this proposition, Hopkins in *Every School a Great School* (2007a) introduced the concept of segmentation. He argued that in any system there is a range of schools at varying stages of the performance cycle between low and high performing, and further that for system transformation there is a need to move to a new trajectory through using this diversity to drive higher levels of performance throughout the system. System transformation depends on excellent practice being developed, shared, demonstrated, and adopted across and between schools. Further examples of this type of intra-district, inter-school sharing and learning and its potentially substantial effects on student achievement can be found in the research for example of Stringfield et al. (2008) and Leithwood (2010).

Hopkins (2007a) maintained that this process can continue to evolve in an ad-hoc way as happens in most systems, or it can be orchestrated by national/regional organisations with strong local roots, or by networks of schools themselves. The most successful of these interventions have occurred when a leading school partnered with a school that was either facing challenging circumstances or was deemed "failing" as consequence of an external inspection. Hopkins (2007a) and Higham, Hopkins, and Matthews (2009) have presented evidence suggesting that the previously low-achieving partner school can

achieve national levels of performance within a 2-year period if the following three conditions are met. The intervention must be:

(1) strategic, incorporating quick wins within a medium-term approach;
(2) practical, in so far as successful practices are transferred rapidly from one school to the other; and
(3) lubricated by extensive professional development and mentoring.

This line of thinking has been given a greater degree of prominence and precision at the system level by the recent publication of Mourshed et al. (2010). This study is the most ambitious attempt so far to examine the improvement trajectories of educational systems. Based on their performance across a range of international benchmarking studies, 20 systems were identified as either "sustained improvers" or "promising starts". From an examination of this sample, four stages of improvement were identified, which were labelled "poor to fair, fair to good, good to great and great to excellent". In line with the research already discussed, this study identified "stage-dependent" intervention clusters that respectively were focused on first ensuring basic standards, then consolidating system foundations, followed by professionalising teaching and leadership, and finally system-led innovation.

In line with this narrative, there were six actions that Mourshed et al. (2010) stated apply equally across each of the phases. These were related to ensuring a coherent policy framework, curriculum, and standards, establishing (and using!) data systems, assessing students, building technical skill, and appropriate reward structures.

Mourshed et al. (2010) also commented in detail on three other features of system reform: *Contextualising* – which refers to the way in which these intervention clusters and common policies were of necessity adapted to the specific context and cultural demands of the system; the word *Ignition* captured the various ways in which change had been initiated; finally, *Sustaining* – by which they meant a commitment to internalising and consistently applying a dynamic pedagogy framework as well as the positive existence of a "mediating layer" between the centre and schools that provides support and challenge for schools.

This is helpful in two ways. First, it confirms the contours of the narrative of this review; second, it provides a stronger and more precise evidential base for designing system interventions. It is another step along the road of learning how to develop improvement strategies or recipes for reform from the factors or ingredients that make for successful school systems.

The report by Mourshed et al. (2010) provides a fitting conclusion to the phase-related narrative that has provided the substance of this review. It is not, however, the final word on the subject. Nor is this review. At best, it is a reflection on what has been achieved so far.

Summarising the field to date and a comment on the future

As has been seen in this review, school improvement as a field can be seen to have evolved through a number of phases. These phases are not mutually exclusive; they overlap and flow into one another, but they do represent a natural progression. The more that we learn about them the quicker we can progress through them.

- **Phase I** provided a foundation with its emphasis on how organisations can improve through specific intervention and the highlighting of the importance of culture in any change process.
- **Phase 2** focused on teacher action research, school self-review, and concern for meeting the needs of disadvantaged students. It began to lay out the distinctive educational values and strategies that define the school improvement field.
- **Phase 3** built on the emerging school effectiveness knowledge base, and brought to the surface the idea of the school as the unit of change. This phase included the greater attention to replicable comprehensive school reform approaches that addressed both organisational and classroom improvement.
- **Phase 4** is focusing on the concern for being able to scale up reforms that have been demonstrated to produce valued outcomes, and the recognition that districts and local education authorities have a vital role to play in school improvement. There is also evidence to suggest that large-scale professional learning communities offer one way forward to reinvigorate and recommit individual schools and educators to the process of improvement. Phase 4 also included an increasing focus on the importance of school leadership as a means of enhancing the learning and achievement of *all* students.
- **Phase 5** continues evolving. We are seeing the spread of the knowledge base globally and at the same learning more about achieving school improvement at scale, the essence of systemic reform.

All five phases of school improvement have involved a constant striving to achieve the delicate balance between individual initiative and school/system change, between internal and external resources and ideas, between pressure for accountability and support for change, and between independence and collaboration. Each has sprung from an abiding commitment to securing improved learning outcomes for all students in all settings.

The narrative portrayed here is of journey, and it is in the nature of the journey that it progresses. As we attempt to consolidate the gains of previous phases and understand more about the one we are currently in, we need also to think of the future and consider the challenges that will confront us as we continue to make progress.

To us, the key future challenge is related to "will" and to leadership. Ron Edmonds (1979), who became known as the initial leader of the effective schools movement, posed this challenge:

> It seems to me, therefore, that what is left of this discussion are three declarative statements:
>
> (a) We can, whenever and wherever we choose, successfully teach all children whose schooling is of interest to us;
>
> (b) We already know more than we need to do that; and
>
> (c) Whether or not we do it must finally depend on how we feel about the fact that we haven't so far.

In writing this over thirty years ago, Edmonds was both right and wrong. Where he was almost certainly wrong was his contention that enough was known then to improve all schools "whenever and wherever we choose". As we have argued on the preceding pages, we are slowly learning enough to perhaps be helpful – given enough contextually specific knowledge – to most professional educators in most environments. The paradox

is that even this increasingly fine-grained knowledge is not having the impact that Edmonds or we desire. His passion for improvement and social justice was certainly right, but the fact that this passion is not being realised – is that a failure of will?

Yes, we have to exercise will. But the odds of us having more will than our parents and grandparents, or our children and grandchildren having significantly more than us… We are deeply skeptical. People develop "will" when they believe there is a possible "way". We need to identify levers that mere mortals – people who eat and breathe and do good work and sin and everything in between – can effectively implement to educate our children.

From this perspective and on further reflection, we offer three concluding thoughts about how to identify those levers that together provide more powerful ways to enhance the learning and achievement of our students and through this generate the "will" we have just been discussing.

(1) The first is about ***strategy***. The key here is not simply to identify the factors that characterise high-performing educational systems but to understand how these factors combine in different ways – in different innovation clusters – to drive reform in systems that are at different stages of their progression along the performance cycle.
(2) The second is about ***learning***. In the previously noted OECD report, Dumont et al. (2010) identified a set of principles that should be present in any learning environment for it to be judged truly effective. The OECD report on the nature of learning invites the transfer of power to the learner within learning environments that are structured and well designed, profoundly personalised, inclusive, and social. But it is more than either of these alone. It is the focus on higher order capabilities within the context of holistic system change and collaborative technologies that gives us the possibility of seriously and continuously improving large school systems contributing to building learning societies.
(3) The third is about ***intelligent implementation***. Once one or more effective ways forward have been identified from the analysis above, we need to follow Matt Miles' (1967, 1975) edict, "Pick an innovation and go at it HARD". Implement with precision and energy, then study the effort, reflect on it, re-energise and refine.

Moral purpose may be at the heart of successful school and system improvement, but educators will not be able to realise this purpose without powerful and increasingly specified strategies and tools to allow them to deal with the challenges presented by globalisation as well as the increasingly turbulent and complex communities they serve. Our field needs ever more practical – and more applied – research. The practical work of improving schools requires educators who understand and implement the results of that research.

This is the culmination of our narrative. We suggest that it represents a qualified success story. We cannot, however, afford to be complacent. Educational improvement continues to face many challenges. The needs of the world's children spring from diverse contextual and cultural situations and interests. While the challenges of basic literacy and numeracy apply in some countries, others face major equity gaps within schools, between schools, or both. Modern electronic communications and the globalisation of work and other interactions have created new demands of children and young people. This, in turn, is necessitating ever more advanced preparation with a more varied set of skills and

attitudes than in earlier phases of school improvement. As we move into a new phase presaged by these challenges, we appreciate that continuing progress in these areas will require the concerted, coordinated efforts of thousands of policy and research teams, working with literally tens of millions of teachers around the world. Our hope is that ICSEI, the *SESI* journal, and, in a smaller way, this article, can contribute to this grand goal.

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