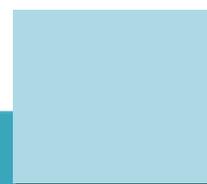


IMPACT OF SCHOOL AUTONOMY ON STUDENT ACHIEVEMENT IN 21ST CENTURY EDUCATION

A REVIEW OF THE EVIDENCE



educational
transformations



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CONTENTS

EXECUTIVE SUMMARY	i
CHAPTER 1: CONTEXTS AND CONCEPTS	1
Background	1
International project	1
Australian contribution	1
Methodology.....	1
Part 1: Review of literature	1
Part 2: Case studies of four schools.....	1
Part 3: Contribution to the design of the 3rd and 4th phases of the international project.....	2
Selection of sources.....	2
Need for a new review of the evidence.....	2
The concept of autonomy	3
Subsidiarity.....	4
Institutionalising the concept	4
Modelling the links between school autonomy and student achievement.....	5
Organisation of the review	5
Key themes in Chapter 1.....	6
CHAPTER 2: THE BIG PICTURE	7
Four generations of research	7
Findings in OECD research on PISA results	7
Early PISA.....	7
Recent PISA.....	9
Differences between developing and developed countries	9
Different stages in a journey.....	10
The need for caution.....	11
Shifting the focus in research, policy and practice.....	11
Focus on learning and professional practice	11
Focus on the human resource	13
Alignment.....	14
Key themes in Chapter 2.....	14
CHAPTER 3: INSIDE THE BLACK BOX.....	15
Early large-scale research in Australia	15
Mapping the links to learning.....	16
Making the links visible.....	17
Contribution of John Hattie	17

Caution and contradiction	19
New methodologies and deeper analyses	20
Updating the evidence from England.....	22
Eyles and Machin study	22
Sutton Trust study	23
Discussion	24
More from England: Small schools and federations	24
National College for School Leadership studies.....	25
Ofsted study	26
Updating the evidence from the United States	27
Updating the evidence from China: Shanghai and Hong Kong	28
Parent and community engagement	29
Australia	30
Canada	31
Finland	32
New Zealand	32
Scotland.....	33
Is autonomy a pre-requisite?	34
Key themes in Chapter 3.....	35
CHAPTER 4: INNOVATION AND 21 ST CENTURY EDUCATION.....	36
School autonomy and innovation.....	36
OECD study of innovation in schools.....	36
Innovation and school autonomy in the United States	39
Innovation zones	40
21 st Century education.....	41
Cisco	42
Centre for Curriculum Redesign (CCR)	42
Key themes in Chapter 4.....	44
REFERENCES	45
ATTACHMENT: SELECTED STUDIES OF HIGH-PERFORMING PRINCIPALS.....	50

EXECUTIVE SUMMARY

The nature and purpose of school autonomy, school-based management or school self-management continues to be contentious in many circles but of the subjects of contention, this review focuses as unrelentingly as possible on the impact of school autonomy on student achievement in the context of education in the 21st Century.

Background

International project

Researchers from six countries met in Jerusalem in May 2014 to plan an international research project to investigate the strength of links between higher levels of school autonomy and student achievement. Researchers had either several decades of experience in research, policy and practice in this area or were currently working closely with jurisdictions that have implemented a higher level of autonomy or were planning to do so. Countries/jurisdictions represented were Australia, Canada – Alberta, China – Hong Kong, England, Finland and Israel. Singapore has been added to the project since the meeting and the Canadian study now includes Saskatchewan. The focus is on public/state/government schools. The meeting was hosted by the Ministry of Education in Israel where there is interest in developing its policy and practice on school autonomy.

A four-phase project was planned: (1) a report on existing evidence on the aforementioned links; (2) case studies in schools that have made these links along with the design of national/jurisdictional surveys; (3) large-scale surveys, with an extension of the project to address outcomes on what are generally described as 21st Century skills; and (4) extending current professional development programs to take account of the findings in the first three phases. This report is a contribution to the first phase.

Australian contribution

While there is broad international literature on the topic, there is an absence of recent evidence in the Australian setting on the strength of links between school autonomy and student achievement. The terms of reference in recent studies did not call for evidence of impact on learning; for example, research on independent public schools in Western Australia undertaken at the Melbourne Graduate School of Education, and the evaluation of the national Empowering Local Schools project conducted by the Australian Council for Educational Research.

The project will contribute to the evidence base for the school autonomy component of the Schools First initiative of the Australian Government as well as to the international project described above.

Selection of sources

Particular attention is given in this review to certain kinds of sources. Meta-analyses or the bringing together of meta-analyses had the highest priority. Large-scale international studies drawing on large data bases, where jurisdictional comparisons were made, are also cited, especially those by or for the OECD, many of which make use of results in PISA. Reports of respected private consultancies that have substantial evidence bases, for example, those of McKinsey & Company, warranted attention. More sharply-focused longitudinal studies in particular jurisdictions are summarised. The work of international ‘thought leaders’ that has an evidence base, but also draws on many years of engagement in the policy arena are given weight. Well-constructed case studies have their merit, especially if they form part of the foregoing but, in their own right, had low priority in the review except if they illustrated a particular process or set of strategies that higher priority literature suggests are important.

The timeliness of this review is indicated by the fact that about 40 percent (32 of 75) sources listed in the References were published in 2012 or later.

The concept of autonomy

This review is concerned with the decentralisation of authority and responsibility to schools in systems of public education. A concept such as autonomy, in the full sense of the word, is misleading because a school in a system of public education is not fully autonomous. It is better to refer to a relatively high or relatively low level of autonomy, being careful to specify the functions over which schools have secured more authority and responsibility.

Key themes that emerged in the review

Chapter 1: Contexts and Concepts

1. A substantial body of evidence has emerged in the last three years as skilled researchers have designed robust quantitative studies, the findings of which have illuminated the links and made statements such as ‘school autonomy has no impact on student achievement’ either obsolete or ill-informed. Impact is contingent on the setting and the capacity of schools.
2. The concept of autonomy is used in different ways in different settings and researchers and policymakers must specify what functions are centralised and what are decentralised in interpreting the findings of research and drawing implications for policy and practice.
3. Some jurisdictions have had several decades of experience with higher levels of school autonomy, and concepts such as autonomy or school-based management have passed into history as the new approaches to management have become institutionalised.

Chapter 2: The Big Picture

1. Evidence from deep analysis of results in PISA tend to confirm that higher levels of school autonomy are associated with higher levels of student achievement providing there is a balance of autonomy and accountability.
2. Even deeper analysis reveals that there are differences in impact between developed and developing nations and, within each of these, there are differences among schools. The relationship in #1 is generally affirmed in developed countries, but for developing countries, higher levels of school autonomy may have no impact or even negative impact.
3. Further research confirms that the focus of autonomy should be on professional practice, with the aim being to make connections between the functions associated with school autonomy and actions that are likely to have an impact on student achievement. Exclusive reliance on structural changes for their own sake is unlikely to have an impact. It is important to align a range of strategies that research shows are linked to gains in student achievement.

Chapter 3: Inside the Black Box

1. The most powerful evidence on mediating factors linking school autonomy and student achievement is on the work of principals and other school leaders in building professional capacity through staff selection, professional development and appraisal; setting priorities on the basis of data about performance; and communication of purpose, process and performance. Cultural factors may limit effects in some settings. These capacities can be built and made effective in settings where there may be only moderate levels of school autonomy. There is evidence that federations (alliances) of schools with relatively high levels of autonomy may enhance student achievement if they are focused on sharing knowledge and resources.
2. Differences between developed and developing countries in respect to the impact of school autonomy on student achievement are also evident within these contexts such that, within the former, there may be no impact or negative impact if schools do not

have the capacities that research has demonstrated are likely to facilitate the links, such as those described in #1. There is evidence that the impact of school autonomy on student achievement becomes stronger and more positive the longer a school has possessed and utilised a higher level of autonomy, reflecting the time it takes for the necessary capacities to be built and confidence to be gained.

3. Parental engagement has many benefits but there is little evidence to date that there is a positive impact on student achievement, except for the engagement of parents in support of their children in the early years of schooling, even though such an impact is invariably an expectation.

Chapter 4: Innovation and 21st Century Education

1. While there is general recognition of the importance of innovation, there is little evidence to date that higher levels of school autonomy are more likely to foster it than initiatives taken at the central level of a school system. In some systems the latter has established what are known as ‘innovation zones’, which are innovations in their own right, within which schools are encouraged and supported to be innovative. There is modest but promising evidence that there may be an impact on student achievement in areas in which these schools are specialising so, to this extent, there is an association with a degree of school autonomy.
2. There are different views on what constitutes 21st Century skills and how they should be addressed in the curriculum. Work continues in some settings on how they should be measured. Some jurisdictions, notably Singapore, appear to be making good progress. There is no evidence in literature reviewed thus far that there is an association between higher levels of school autonomy and higher levels of student achievement in respect to these skills. 21st Century education may be a more useful concept than 21st Century skills.
3. There is a need for further research on matters related to innovation and 21st Century education as far as school autonomy and its impact is concerned. This will be a focus in the third phase of the international project.

CHAPTER 1: CONTEXTS AND CONCEPTS

Background

International project

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A four-phase project was planned: (1) a report on existing evidence on the aforementioned links; (2) case studies in schools that have made these links along with the design of national/jurisdictional surveys; (3) large-scale surveys, with an extension of the project to address outcomes on what are generally described as 21st Century skills; and (4) extending current professional development programs to take account of the findings in the first three phases. This report is a contribution to the first phase.

Australian contribution

While there is broad international literature on the topic, there is an absence of recent evidence in the Australian setting on the strength of links between school autonomy and student achievement. The terms of reference in recent studies did not call for evidence of impact on learning; for example, research on independent public schools in Western Australia undertaken at the Melbourne Graduate School of Education, and the evaluation of the national Empowering Local Schools project conducted by the Australian Council for Educational Research.

The project will contribute to the evidence base for the school autonomy component of the Schools First initiative of the Australian Government as well as to the international project described above.

Methodology

Part 1: Review of literature

Part 1 provides a summary of evidence from national and international studies on the strength of links between school autonomy and student achievement. Particular attention is given to robust quantitative studies that have been conducted since 1994. Meta-analyses that bring together findings from several studies are included. It is intended that the report inform further developments in Australia but will also be a contribution to the overall international effort. The review is contained in the current document and was conducted in October and November 2014.

Part 2: Case studies of four schools

There is a need for up-to-date accounts of how schools with a relatively high degree of autonomy have used their increased authority and responsibility to lead in explicit cause-and-effect fashion to higher levels of student achievement. It is proposed to conduct four case studies of schools that have been successful in making the links. Schools will have at least two years of experience with higher levels of school autonomy. The case studies will be

conducted in February and March 2015 with reports to be prepared and verified by 30 April 2015.

Part 3: Contribution to the design of the 3rd and 4th phases of the international project

The author will participate in the design of further work in the international project to be conducted from mid-2015 to at least the end of 2016. His contribution will be shaped by the findings of Parts 1 and 2 above. A major part of this further work will be a large-scale survey of school principals in each of the participating nations/jurisdictions. This will involve a representative sample of principals in public/state/government schools. One component of the survey will explore the way in which schools have addressed the so-called 21st Century skills.

Selection of sources

Particular attention is given in this review to certain kinds of sources. Meta-analyses or the bringing together of meta-analyses had the highest priority. The work of Hattie (2009) for example, warranted special attention. Large-scale international studies drawing on large data bases, where jurisdictional comparisons were made, are also cited, especially those by or for the OECD, many of which make use of results in PISA. Reports of respected private consultancies that have substantial evidence bases, for example, those of McKinsey & Company, warranted attention. More sharply-focused longitudinal studies in particular jurisdictions are summarised, for example, the five-year study in the mid-1990s in Victoria. The work of international 'thought leaders' such as Michael Fullan and David Hargreaves, that has an evidence base, but also draws on many years of engagement in the policy arena are given weight. Well-constructed case studies have their merit, especially if they form part of the foregoing but, in their own right, had low priority in the review except if they illustrated a particular process or set of strategies that higher priority literature suggests are important.

Need for a new review of the evidence

This review is timely because the impact of school autonomy on student achievement has emerged as the most important issue in research, policy and practice on the phenomenon. It has not always been the case. The author undertook one of the earliest studies of the decentralisation of decision-making to schools in Canada (Caldwell 1977) and identified four factors that appeared to be driving developments in several jurisdictions. These factors, working singly or in combination, represented demands for increased sensitivity to local needs and problems, reversal of the effects of size and centralisation, accountability and professionalism, and a desire for participative management. Impact on student achievement may have been implied or assumed but was rarely stated explicitly.

After related research in Australia in the early- to mid-1980s, the author updated his analysis of developments every three to five years, as summarised in a range of publications including Caldwell and Spinks (1988, 1992, 1998, 2008 and 2013) as well as in studies commissioned by the Department of Education, Employment, Training and Youth Affairs (DEETYA) of the Australian Government (Caldwell 1998), the International Academy of Education (Caldwell 2005) the International Encyclopedia of Education (entry on Reform and Restructuring: Self Managing School) (Caldwell 2010) and the Australian Council for Educational Research (ACER), as part of its evaluation of the Empowering Local Schools initiative of the Australian Government (Caldwell 2012). Impact on learning was listed first among a set of four major issues in the encyclopedia entry in 2010:

There are four major issues in the contemporary implementation and critique of self-managing schools: (1) the extent to which there has been an impact on learning; (2) the mechanism that is used to allocate funds from the centre to schools; (3) whether the decentralisation of funds to the local level has increased the opportunity for corruption in the use of public funds; and (4) the impact of self-management on the role of the principal and other school leaders. (Caldwell 2010:74)

The timeliness of this further review is indicated in a rough and ready fashion by the fact that about 40 percent (32 of 75) sources listed in the References were published in 2012 or later, after the author prepared the review of literature for the evaluation of the Empowering Local Schools project in Australia (Caldwell 2012).

The nature and purpose of school autonomy, school-based management or school self-management continues to be contentious in many circles, but of the subjects of contention, this review focuses as unrelentingly as possible on the impact of school autonomy on student achievement in the context of education in the 21st Century.

The focus on student achievement is especially timely, not only because of the Australian Government's interest as part of its Schools First initiative and the seven-country international research project to which it is contributing but because of the unprecedented body of quantitative evidence that has been searchingly analysed by outstanding researchers over the last three years.

The concept of autonomy

This review is concerned with the decentralisation of authority and responsibility to schools in systems of public education. A concept such as autonomy, in the full sense of the word, is misleading because a school in a system of public education is not fully autonomous. It is better to refer to a relatively high or relatively low level of autonomy, being careful to specify the functions over which schools have secured more authority and responsibility.

The extent of decentralisation is constrained by the requirement that relatively autonomous schools continue to operate in a centrally-determined framework of goals, policies, standards, curriculum, enterprise agreements and accountabilities. They continue by-and-large to be built, owned, operated and funded by a public authority. There is, however, increasing interest internationally in creating even higher levels of autonomy within systems of public education. Examples include charter schools in Canada and the United States along with academies and 'free' schools in England, but there are still constraints on their operation by the public authorities that established or allowed them in the first place and that could close them for any reason.

While the concept of autonomy is used widely in the countries participating in the international research project, the concept of school-based management (SBM) seems to be universal. RAND provided a helpful definition and expectation:

SBM is a form of education governance that grants responsibilities to, and authority for, individual school academic operations to principals, teachers, and other local community-based members. The expectations are that local, and often shared, decision-making will lead to more efficient and effective policies and programs aligned with local priorities, which in turn will lead to improved school performance and student achievement. (Vernez, Karam and Marshall 2012: iii)

The concept of the self-managing school has also been adopted in some countries:

A self-managing school is a school to which there has been decentralised a significant amount of authority and responsibility to make decisions related to the allocation of resources within a centrally determined framework of goals, policies, standards and accountabilities (Caldwell and Spinks 1998: 4-5; see also Caldwell and Spinks 1988, 1992, 2008, 2013).

Resources are defined broadly in this view of self-management: personnel, curriculum, pedagogy, technology, facilities as well as money should be considered as resources.

Other terms that have been used at different times in different settings include local management of schools, local empowerment of schools and site-based management. The term 'decentralised centralism' is used in accounts of policy and practice in Shanghai (see Chapter 3 and Tan 2013). 'Independent public schools' has emerged in Australia in recent

years, with Western Australia being the first jurisdiction to adopt the term. It has since been embraced by the current federal government which has set an expectation for one-quarter of the nation's public schools to become 'independent' (six of the eight states and territories had agreed to join the scheme at the time of writing). In reality however, the balance of centralisation and decentralisation is best captured in the concepts of school-based management or school self-management.

Subsidiarity

It may be helpful to adopt a relatively timeless principle to describe what is now generally referred to as a higher level of school autonomy. Some find the 'principle of subsidiarity' to be helpful in this regard. Those involved in Catholic education often refer to the principle of subsidiarity. Pope Pius X1 is frequently cited:

Still, that most weighty principle, which cannot be set aside or changed, remains fixed and unshaken in social philosophy: Just as it is gravely wrong to take from individuals what they can accomplish by their own initiative and industry and give it to the community, so it is also an injustice and at the same time a grave evil and disturbance of right order to assign to a greater and higher association what lesser and subordinate organizations can do. For every social activity ought of its very nature to furnish help to the members of the body social, and never destroy and absorb them (Pope Pius X1, 1931, Para 79).

AJ Brown, Professor of Public Policy and Law at Griffith University in Queensland described the principle of subsidiarity in simpler terms: 'that responsibility should fall to the lowest level of government that has the ability and resources to do it' (Brown 2014: 20). It is likely that the capacity of schools in Australia and comparable countries has been built in recent decades to the point that they have a higher level of 'ability' and mechanisms have been established to enable them to manage 'resources', defined broadly, more effectively.

Institutionalising the concept

From time to time there is resistance in various circles to concepts and associated policies and practices such as autonomy, school-based management, self-managing schools, self-governing schools and independent public schools. This is especially the case in the early stages of design and implementation. However there tends to be acceptance over time. In England for example, the shifting of more authority, responsibility and accountability to schools embodied in the 1988 Education Reform Act was a further development of what was initially known as the local financial management of schools, which then became the local management of schools. In the pioneering public school district in Edmonton, Canada, the early pilot and initial system-wide implementation was known as school-based budgeting. In Victoria, Australia, system-wide adoption in the early 1990s was referred as school self-management, as it was in New Zealand at about the same time. In Hong Kong it was known as the School Management Initiative. However, after more than two decades of experience in each of these jurisdictions, the labels were dropped and it was simply the way things were done – the practices had with minor variations become institutionalised. The author learned about this at first hand when he recently made an enquiry of a senior leader in Edmonton about how principals and other school leaders along with teachers felt about the change now that it was well established nearly three decades after implementation. The perhaps obvious response was that most had no previous experience of the earlier practice and labels were no longer attached.

Modelling the links between school autonomy and student achievement



This illustration may be helpful to frame what is intended in this review. SA at the left stands for School Autonomy; at the right it is for Student Achievement. In the past, proponents and some scholars expected or assumed a direct link, that is, increasing the amount of autonomy for a school would lead in direct cause-and-effect fashion to improved outcomes for students. That such an association occurred in some settings but not others frequently led to the observation that, taking all things into account, there was no link between the two and therefore to the question: 'Why do it?'

As the years passed, and richer data bases were constructed that have been mined by outstanding analysts, the questions that have arisen more recently include: 'Why is there a link between the two in some settings but not in others?' or 'What are the conditions under which the link may be made or not made?' or 'Why is it that schools in some settings can achieve impressive outcomes under conditions of relatively high centralisation, often securing a higher level of achievement than similar schools that operate with a relatively high degree of autonomy?' or 'Is the effort worthwhile given that the gains may be marginal even under favourable conditions?'

This review is intended to answer these and related questions and this involves identifying the mediating factors or variables that occupy the box connecting SA and SA. Much of the review is devoted to this task. As we shall see, some who continue to ask 'Why do it?', or show no awareness of mediating factors, or fail to acknowledge them, are disingenuous at best, withholding or not taking account of known information.

The arrows are shown as two-way links for a reason. The left to right configuration is conventional, that is, it suggests that if a school has been given a relatively high degree of autonomy, and has the capacity and will to use it, then there may be a positive or negative impact on student achievement, depending on how the mediating factors are brought into play. The right to left configuration may also be evident, for example, in jurisdictions that have adopted a policy of 'earned autonomy'. In these circumstances, a school that has demonstrated sustained success or achieved significant improvement, and has the capacity to work among the mediating factors to achieve such outcomes, is considered to have 'earned' a higher level of autonomy and will therefore, should it choose to do so, take on more authority and responsibility.

While such a diagram may appear at first sight to be simplistic, it is offered as a useful device to suggest a framework within which some important research findings may be accommodated.

Organisation of the review

Chapter 1 described the national and international context for the review, summarised the methodology and the major project of which it is a part, and defined and explained the key concepts. Chapters 2 and 3 bring together a substantial body of evidence to indicate the nature and strength of the relationship between school autonomy and student achievement. Chapter 3 draws on major international studies, especially those that report expert analyses of findings in PISA. Chapter 4 focuses on the contents of the 'black box', being concerned with the mediating variables that determine whether or not there is any impact of school autonomy on student achievement. Particular attention is given to research that identifies strategies adopted by principals and other school leaders that bring about gains in student achievement. Chapter 4 deals with innovation and the so-called 21st Century skills,

summarising the relatively sparse research on the impact of higher levels of school autonomy.

Key themes in Chapter 1

1. A substantial body of evidence has emerged in the last three years as skilled researchers have designed robust quantitative studies, the findings of which have illuminated the links and made statements such as 'school autonomy has no impact on student achievement' either obsolete or ill-informed. Impact is contingent on the setting and the capacity of schools.
2. The concept of autonomy is used in different ways in different settings and researchers and policymakers must specify what functions are centralised and what are decentralised in interpreting the findings of research and drawing implications for policy and practice.
3. Some jurisdictions have had several decades of experience with higher levels of school autonomy, and concepts such as autonomy or school-based management have passed into history as the new approaches to management have become institutionalised.

CHAPTER 2: THE BIG PICTURE

Chapter 2 draws on major international studies, especially those that report expert analyses of findings in PISA. The starting point is acknowledgement that research over the last three decades has occurred in ‘phases’ or ‘generations’, as the purpose of school autonomy has changed and the quality of evidence has improved. A summary of findings in early and recent analyses of results in PISA is then provided. A notable recent development has been research that differentiates between what has been accomplished in developing and developed countries. There is a need for caution in interpreting some of the findings. The chapter concludes that the focus should shift to professional practice if there is to be an impact on student achievement.

Four generations of research

There has been a consistent demand for evidence that higher levels of autonomy lead in cause-and-effect fashion to higher levels of student achievement. This is understandable despite the unrealistic or inappropriate expectations that have sometimes been held for the process. It was sobering to note the consistent finding in early research that there appeared to be few if any direct links. Such an impact was unlikely to be achieved in the absence of purposeful connections between capacities associated with autonomy and what occurs in the classroom, in learning and teaching and the support of learning and teaching.

A review of research suggests that there have been four generations of studies and it is only in the third that evidence of the impact of higher levels of autonomy on outcomes emerged, and then only when certain conditions were fulfilled. The first generation in the 1970s was when impact on learning was not a primary purpose. The second generation was in the 1980s when such a purpose may have come to the fore, but the database was weak. The third, emerging in the late 1990s and gathering momentum in the early 2000s, coincided with a pre-eminent concern for student achievement and the development of a strong database on outcomes. The most striking findings have come from analyses in PISA. A fourth generation is now evident, with research including meta-analyses of very large bodies of data leading to a highly nuanced set of findings, for example, distinguishing between the impacts of higher levels of autonomy in developed and developing nations.

Findings in OECD research on PISA results

Early PISA

It is important to review the findings of various studies that have analysed results in PISA, commencing with reports in 2007. In several instances the findings and conclusions have been misquoted or cited without important qualifications. Extended quotations are included below to ensure that the findings are reported in context.

Early findings were based on an analysis of results in PISA 2003 which focused on knowledge and skills in science of 15-year-olds. More than 400,000 students participated from 57 countries, covering 90 percent of the world’s economy. School principals reported on the extent of autonomy on a range of matters. The following findings were noteworthy:

After accounting for demographic and socio-economic background factors, school level autonomy indices in staffing, educational content, and budgeting do not show a statistically significant association with school performance. However, a system-level composition effect appears with regard to school autonomy in educational content as well as budgeting. Students in educational systems giving more autonomy to schools to choose textbooks, to determine course content, and to decide which courses to offer, tend to perform better regardless of whether the schools which individual students attend have higher degrees of autonomy or not . . . Similarly, students in educational systems that give more autonomy to

schools to formulate the school budget and to decide on budget allocations within the school tend to perform better regardless of whether the schools that individual students attend have higher degrees of autonomy or not . . . School autonomy variables do not appear to have an impact on the relationship between socio-economic background and science performance, that is, greater school autonomy is not associated with a more inequitable distribution of learning opportunities (OECD 2007: 252-3).

The report went further to construct a model to explain the joint impact of school and system resources, practices, and policies on student performance. Of the 15 factors in the model, the system average on the school autonomy index in budgeting was by far the most powerful.

Findings in further analyses confirmed that the most successful systems of schools secured an optimal balance of autonomy, accountability and choice. Particularly striking are two studies conducted for OECD by staff at the Ifo Institute for Economic Research at the University of Munich (Department of Human Capital and Innovation). These were concerned with accountability, autonomy and choice, with one focusing on level of student achievement and the other on equity of student achievement. On level of student achievement, the following findings were noteworthy:

On average, students perform better if schools have autonomy to decide on staffing and to hire their own teachers, while student achievement is lower when schools have autonomy in areas with large scope for opportunistic behaviour, such as formulating their own budget. But school autonomy in formulating the budget, in establishing teacher salaries, and in determining course content are all significantly more beneficial in systems where external exit exams introduce accountability. (Wößmann [Woessmann], Lüdemann, Schütz and West 2007: 59)

Students perform substantially better in systems where private school operation creates choice and competition. At the same time, student achievement increases along with government funding of schools. A level playing field in terms of government funding for public and private schools proves significantly performance enhancing. The evidence is less clear on whether choice among public schools has any significant effect on student achievement across countries, although in urban areas where there are more schools to choose from, student achievement is higher for students who are not restricted to attend the local school and who report that they attend their school because it is better than alternatives. (Wößmann, Lüdemann, Schütz and West 2007: 59-60)

As far as equity is concerned:

[R]ather than harming disadvantaged students, accountability, autonomy, and choice are tides that lift all the boats ... there is not a single case where a policy designed to introduce accountability, autonomy, or choice into schooling benefits high-SES students to the detriment of low-SES students, i.e. where the former gain but the latter suffer. This suggests that fears of equity-efficiency tradeoffs and cream-skimming in implementing market-oriented educational reforms are not merely exaggerated, but are largely mistaken. (Schütz, Wößmann and West 2007: 34-35)

Andreas Schleicher leads the OECD effort in PISA and provided a helpful synthesis of the findings on school and system characteristics in high-performing systems. He makes clear that autonomy is but one element in a constellation of approaches that must be aligned if the desired outcomes are to be achieved. He referred to policy and practice in Finland.

High-performing education systems tend to create 'knowledge rich' education systems, in which teachers and school principals act as partners and have the authority to act, the necessary information to do so, and access to effective support systems to assist them in implementing change. External accountability systems are

part of all this, but so are lateral accountability systems. Among OECD countries, countless tests and reforms have resulted in giving schools more money or taking away money, developing greater prescription on school standards or less prescription, or making classes larger or smaller, often without measurable results. What distinguishes top-performer Finland is its emphasis on building networks of schools that stimulate and spread innovation as well as collaborate to provide curriculum diversity, extend services, and professional support. Finland fosters leadership that helps reduce between-school variation through system-wide networking and builds lateral accountability. It's moved from hit-or-miss policies to universal high standards; from uniformity to diversity; from a focus on provision to a focus on outcomes; from managing inputs and a bureaucratic approach to education to devolving responsibilities and enabling outcomes; and from talking about equity to delivering equity. (Schleicher 2011: 63)

Recent PISA

OECD provided an update on PISA-related research in a summary of findings in *PISA in Focus* on October 2011 (OECD 2011). While broadly consistent with earlier analyses by researchers at the University of Munich summarised above, it provided an explicit account of the relationship between autonomy, performance and the public reporting of results. Data were drawn from 64 nations/jurisdictions for PISA results in 2009. The following summarise the key findings:

At the country level, the greater the number of schools that have responsibility to define and elaborate their curricula and assessments, the better the performance of the entire national school system, even after accounting for national income. School systems that grant schools greater discretion in deciding student-assessment policies, the courses offered, the content of those courses, and the textbooks used are also systems that show higher reading scores overall. This association is observed even though having the responsibility to design curricula is not always related to better performance for an individual school. (OECD 2011: 2)

Data from PISA show that the relationship between the performance of individual schools and their level of autonomy in allocating resources is positive in some countries and negative in others. (OECD 2011: 2)

In school systems in OECD countries where all schools post achievement data publicly, a student who attends a school with more autonomy in allocating resources than the average school tends to score five points higher [498] on the PISA reading test than a student who attends a school with less autonomy [493]. In contrast, in school systems where no schools post achievement data publicly, a student who attends a school with more autonomy in resource allocation tends to score six points lower [489] on the reading test than a student who attends a school with less autonomy [495]. These results are seen after their students' and schools' socio-economic backgrounds are taken into account. (OECD 2011: 4)

The 'bottom line' conclusion of OECD is that 'Autonomy and accountability go together: greater autonomy in decisions related to curricula, assessments and resource allocation tend to be associated with better school performance, particularly when schools operate within a culture of accountability' (OECD 2011: 4).

An issue in the interpretation of the foregoing is whether the reported differences described above are of sufficient magnitude to reformulate system policy on levels of autonomy for schools.

Differences between developing and developed countries

A review of PISA results from 2000 – 2009 suggested that school autonomy has a negative influence in developing, low-performing countries but is positive in developed, high-

performing countries (Hanushek, Link and Wößmann 2012). The findings of Wößmann and his colleagues were cited above (Wößmann, Lüdemann, Schütz and West 2007; Schütz, Wößmann and West 2007).

Hanushek, Link and Wößmann (2012: 213) acknowledged the difficulties in studying the impact of autonomy, identifying four significant issues: (1) the multi-faceted nature of autonomy, with some schools having authority over some kinds of decisions and others having authority over a different set, making it difficult to develop consistent measures; (2) opportunities for opportunistic behaviour by some players at the school level (which may be mitigated by centrally-determined frameworks of accountability); (3) lack of clarity on whether observed effects are a result of autonomy; and (4) aspects of autonomy are often constrained by decisions at a higher level, for example, in countries with national education standards, national assessments and accountability regimes.

Hanushek, Link and Wößmann constructed a panel dataset from four waves of PISA tests involving more than one million students from 42 countries. In a robust approach to data collection and analysis they estimated the effect of school autonomy from within-country changes in the average share of schools with autonomy over key elements of school operations. They summarised their findings in the following terms:

Our central finding is that local autonomy has an important impact on student achievement, but this impact varies systematically across countries. In simplest terms, countries with otherwise strong institutions gain considerably from decentralised decision-making in their schools, while countries that lack such strong existing structures may actually be hurt by decentralised decision-making. The negative effect in developing countries emerges most clearly in areas related to academic content, but also appears for autonomy in the areas of personnel and budgets. An extensive series of robustness and specification tests corroborates the central finding. (Hanushek, Link and Wößmann 2012: 213)

While noting the need for further research and describing the possible confounding effects in matters related to autonomy, they believed that ‘the overall qualitative patterns are almost certainly real and ones that should enter into the policy discussions’ (Hanushek, Link and Wößmann 2012: 228).

Different stages in a journey

The importance of a more nuanced approach to defining and explaining the impact of higher levels of autonomy is thus emerging, as illustrated earlier in the McKinsey & Company report *How the World’s Most Improved School Systems Keep Getting Better* (Mourshed, Chijioke and Barber 2010). There were 18 countries in the study (a total of 20 systems including three from the United States). These were classified on a robust evidence base in four ‘journeys’: poor to fair (‘achieving the basics of literacy and numeracy’), fair to good (‘getting the foundations in place’), good to great (‘shaping the profession’) and great to excellent (‘improving through peers and innovation’). The following finding is noteworthy:

There is a strong, correlation between a school system’s improvement journey stage and the tightness of central control over the individual schools’ activities and performance. Systems on the poor to fair journey, in general characterised by lower skill educators, exercise tight, central control over teaching and learning processes in order to minimise the degree of variation between individual classes and across schools. In contrast, systems moving from good to great, characterised by higher skill educators, provide only loose, central guidelines for teaching and learning processes, in order to encourage peer led creativity and innovation inside schools, the core driver for raising performance at this stage. (Mourshed, Chijioke and Barber 2010: 33-34)

Another finding highlighted the commonalities across the six journeys including curriculum, standards, remuneration, high quality teachers and leaders, and the use of data. There is an

important qualification as far as commonalities are concerned, namely, that all schools in a system do not move together in their journeys: some may be moving from poor to fair and others from good to great.

The need for caution

Broad descriptions of policy and practice in different countries should be treated with caution. Consider, for example, the international comparative study conducted by the World Bank (Barrera-Osorio, Fasih and Patrinos 2009). It had a sharp focus on school-based management. While it drew from Western literature in explaining the concept, it dealt mainly with policy and practice in developing countries in Latin America and the Caribbean, Africa, Asia, Middle East and North Africa. It offered sweeping generalisations in several instances, for example it stated erroneously that in the 1970s Australia 'increased efficiency through near total autonomy' and noted that 'unfortunately there are no rigorous evaluations of the Australian, New Zealand, or UK programs so there is no convincing evidence of the effects of these reforms on student achievement' (Barrera-Osorio, Fasih and Patrinos 2009: 11). In apparent contradiction, the report observed that 'SBM reforms of the strongest type appear to have been introduced and been successful in achieving their goals' in developed countries including Australia and New Zealand (Barrera-Osorio, Fasih and Patrinos 2009: 103). The study did not refer to the OECD studies and other research cited earlier in the current review. The study by Hanushek, Link and Woessmann (2012) reported above is a better evidence-based account of the different effects of autonomy in developed and developing countries.

Shifting the focus in research, policy and practice

Focus on learning and professional practice

Michael Fullan maintained a healthy and balanced scepticism about the claims for school-based management (SBM) in the early decades of the practice. Working with Nancy Watson (Fullan and Watson 1999) he reviewed the evidence of impact and, importantly, specified the conditions under which SBM would be likely, along with other strategies, to have benefits for students. They reported the findings in a study for The World Bank that contributed to a project related to improving learning outcomes in the Caribbean. However, the review of literature they provided drew on international studies that had been conducted in the preceding decade.

Fullan and Watson reviewed several quantitative studies by highly-regarded researchers to show that SBM had been mainly a structural reform, shifting authority and responsibility to schools, but that there had been negligible and sometimes negative impact on the professional practice of teachers resulting in turn and understandably in failure to impact on student achievement. They cited the conclusion in a large-scale study by Leithwood and Menzies (1998):

There is virtually no firm, research-based knowledge about the direct or indirect effects of SBM on students ... the little research-based evidence that does exist suggests that the effects on students are just as likely to be negative as positive. There is an awesome gap between the rhetoric and the reality of SBM's contribution to student growth in light of the widespread advocacy of SBM. (Leithwood and Menzies 1998: 34)

Fullan and Watson then drew on more promising developments that focused on changing the professional practice of teachers and the kind of support that is required:

We are now in a position to reconceptualize SBM for success. We have said that instead of thinking of SBM as an end in itself, let's identify what produces better results, and then ask if SBM can contribute to this enterprise. We have focussed on three key non-structural elements: (1) building professional learning communities; (2)

developing the two-way seamless relationship between schools and their communities; and (3) establishing and extending infrastructures which contribute to (1) and (2), as well as serving as a framework for external accountability. In brief, SBM is local capacity-building operating within an external framework. While SBM has a structural element, it is culture that is the primary agent of change, i.e., a culture that focuses on that of continuous improvement. It is when SBM contributes to the local problem solving and mobilization of effort by all stakeholders that it succeeds. (Fullan and Watson 1999: 11-12)

Fullan (2014) applied this reconceptualisation in a commentary on developments in New South Wales where there have been significant developments in school autonomy and capacity building in a framework of professional accountability:

I also think NSW has the balance right in school autonomy, although how this works in practice will be the litmus test. Minister for Education Adrian Piccoli didn't set schools free, but he has released key shackles so that principals can focus on making sure each school responds to the needs of its students. The challenge for schools is to make the most of both their freedom - and of being part of a system - working with other schools to keep improving. When teachers and schools build networks, it creates a solid base for continual growth and improvement that will outlast the principal, the head of the department or even the minister. (Fullan 2014)

Fullan and Watson offered an 'absolutely critical caution': 'Even the best research on SBM identified factors and conditions associated with success, *it does not tell us how to establish those conditions when they do not exist*' (italics in the original) (Fullan and Watson 1999: 12).

The authors cited the 'strategic intentions' proposed by Caldwell and Spinks (1998) on the basis of the latter's review of evidence on SBM (self-managing schools) which included the findings of the Cooperative Research Project in Victoria cited in Chapter 3. Caldwell and Spinks listed 100 such intentions, the ten most relevant to the aforementioned being those explicitly concerned with linking school self-management (SBM) to learning outcomes:

1. The primary purpose of self-management is to make a contribution to learning, so schools that aspire to success in this domain will make an unrelenting effort to utilise all of the capacities that accrue with self-management to achieve that end.
2. There will be clear, explicit and planned links, either direct or indirect, between each of the capacities that come with self-management and activities in the school that relate to learning and teaching and the support of learning and teaching.
3. There is a strong association between the mix and capacities of staff, and success in addressing needs and priorities in learning, so schools will develop a capacity to optimally select staff, taking account of these needs and priorities.
4. There is a strong association between the knowledge and skills of staff and learning outcomes for students, so schools will employ their capacity for self-management to design, select, implement or utilise professional development programs to help ensure these outcomes.
5. A feature of staff selection and professional development will be the building of high-performance teams whose work is needs-based and data-driven, underpinned by a culture that values quality, effectiveness, equity and efficiency.
6. There is a strong association between social capital and learning outcomes, so schools will utilise their capacities for self-management to build an alliance of community interests to support a commitment to high achievement for all students.
7. Self-managing schools will not be distracted by claims and counter-claims for competition and the impact of market forces, but will nonetheless market their programs with integrity, building the strongest possible links between needs and aspirations of the community, program design, program implementation and program outcomes.

8. Schools will have a capacity for 'backward mapping' in the design and implementation of programs for learning, starting from goals, objectives, needs and desired outcomes, and working backwards to determine courses of action that will achieve success, utilising where possible and appropriate the capacities that accrue with self-management.
9. Incentive, recognition and reward schemes will be designed that make explicit the links between effort and outcomes in the take-up of capacities for self-management and improvement in learning outcomes, acknowledging that as much if not more attention must be given to intrinsic as to extrinsic incentives and rewards.
10. A key task for principals and other school leaders is to help make effective the links between capacities for self-management and learning outcomes, and to ensure that support is available when these links break down or prove ineffective. (Caldwell and Spinks 1998: 217-218)

As we shall see in the pages that follow, the shift in focus to professional practice and support has been achieved in many settings, with associated evidence of positive impact on student achievement. Moreover, we have learned much more about how to establish the conditions under which the links to learning can be achieved.

While a balance of centralisation and decentralisation is evident in the above, it is important to stress once more that there may be no impact on learning unless purposeful links are made at the school and classroom levels. Fullan, Hill and Crévola (2006) demonstrated the limits to improvement by describing how gains in literacy had plateaued in England, and how decentralisation of decision-making in Chicago, Milwaukee and Seattle had not led to large-scale improvement: 'They contain glimpses of what will be required, but they fail to touch deeply day-to-day classroom instruction, and to touch it in a way that will get results for all' (Fullan, Hill and Crévola 2006: 6).

Focus on the human resource

A report on competition and autonomy was published by the Grattan Institute, an Australian think-tank (Jensen 2013). A balanced but generally negative assessment of the impact of autonomy on student achievement was presented, drawing on a range of international reports. One explanation for a failure to meet expectations was poor design and delivery of strategies that evidence suggests should have an effect. Jensen's conclusions (Jensen 2013: 36-38) included the following:

There are few differences in key school improvement programs in highly autonomous schools compared to centralised schools. They too often share the same bad practices. This doesn't mean that school autonomy should not be pursued but it does show that it is often poorly implemented, and it has little impact in vital areas that should be the focus of reform. (p. 36)

Too often, schools are being granted autonomy with insufficient capacity building and in many cases an incomplete reform strategy. This means that autonomous schools generally have the same poor practices in these crucial areas as those dictated by a centralised body. (p. 36)

[T]he OECD finds that the strongest link between school autonomy and performance is for autonomy over curriculum and assessment decisions. Yet, it is this aspect of school autonomy that can be decreased when national student assessments and tighter curriculum standards are introduced (often in conjunction with increased school autonomy). (p. 38)

Jensen paid particular attention to the failure of schools in some jurisdictions with a relatively high level of autonomy, including some in Australia, to take up a range of practices in the area of human resource management, including the selection and dismissal of high quality teachers as well as rigorous approaches to staff appraisal. In some instances system policies including workplace agreements prevent them from doing so.

Jensen's conclusions help set the stage for Chapter 3 and a review of evidence on strategies that have had an impact on student achievement and that may be facilitated by higher levels of autonomy, providing schools and their leaders have had the capacity to act.

Alignment

It is helpful to place the evidence on impact in a larger framework and stress the importance of aligning the effort. One approach is to follow the lead of Barber, Donnelly and Rizvi (2012) in their report for the Institute for Public Policy Research in London entitled *Oceans of Innovation* which drew from developments around the Atlantic and Pacific.

Barber and his colleagues proposed nine building blocks of 'world-class education systems' including standards and accountability (globally benchmarked standards, transparent data and accountability, concern for every child); human capital (identify and prepare great people, continuous improvement in knowledge and skills, outstanding leadership); and structure and organisation (enabling or empowering central organisations and agencies, capacity to manage change at every level, operational authority and responsibility at the school level) (Barber, Donnelly and Rizvi 2012: 59). They believed that the system should be re-organised so that it 'becomes a dynamic driver of change rather than a static bureaucracy – a driver of quality rather than an enforcer of compliance' (Barber, Donnelly and Rizvi 2012: 59).

Oceans of Innovation also drew attention to the danger of false dichotomies, proposing that AND should replace OR to provide the following set of seven: universal standards AND (not OR) personalisation, whole systems AND autonomous schools, best practice AND innovations, teaching AND technology, disciplinary AND interdisciplinary, public AND private, strategy AND implementation (Barber, Donnelly and Rizvi 2012: 62).

Key themes in Chapter 2

1. Evidence from deep analysis of results in PISA tend to confirm that higher levels of school autonomy are associated with higher levels of student achievement providing there is a balance of autonomy and accountability.
2. Even deeper analysis reveals that there are differences in impact between developed and developing nations and, within each of these, there are differences among schools. The relationship in #1 is generally affirmed in developed countries, but for developing countries, higher levels of school autonomy may have no impact or even negative impact.
3. Further research confirms that the focus of autonomy should be on professional practice, with the aim being to make connections between the functions associated with school autonomy and actions that are likely to have an impact on student achievement. Exclusive reliance on structural changes for their own sake is unlikely to have an impact. It is important to align a range of strategies that research shows are linked to gains in student achievement.

CHAPTER 3: INSIDE THE BLACK BOX

As noted in Chapter 1, as the years have passed, and richer data bases have been constructed, questions like the following may now be answered with greater confidence: 'Why is there a link between school autonomy and student achievement in some settings but not in others?' or 'What are the conditions under which the link may be made or not made?' or 'Why is it that schools in some settings can achieve impressive outcomes under conditions of relatively high centralisation, often securing a higher level of student achievement than similar schools that operate with a relatively high degree of autonomy?'

Chapter 3 summarises a substantial body of evidence that helps provide answers to questions such as these. The aim is to look inside the 'black box', as it were, seeking information on mediating variables in the links between school autonomy and student achievement.



Early large-scale research in Australia

While much has been written on the topic, and several short-term research projects have been mounted, there have until recently been few large-scale longitudinal studies of the processes and outcomes of decentralisation. Noteworthy was a five-year project conducted in Victoria in the mid-1990s by a consortium of the Education Department, University of Melbourne, Victorian Primary Principals Association and Victorian Secondary Principals Association (the author was a member of the team from the University of Melbourne).

A large majority of principals indicated in annual surveys that they did not wish to return to more centralised arrangements. It was not possible to determine the impact on learning because there were no system-wide tests of student achievement at the time. The generally positive response meant that a change in government in Victoria from right-of-centre to left-of-centre in 1999 did not result in re-centralisation. As in other 'mature' systems elsewhere, most teachers commenced their service since the major changes were made in the early 1990s and descriptors such as 'self-managing schools' are rarely used; it is simply the way things are done in the state's system of public schools.

The objectives of the Victorian initiative known as Schools of the Future (SOF) were as follows:

- Encourage the continuing improvement in the quality of educational programs and practices in Victorian schools to enhance student learning outcomes
- Actively foster the attributes of good schools in terms of leadership, school ethos, goals, planning and accountability process
- Build on a state-wide framework of quality curriculum, programs and practices
- Encourage parents to participate directly in decisions that affect their child's education
- Recognise teachers as true professionals, able to determine their own careers and with the freedom to exercise their professional skills and judgements in the classroom
- Allow principals to become true leaders in their school with the ability to build and lead their teaching teams
- Enable communities, through the school charter, to determine the destiny of the school, its character and ethos
- Within guidelines, enable schools to develop their own programs to meet the individual needs of students

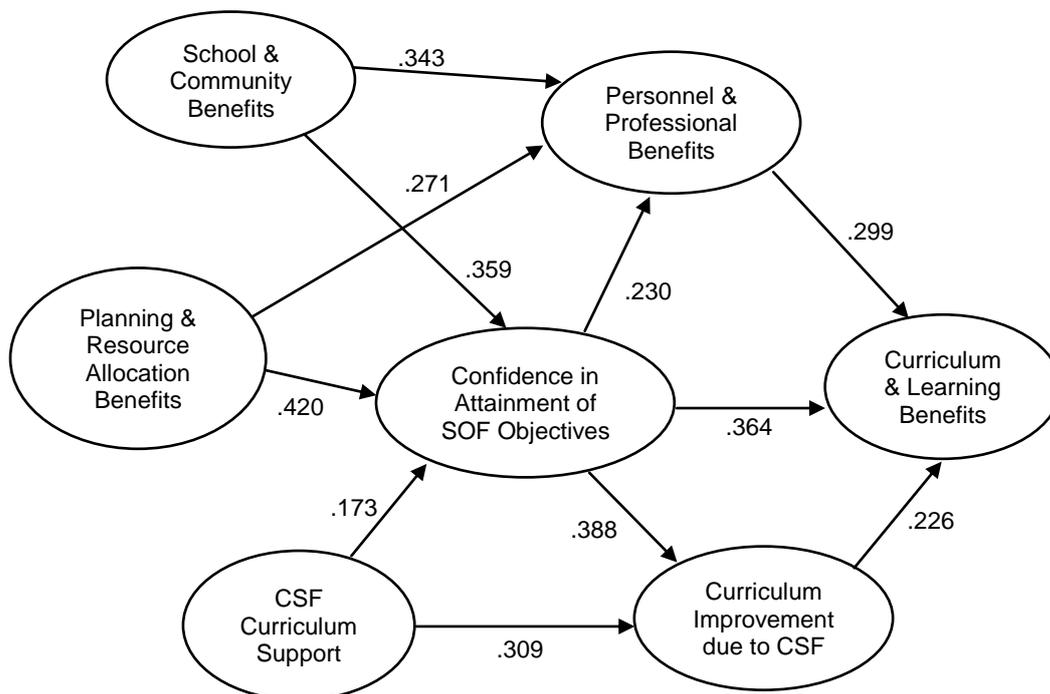
- Be accountable to the community for the progress of the school and the achievement of its students

Mapping the links to learning

Surveys were conducted of all principals each year over five years as the program was expanded from early volunteers to the point where all but a handful of more than 1,600 schools were included in the scheme. A base-line survey in the first year enabled researchers to track the views of principals in succeeding years. Six reports were prepared (1994, 1995 – two, 1996, 1997 and 1998). The final report (Cooperative Research Project 1998) provided a synthesis of the findings and assessed the impact of the initiative. The findings were included in a report commissioned by the Department of Employment, Education, Training and Youth Affairs (DEETYA) of the Australian Government, in Caldwell (1998) and in Caldwell and Spinks (1998).

A noteworthy feature was the identification in the base-line survey of 25 expected benefits. The perceptions of principals on progress in achieving these benefits were monitored in the surveys that followed. The 45 items in the survey were reduced to seven 'constructs' in the analysis of responses: planning and resource allocation benefits, school and community benefits, personnel and professional benefits, curriculum and learning benefits, CSF (Curriculum and Standards Framework) support, curriculum improvement due to CSF, and confidence in the attainment of SOF objectives. Structural equation modelling of responses resulted in the explanatory model in Figure 1 of direct and indirect effects among factors influencing principals' perceptions of curriculum and learning benefits.

Figure 1: Explanatory model of direct and indirect effects on curriculum and learning in research on school autonomy in Victoria (Caldwell and Spinks 1998: 51)



The coefficients in Figure 1 may be explained as follows. The coefficient for the path from CSF Curriculum Support to Curriculum Improvement due to CSF is 0.309. This means that an increase of 1 standard deviation in principals' ratings of CSF Curriculum Support was associated with an increase of 0.309 of a standard deviation in ratings of Curriculum Improvement due to CSF. Continuing along the path, an increase of 1 standard deviation in principals' ratings of Curriculum Improvement due to CSF was associated with an increase of 0.226 of a standard deviation in ratings of Curriculum and Learning Benefits. Among the indirect effects, the most interesting is for Planning and Resource Allocation Benefits. The

effect on Curriculum and Learning Benefits was indirect, mediated through Personnel and Professional Benefits and Confidence in Attainment of SOF Objectives. The following conclusion is noteworthy:

The explanatory model is confirmation of what research elsewhere has shown, namely, that decentralisation of decision-making in planning and resource allocation does not, of and in itself result in improved learning for students. There is no direct cause-and-effect link between the two. What the model does suggest, however, is that if the linkages are made in an appropriate way, then an indirect effect is realised through action in the personnel and professional domain and also confidence in the efficacy of the reform. (Caldwell and Spinks 1998: 51)

In the context of initiatives in school autonomy, this suggests that the empowerment of local schools, of and in itself, will not in the longer term have an impact on outcomes for students; it depends on how the gain in authority and responsibility is used.

Two features of Figure 1 are noteworthy at this point. First, one of the three domains that have a direct link to Curriculum and Learning Benefits is Personnel and Professional Benefits and the latter includes matters related to professional capacity. An often-contentious aspect of autonomy is the capacity of the school, through the principal, to select staff. Second, Confidence in Attainment of SOF Objectives is the key mediating construct and, as we shall see in a later section of Chapter 3, gaining confidence is critical, given a finding that the longer a school has operated with a higher degree of autonomy, the greater the impact on student achievement: it takes time to build capacity and gain confidence.

Making the links visible

A critical issue in any search for evidence on the impact of higher levels of school autonomy on student achievement is the extent to which impact, should it exist, is direct or indirect. Are there mediating factors? Is a higher level of autonomy a 'triggering mechanism' that enables other factors, not otherwise possible, to come into play? If so, does the school take action to bring these other factors into play, or does it simply have the autonomy but not use it? Does the school not use it because it does not have the capacity to do so?

The answers to these questions may explain why some research and much of the commentary suggest that higher levels of autonomy may have no effect, either direct or indirect, on student outcomes. Such a situation emerged in a presentation by John Hattie in delivering the Inaugural Patron's Oration of the Australian Council for Educational Leaders (ACEL) (Hattie 2014) in which he reported that the effect size of 'autonomy to schools or to students' was 0.00¹.

Contribution of John Hattie

Derived from more than 800 meta-analyses, Hattie's *Visible Learning* (Hattie 2009) is generally recognised as providing the most comprehensive, research-based evidence ever compiled on the effects of particular strategies on learning. He reported the effects of 138 strategies, extending the list to 150 in *Visible Learning for Teachers* (Hattie 2012). How should one interpret his statement, made subsequent to these two books, that autonomy has no effect?

Hattie's work identified the effect of different strategies which are implemented in their own right, so to speak, rather than in association with other factors. The issue should, therefore,

¹ An effect size of $d=1.00$ indicates an increase of one standard deviation on the outcome (Hattie 2009: 7). The outcome in these studies is student achievement.

be concerned with what strategies with more powerful effects should be brought into play when a school has a higher level of autonomy. The leadership of the principal is important so a listing of the effect sizes of the strategies that a principal may address is helpful.

Overall, the effect size of principal leadership falls in the mid-range of effects ($d=0.36$) (ranked 74 out of 138 strategies). The following are drawn from Hattie (2009: 83-85) based on meta-analyses of several researchers. Specific dimensions of leadership that had the greatest effect on various measures of student outcomes were as follows with d referring to effect sizes and r referring to correlations²:

- promoting and participating in teacher learning and development ($d=0.91$)
- planning, coordinating, and evaluating teaching and the curriculum ($d=0.74$)
- *strategic resourcing ($d=0.54$)
- extent to which principals were aware of the goals in the school that needed addressing ($r=0.66$)
- the way they ensured that teachers were intellectually stimulated about current theories and practices ($r=0.64$)
- whether they monitored the effectiveness of school practices and their impact on student learning ($r=0.56$)
- whether principals were knowledgeable about current curriculum, instruction, and assessment practices ($r=0.48$)

The least successful (reported in one study) were 'technostructural interventions' – interventions aimed to change work content, work method, and relationships among participants such as job redesign or job enrichment.

A meta-analysis of 27 studies conducted between 1978 and 2006 was undertaken by Robinson, Lloyd and Rowe (2008) and reported by Hattie (2009: 83-84). It summarised evidence about the links between leadership and student outcomes. The majority of these studies were conducted in US schools (18). The following findings are pertinent:

- Promoting and participating in teachers' formal and informal professional learning ($d=0.82$)
- *Setting, communicating and monitoring clear and agreed upon learning goals, standards and expectations ($d=0.42$)
- Direct involvement in support and evaluation of teaching (including regular classroom visits, provision of formative and summative feedback to teachers, direct oversight of curriculum) ($d=0.42$)
- *Aligning resource selection and allocation to priority teaching goals (including provision of appropriate expertise through staff recruitment) ($d=0.31$)
- Ensuring orderly and supportive learning environments (including reducing external pressures and minimising interruptions to instruction) ($d=0.27$)

An important question may be posed at this point. How many of the strategies listed above could be designed and delivered by the principal if the school has minimal or modest levels

² r is the coefficient of correlation ($r=1.00$ indicates a perfect correlation between two measures).

of autonomy? The response is that most could indeed be addressed if the principals had the required capacity. Those that imply or call for a relatively high level of autonomy are indicated by an asterisk (*).

There is a substantial body of research that has identified the characteristics of high-performing principals, with the main criterion being impact on learning. Most of the studies have been conducted in developed, mainly western countries with varying levels of school autonomy. The Attachment contains a summary of the findings drawn from Barber, Whelan and Clark (2010); Dempster, Lovett and Flückiger (2011); Leithwood, Day, Harris and Hopkins (2006); Leithwood, Day, Sammons, Harris and Hopkins (2006); Day, Sammons, Hopkins, Harris, Leithwood, Gu, Brown, Ahtaridou and Kington (2009); National College for Leadership of Schools and Children's Services (2010) and Walters, Mazarno and McNulty (2003). A range of methods was employed in these studies including meta-analyses, large-scale surveys, reviews of literature and case studies or combinations of these. Most of the strategies employed by high-performing principals do not require a high level of school autonomy as a pre-requisite, although autonomy facilitates those that call for school-level decisions on the strategies listed above. The principals described in these studies have a capacity to implement these strategies. Professional development programs for school principals have often taken account of these findings in settings where policies that call for a higher level of school autonomy have been adopted. This has resulted in the often-stated purpose of such programs as giving principals the capacity to take up higher levels of autonomy (or sometimes to use more effectively the autonomy they already have).

Caution and contradiction

An important implication of this review is that care should be taken in drawing conclusions about the impact on learning of higher levels of school autonomy if autonomy is the only variable under consideration or if the reporting of research does not identify and then seek to assess the impact of mediating variables. An example of this pitfall is in *Exploding the Myths of School Reform* (Hopkins 2013). David Hopkins, an eminent scholar in the field of school improvement, lists school autonomy as one of the myths. He summarises his argument in the following terms:

The myth of autonomy is currently centrestage given the increasing prevalence of 'right of centre' governments to embrace the trend towards the devolution of school management. The rhetoric is that if we let the school be free – release them from bureaucratic control and encourage independence, self-governance and making one's own decisions – then they will flourish. (Hopkins 2013: 29)

He states elsewhere that 'the myth implies that schools working totally in isolation enhance system effectiveness' (Hopkins 2013: 31). In this sense it is a 'straw man' argument since the intent is not to release them from 'bureaucratic control' – the higher levels of autonomy under consideration in this review call for schools to remain part of a school system and continue to operate within centrally-determined frameworks of accountability. This is the case even when such schools are labelled 'independent public schools'. His assertion that it is right-of-centre governments that have taken the lead is only partly true given that left-of-centre governments invariably maintain the initiatives in autonomy of their right-of-centre predecessors, as in England with local management of schools, or Victoria, Australia with school self-management. Left-of-centre governments have frequently taken the lead, as in New Zealand, or earlier in Victoria, with these initiatives continued by right-of-centre successors.

Hopkins' declaration that 'we know from the evidence of PISA . . . that there is no correlation between decentralisation and achievement' (Hopkins 2013: 29) does not stand up to critical scrutiny given evidence cited in Chapter 2 (especially Hanushek, Link and Wößmann 2013; Schütz, Wößmann and West 2007; Schleicher 2011; and Wößmann, Lüdemann, Schütz and West 2007).

Hopkins moves to safer ground when he cites evidence of the impact of mediating variables that may be enabled or facilitated by higher levels of autonomy. He described three examples of successful reform at the district or regional levels and two of these (Australia and England) are in systems where schools have operated for many years with a higher level of autonomy and many have used that autonomy to design and deliver strategies that led to improvement. In the case of Australia, Hopkins worked in partnership with Wayne Craig, former director of the Northern Metropolitan Region in Melbourne, to deliver a comprehensive program of professional development for teachers and their leaders. Hopkins documented the journey in *Powerful Learning: Taking Educational Reform to Scale* (Hopkins, Craig and Munro 2011). *Curiosity and Powerful Learning* (Northern Metropolitan Region 2009) included a guide for schools in implementing the approach. The following 'coda' for powerful learning was offered:

It is not just an accurate description of a strategy that focuses directly on enhancing the learning of all students in the region; it is also an idea that is capturing the imagination of teachers, parents and young people around the world. It is an idea that has its roots in the best practice of the teaching profession, and it has the potential to make every young person's learning experience stretching, creative, fun and successful. It reflects the current drive to tailor schooling to individual need, interest and aptitude, so making it increasingly personalised. (Hopkins, Craig and Munro 2011: 37)

The last sentence is important as far as a higher level of autonomy is concerned because it acknowledges the need for a tailored approach that responds to the mix of student needs that to a large extent makes each school unique. In *Exploding the Myths of School Reform*, Hopkins described in some detail the 'outside-in' and 'inside-out' strategies in the Northern Metropolitan Region that resulted in improvement in schools across the region. It is evident that the capacities of teachers and their leaders were enhanced so that they could more fully take up the autonomy that they possessed. In his final commentary on this work, Hopkins concedes that the myth about autonomy relates only to 'stand-alone' schools when he noted that 'the debate is often clouded by a dispute over structures, and this is where I have some sympathy with the autonomy lobby. . . The debate should move away from structures, which in any case should be flexible and responsive to context, to the functions that the middle-tier performs to support systemic improvement' (Hopkins 2013: 53).

New methodologies and deeper analyses

Di Liberto, Schivardi and Sulis (2013: 1) summarised the findings of research in recent years: 'only when schools are well managed students can benefit from decentralization, while giving autonomy to badly run institutions can indeed worsen students' outcomes'. They acknowledged the difficulty of quantifying the impact of management on the part of school principals, referring to the extensive reliance to date on qualitative research. Their review of literature drew on related quantitative research, for example, that reported by Branch, Hanushek and Rivkin (2012) summarised later in Chapter 3. A short summary of the research paper is provided here, highlighting the robust quantitative methodology and the use of a survey of management practices that has proved useful in international comparative studies.

The researchers tackled the task of selecting appropriate measures of school management and reporting related studies in Canada, Germany, Italy (their own study), Sweden, United Kingdom (England) and the United States. They selected the World Management Survey (WMS) that covers 23 management practices grouped in five areas: operations (4 items), monitoring (5), targets (5), people (6) and leadership (3). WMS was developed for use in both public and private sectors. The human resource management items were concerned with 'promoting and rewarding employees based on performance, removing poor performers, hiring best teachers, and trying to keep the best teachers', while the leadership items related to vision, accountability and clarity in role (Di Liberto, Schivardi and Sulis

(2013: 8-9, 46). Data in the WMS are typically gathered by interviewing managers using 'double-blind' interviewing techniques designed to minimise self-assessment bias. The researchers contend that measures of school autonomy on self-reported PISA surveys are less robust than those obtained in the WMS. They drew on PISA results in mathematics in 2009, controlling for school, principal and student characteristics, in conducting their research in Italy.

They found that the management of principals was weakest in Italy, with the rank order being England, Sweden, Canada, the United States, Germany and Italy. The researchers noted that Germany and Italy had the lowest levels of school autonomy among the seven countries. Italy also had the highest variability in management expertise among principals.

The researchers concluded that if Italy (the weakest performer with the lowest level of school autonomy) had the same management practices as the UK (the best performer with the highest level of school autonomy) it would close the gap in performance on PISA tests in mathematics. 'Overall, our results suggest that policies directed at improving students' cognitive achievements should take account of principals' selection and training in terms of managerial capabilities' (Di Liberto, Schivardi and Sulis 2013: 29).

A companion study (Bloom, Lemos, Sadun and Van Reenen 2014) also employed the World Management Survey (WMS) to examine management practices. Brazil and India were added to the set of six countries involved in the research reported by Di Liberto, Schivardi and Sulis (2013) summarised above. The broader study examined the relationship between quality of school management and student performance for regular government schools, autonomous government schools and private schools. A broad definition of autonomy was adopted, for example, autonomy for government schools was considered to exist if a school received at least partial public funding and had some degree of autonomy in at least one of three areas: curriculum content, selecting teachers and admitting pupils.

The rank order of management quality was the UK (England – Academies, Foundation Schools, Voluntary Aided Schools); Sweden; Canada (Separate Schools in Alberta, Ontario, Saskatchewan); and the United States (Charter Schools, Magnet Schools) closely followed by Germany then Italy, Brazil and India. A range of 'within-country' measures of student performance was adopted, with PISA used in some settings. Data were gathered from 1,800 schools educating 15-year-olds. The same rigour as employed in the companion study was evident, especially in the 'double-blind' interviewing techniques as well as in the analysis of performance data. The following findings are of special interest:

A new finding is that autonomous government schools appear to have significantly higher management scores than both regular government schools and private schools. Their better performance is not linked with autonomy *per se* but with how autonomy is used. Having strong accountability of principals to an external governing body and exercising strong leadership through a coherent long-term strategy for the school appear to be two key features that account for a large fraction of the superior management performance of such schools.

From a policy point of view our findings suggest that improving management could be an important way of raising school standards and give broad support for the fostering of greater autonomy of government schools. Autonomy by itself is unlikely to deliver better results, however, finding ways to improve governance and motivate principals are likely to be key ways of making sure decentralized power leads to better standards. (Bloom, Lemos, Sadun and Van Reenen 2014: 19)

Also noteworthy is a finding on private schools: 'Private schools . . . are no better [on quality of management] than government schools in any country except Brazil, implying that their advantages in pupil performance . . . are likely to be due to selection of wealthier pupils' (Bloom, Lemos, Sadun and Van Reenen 2014: 17). The researchers were cautious in attributing cause-and-effect relationships between quality of management and student

achievement and level of autonomy and student achievement – the relationships were correlational – but overall the analysis is persuasive.

The study illustrated the recent and growing interest in governance and student performance by researchers other than those based in schools of education. Those in the study reported here are members of a cross-institutional centre for economic performance and are based at Stanford, Cambridge, Harvard Business School and the London School of Economics.

Updating the evidence from England

Arguably the most significant of recent changes in school governance in England has been the creation of academies. In an international context: ‘The academies programme that has been undertaken in English education is turning out to be one of the most radical and encompassing programmes of school reform that has been seen in the recent past in advanced countries’ (Eyles and Machin 2014: 1).

Academies were an initiative of the Blair Government in 2001-2002 to replace low performing secondary schools in areas of severe disadvantage in cities around the country. Private sector contributions (sponsorships) in cash or kind and membership of school governing bodies were initially required. Academies are free of control by local education authorities and in general terms may make decisions on staff and the curriculum as well as the allocation of funds. They differ from charter schools in the United States in that they are existing schools that achieve their new status whereas charter schools are new schools.

There was slow but steady growth in the number of academies throughout the Blair and Brown years, accelerating dramatically since the election of the Cameron Government in 2010. There are now two kinds of academies. The initial requirement for a private contribution has been complemented by a system of ‘converter’ academies whereby existing schools can apply to become academies. This change explains in part the dramatic growth

Academies now include primary schools and they may be located in any kind of community. By mid-2012 more than half of England’s 3,261 secondary schools were academies or had applied for academy status. About 5 percent of primary schools had also applied to become academies. There are now about 4,000, more than 20 times the number in 2010.

It is important to note that schools in England (either locally-owned state schools or ‘maintained’ schools) have had a relatively high degree of autonomy since the late 1980’s following the passage of the Education Reform Act in 1988 that applied to schools in England but not Scotland or Wales, whose governments have devolved powers in relation to school education.

Another initiative of the Cameron Government is the establishment of ‘free’ schools based on a Swedish model. The take-up is small, with about 250 created to date and about 110 pending. They are also free of local education authority control and tend to be relatively small as far as number of students is concerned.

Reports of two studies in 2014 shed light on the impact of academies on student achievement, one by Eyles and Machin (2014) and the other by the Sutton Trust (Hutchings, Francis and De Vries 2014). Both reports were given global exposure by *The Economist* (2014) and are considered by the current author to be significant studies of schools with a high level of autonomy and impact on student achievement.

Eyles and Machin study

Eyles and Machin drew on data for the school years from 2001-2002 to 2008-2009 to enable a before/after comparison of conversion to academy status in the years before the Cameron Government in 2010. It is a substantial quantitative study with impressive statistical controls that resulted in a robust set of findings, summarised by the authors as follows:

Our results indicate that, in some settings, academy conversion generated a significant improvement in the quality of pupil intake and generated significant improvements in pupil performance for those who attended schools treated by academy conversion. There is evidence of heterogeneity in the estimated performance effects, as improvements only occur for schools experiencing the largest increase in their school autonomy relative to their predecessor state. Analysis of mechanisms points to changes in headteachers and management structure, and to curriculum change, as key factors underpinning the observed improvements in educational outcomes. (Eyles and Machin 2014: Abstract)

Key words in this summary are that 'improvements only occur for schools experiencing the largest increase in their school autonomy relative to their predecessor state'.

Elaborating the conclusions on headteachers and curriculum, the researchers drew on a 2014 survey by the Department of Education in England seeking answers to the question 'Do Academies Make Use of their Autonomy?' They selected responses from schools involved in their study and reported the following:

When asked what the most important change was, two answers clearly dominate: 'changed school leadership' (at 56 percent) and 'changed the curriculum you offer' (at 26 percent). Furthermore, both of these were reported to be linked to improved outcomes (in 73 and 77 percent of cases respectively). Other changes that were notably linked to improved outcomes were 'Increased the length of the school day' (63 percent) and 'Collaborated with other schools in more formalised partnerships' (45 percent). (Eyles and Machin 2014: 22)

The last factor lies at the heart of the Sutton Trust study.

Sutton Trust study

Hutchings, Francis and De Vries (2014) investigated another feature of academies. They examined, in particular, the impact of chains of academies and the association between different kinds of chains and student achievement. Chains refer to relatively formal arrangements involving a number of academies that call for a collaborative effort in sharing expertise or resources to address issues of common concern. Some of these chains may also be federations (described later in Chapter 3); some may be in the same geographic area, while others may extend across the country. Many are known by the name of a sponsor such as a trust. They vary in size from less than a handful of schools to several score.

The study analysed performance data for students with relatively high socio-educational disadvantage for chains with (1) at least three academies in 2013 and (2) two sponsored secondary academies for the period from September 2010 to July 2013, ensuring in each category sufficient time for impact. Outcome measures for disadvantaged secondary students included results in the best eight GCSE (General Certificate of Secondary Education) subjects, progress of students in English and Mathematics, and results in the English Baccalaureate. The main measure was the number of good results (A*-C) in five subjects in the GCSE (or equivalent).

The study yielded the following findings:

- There is very significant variation in outcomes for disadvantaged pupils, both between and within chains; and chains differ significantly in attainment against different measures.
- On average, the improvement for disadvantaged pupils on the A*-C measure in sponsored academies in the analysis group was greater than the average for all mainstream schools between 2011 and 2013. However, there was enormous

variation between chains, with only 16 out of 31 exceeding the figure for all mainstream schools in 2013.

- Additionally, some sponsor chains are managing to raise attainment significantly for young people with low prior attainment – an important demonstration of value.
- There are five chains that are promoting high attainment for disadvantaged pupils – and indeed for pupils of all types – across a whole range of measures.
- However, there are also some chains which are highly ineffective across a range of measures, and which are failing to improve the prospects of their disadvantaged pupils.
- When analysed against a range of Government indicators on attainment, a majority of the chains analysed still underperform the mainstream average on attainment for their disadvantaged pupils. While some of those below the average are continuing to improve, others are not.
- The key factors we have identified in the more successful chains are a measured approach to expansion, and the importance of building up strong experience of strategies for improving schools. (Hutchings, Francis and De Vries 2014: 4-5)

The last finding is noteworthy (rate of expansion of chains, strategies for school improvement). This led to two recommendations: ‘New chains should not be allowed to expand until they have a track record of success in bringing about improvement in their first academies’ and ‘There is growing evidence on the most effective strategies for school improvement. . . Sponsors and schools should make full use of this growing body of evidence to improve pupil outcomes’ (Hutchings, Francis and De Vries 2014: 6). Some of these strategies are cited elsewhere in Chapter 3, especially those reported in various meta-analyses on leadership.

The size of a chain is also an issue, with larger chains taking on some of the characteristics of local authorities that the creation of academies was, in part, intended to overcome:

Sir David Bell, the most senior civil servant in charge of the school reforms in 2007-10 . . . thinks larger chains can acquire some of the same problems that local authorities had, ‘being too big to have oversight over what happens in individual schools and too bureaucratic’ (*The Economist* 2014: 57).

Discussion

It is clear that the link between the higher level of school autonomy and student achievement in academies follows the same pattern as reported in other studies: it is not possible to state that the link is either always positive or always negative. It depends on what strategies have been implemented, including building a stronger capacity for leadership (even to the extent of appointing a new principal), implementing a curriculum that matches local needs and priorities, and taking up the evidence of what works to achieve improvement. It seems that the longer a school has had a higher level of autonomy, the stronger the impact on achievement and this includes impact for students in disadvantaged settings. Differential effects are also apparent when academies form themselves into chains, but these should not become too large too quickly: effects in just a few schools in the chain should be demonstrated before growth to a larger chain is attempted. Even then, it appears that large chains may take on some of the dysfunctional aspects of former more bureaucratic arrangements when schools were part of a system of schools in a local education authority.

More from England: Small schools and federations

An important issue is the capacity of small schools to take up the opportunities that may be presented by higher levels of autonomy in a way that may enhance learning for students. As far as routine administration is concerned, the principals of small schools typically have the

same responsibilities as their counterparts in larger schools. While the burden may be lighter it may still limit their capacities to exercise the kind of leadership that is required to make the links to learning. They may not have the support of a manager. One solution is to share the load with other schools. An impressive example in Victoria is the Local Administrative Bureau (LAB) which provides administrative support to small schools so that they can outsource processes such as personnel, payroll, occupational health and safety, procurement or maintenance. There are similar issues as far as governance is concerned under conditions of autonomy. It may be difficult for a small school to establish a council or board that has the capacity to make decisions on policy and resource allocation. Under these circumstances it may be desirable for schools to work in partnership in governance and there have been promising developments, especially in England, where there is an emerging body of evidence on the kinds of federation that may make an impact on outcomes for students.

While schools in England have had a relatively high degree of autonomy for more than two decades, collaborative efforts have emerged in recent years, with schools coming together in federations with different purposes and structures, including different patterns of governance. The underlying rationale varied, but a common theme was that schools could learn from one another, and that many of the resources that are required to improve or transform schools could be found within a group of schools. One such resource was the leadership of principals and there was frank recognition that outstanding principalship was still relatively scarce. Several hundred principals were identified as outstanding, with a capacity for national leadership, and many of these have become 'executive principals' with over-arching leadership in a federation of schools. A new concept of 'system leadership' has emerged.

There is a distinction between 'hard' and 'soft' federations, the former being a formal alliance, often with a common governing body, the latter being a more informal collaborative arrangement, with each school maintaining a separate identity and a separate governing body.

Two studies on the nature and impact of federations are reported here, two conducted for the National College for School Leadership and one conducted by Ofsted (Office for Standards in Education).

National College for School Leadership studies

A valuable source of evidence on federations lies in the work of Professor Christopher Chapman, formerly at the University of Manchester, now Chair, Educational Policy and Practice at the University of Glasgow. Particularly relevant are two studies conducted for the National College of School Leadership, one in 2009 (Chapman, Muijs and Collins 2009) and the other in 2011 (Chapman, Muijs and MacAllister 2011) (see also Chapman and Muijs 2014 which reports the same findings). Much of the following is drawn from these two publications. The aim of the two studies was to investigate the impact of federations on student achievement. Six broad types of federation were described in the first publication (Chapman, Muijs and Collins 2009):

Cross-phase federations: federations consisting of two or more schools of different phases, e.g. a primary and secondary school, or a first, middle and high school. Cross-phase federations accounted for 35 per cent of the sample in the first study and 23.5 per cent in the follow-up study.

Performance federations: federations consisting of two or more schools, some of which are low and others high-performing. Performance federations accounted for 16 per cent of the sample in the first study and 56.8 per cent in the follow-up study.

Size federations: federations consisting of two or more very small or small schools, or a small school and a medium-sized school. Size federations accounted for 19 per cent of the sample in the first study and 1.2 per cent in the follow-up study.

Mainstreaming federations: federations consisting of one or more special schools combined with one or more mainstream schools. Mainstreaming federations accounted for 5 per cent of the sample in the first study and 6.2 per cent in the follow-up study.

Faith federations: federations combining two or more schools of the same denomination. This type can overlap with one of the other four types, but in many cases doesn't. Faith federations accounted for 15 per cent of the sample in the first study and 3.7 per cent in the follow-up study.

Academy federations: federations of two or more academies run by the same sponsor within a federation or chain. Academy federations accounted for 2 per cent of the sample in the first study and 8.6 per cent in the follow-up study.

The findings of the first study (Chapman et al 2009) included the following:

- There is evidence of impact of federation on student outcomes, in that while federation and comparator schools perform similarly at baseline, federation is positively related to performance in the years following federation;
- There is evidence to suggest that impact is strongest in performance federations and weakest in cross-phase federations;
- There is no relationship between federation and Ofsted judgements; and
- There is no evidence of differential impact on students from different socio-economic settings, differences in gender or with special educational needs

These are noteworthy findings, especially to the extent that a more effective approach was identified (performance federations), the proportion of which has increased significantly (from 16 percent to about 57 percent), and there were no differential effects among different classifications of students.

The second study (Chapman, Muijs and MacAllister 2011) provided a deeper analysis after federations had been in operation for a longer period of time, with the focus again on impact on student outcomes. As far as possible the same federations and comparator schools were used although some had changed the nature of the federation in the list of six types described above, with the trend being from 'soft' to 'hard'. The following summarise the key findings (Chapman, Muijs and MacAllister 2011: 4).

Impact on student outcomes: Performance and academy federations have a positive impact on student outcomes. However, there is a time lag of two to four years between formation of the federation and when their performance overtakes their non-federated counterparts. Secondary school federations outperform collaboratives.

Leadership: Federation leadership is a key feature of the success of federations. There is considerable variation in the leadership and management structures found in federations. This study found secondary federations with executive leadership outperforming federations with traditional leadership structures (one headteacher leading one school), suggesting executive leadership arrangements should be seriously considered when establishing a secondary federation.

Ofsted study

The Office for Standards in Education (Ofsted) conducted a study of practice, structure and impact of federations in England between October 2010 and February 2011. Inspectors visited 61 schools in 29 federations. They also analysed responses to questionnaire surveys from leaders in 111 federations and inspection reports three years after federation from 102 schools within these 111 federations. The following is a summary of the key findings in the study.

In all the federations visited provision and outcomes had shown improvement. In each case, the fact that schools had federated was a contributory factor to the

improvement. In the federations where weaker schools had joined forces with stronger ones, the key areas of improvement were in teaching and learning, pupils' behaviour and achievement. Those federations, which had been set up to improve capacity among small schools, had been successful in broadening and enriching the curriculum and care, guidance and support for pupils. In these cases federation had also resulted in better achievement for different groups of pupils, such as those whose circumstances made them vulnerable; this included those with special educational needs and/or disabilities.

Effective leadership by headteachers and senior leadership teams was the single most critical feature that helped to generate improvements and build capacity for federations to be sustained. These leaders were able to apply the characteristics of effective school leadership successfully across all schools in the federation. The most effective leaders had a single vision and drive focused on raising expectations. This was underpinned by rigorous procedures for holding staff accountable by checking the quality of provision and, in particular, assessing the quality of teaching and learning. Federation leaders maximised the greater flexibility of increased resources and opportunities for professional development to achieve their priorities. (Ofsted 2011: 4-5)

The Ofsted study was conducted after those by Chapman and his associates, but the findings are consistent, reinforcing the view that 'performance federations' are particularly effective.

Updating the evidence from the United States

A study by Branch, Hanushek and Rivkin (2013) in Texas warrants special attention because it sheds light on the role of high-performing principals in matters related to high- and low-performing teachers, along with striking evidence of impact on student achievement. The project combined different data sources to create matched data sets for students, teachers, and principals over six years (1995-2001). The sources included all Texas public school teachers, administrators, staff, and students. Observations of 7,420 principals were conducted. Student achievement was determined by results in mathematics in the Texas Assessment of Academic Skills tests administered to students from grades 3 to 8.

The effectiveness of a principal was determined on a 'value-added' basis by 'examining the extent to which math achievement in a school is higher or lower than would be expected based on the characteristics of students in that school, including their achievement in the prior year' (Branch, Hanushek and Rivkin 2013: 64). The following summarise key findings in the three methods adopted in the study:

- For average mathematics achievement gains adjusted for student background characteristics and school mobility rates and for a sample of principals in their first three years of leadership in the school, the annual impact of having an effective rather than ineffective principal was a gain of 16 percentile points of student achievement.
- For difference in average adjusted mathematics achievement gains between students attending the same school under different leaders, with all principals sampled, the annual impact of having an effective rather than ineffective principal was a gain of 8 percentile points of student achievement.
- For additional year-to-year fluctuation in average adjusted achievement gains surrounding a leadership transition, with all principals sampled, the annual impact of having an effective rather than ineffective principal was a gain of 4 percentile points of student achievement. (Branch, Hanushek and Rivkin 201: 65)

The overall conclusion of the study was as follows:

Our results indicate that highly effective principals raise the achievement of a typical student in their schools by between two and seven months of learning in a single school year; ineffective principals lower achievement by the same amount. These impacts are somewhat smaller than those associated with having a highly effective teacher. (Branch, Hanushek and Rivkin 2013: 63)

It is clear that these impacts are not the result of direct action by the principal; there are mediating factors. Among other strategies reported in studies cited elsewhere in this review, the particular strategy that was the subject of attention in the Texas study was the way principals manage the transitions of teachers to and from the school. The conclusion in this component of the study is striking:

We confirm . . . that teachers who leave schools with the most-successful principals are much more likely to have been the less-effective teachers in their schools than teachers leaving schools run by less-successful principals (Branch, Hanushek and Rivkin 2013: 63).

The effectiveness of a teacher was measured by the results of the teacher's students in the Texas tests described above.

Explanations for the conclusion were speculative but credible. While principals had the authority to select and dismiss teachers, the researchers did not have access to the particular interactions between principals and teachers that led to a teacher leaving, either voluntarily or involuntarily. High-performing principals may be more effective in raising the level of knowledge and skill of their staff through professional development than less effective principals. Highly effective principals may attract to their schools highly effective teachers in greater numbers than their less effective counterparts, thus building the professional capital of their staff over time. The authors asserted that 'management of teacher quality is an important pathway through which principals affect school quality' (Branch, Hanushek and Rivkin 2013: 66).

Updating the evidence from China: Shanghai and Hong Kong

Studies in two high-performing jurisdictions highlight the significance in these settings of deep-seated cultural forces in explaining the nature of school autonomy and the factors that may shape its impact on student achievement. These were conducted in China – Shanghai (Tan 2013) and China – Hong Kong (Walker, Lee and Bryant 2014). An analysis of OECD data by Jensen (2013: 26) indicated that each jurisdiction has moderate to high levels of school autonomy.

Shanghai has been at the top of international rankings in recent iterations of PISA. In a comprehensive account of school education, Tan, a scholar from Singapore, noted that a 'key feature of the current reforms is the emphasis on school autonomy':

By moving away from centralisation, it is hoped that more room will be given to the schools to adapt the curriculum to meet the specific needs of the students, teachers and community. School leaders are free to design about one-third of their curricula for the implementation of expanded subjects and inquiry/research courses. (Tan 2013: 92)

There is also significant decentralisation in assessment. Tan drew attention to these developments being illustrations of 'decentralised centralism' with 'the education policies in Shanghai . . . designed to support the educational ideology of the central government' (p. 94). Even though schools have the flexibility noted above, with the initial designs being 'bottom-up', schools 'have to subject their research/course to the approval and refinement of the district officers' (p. 94). Schools must also teach a prescribed common curriculum in foundation subjects.

There is also a stronger role for the school in developmental planning and appraisal through a policy known as School Developmental and Supervisory Appraisal, introduced 'to rectify

the school appraisal and exam system that overemphasised screening and selection at the expense of improvement and encouragement' (Tan 2013: 100). As with the reforms in school-based curriculum development, design is bottom-up but requires the approval of the district's supervisory office. Tan concluded that by 'encouraging schools to develop their own plans, niches and courses, the appraisal system has succeeded to an extent in promoting autonomy, innovation, diversity and efficiency' (p.105). No evidence is cited that demonstrates that these outcomes have been achieved in this already high-performing system. In each domain – curriculum, development and assessment – the 'dynamic of simultaneity' in centralisation and decentralisation in a system of 'decentralised centralism' is demonstrated, a dynamic which 'rejects the model of decentralisation and centralisation as waves following and replacing one another' (p. 93). Tan also concluded that under these conditions, compared to the past: 'there is greater, not less accountability and centralised control for Shanghai schools' (p. 106).

A study in Hong Kong (Walker, Lee and Bryant 2014) yielded findings that run counter to expectations in some of the literature but which are explained, at least in part, by cultural factors. There have been significant shifts in matters related to school autonomy in Hong Kong over the last 25 years and aspects have proved contentious. Only about 10 percent of students in Hong Kong attend government schools with most attending schools owned and operated by a range of not-for-profit entities including churches and charities. All schools are fully maintained by government grants (except for a small number of fully private independent schools).

The authors summarised developments and located them in an international context of research on SBM (school autonomy). They drew on survey data from 179 staff and 2,037 students from 42 schools and employed a robust, quantitative and, in some matters innovative approach in their analyses. The study was not so much a study of the impact of SBM but on the impact of principals' behaviours that research in other jurisdictions has revealed have had an impact on student achievement. The following summarises their findings:

Results indicate that transparent and efficient communication structures as managed by principals explained approximately 12% of between-schools variation in academic achievement. Leadership practices related to quality assurance and accountability and resource management also contributed to explaining between-schools variation in academic achievement, yet they had negative effects on student achievement. (Walker, Lee and Bryant 2014: 602)

Among the context and cultural factors explaining the findings, the authors suggested that:

- While some schools clearly have strong communication structures initiated by principals, with an associated impact on student achievement, others do not: 'the hierarchical features of formal organisations including public schools in Chinese societies may impede the formal channel of communication' (p. 620)
- 'When principals focus too strongly on implementing practices associated with accountability and quality assurance in Hong Kong, negative pressure on teachers seems to follow' (p. 621)

The authors call for more research that may illuminate the findings on resource management. This recommendation along with related findings should be understood in the context of OECD analysis reported by Jensen (2013: 26) that, across all jurisdictions, the correlation between autonomy in respect to resource management and student performance on PISA is close to zero.

Parent and community engagement

Initiatives in autonomy for public or state schools invariably include provision for local school councils or boards which may have either a strategic role in governance or may be advisory.

There is little research that maps the links between this aspect of autonomy and improvements in levels of student achievement although making such links is clearly an aspiration. This observation in no way denies the benefits of a greater role for parents in schools which may be achieved irrespective of the formal level of autonomy. A review of research by Educational Transformations (2007) for the Department of Education in Queensland, where there were modest levels of autonomy at the time of the study, yielded the following conclusions about parent engagement:

- *Communication.* Effective parent-teacher communication can have benefits for student outcomes, particularly in the early years of schooling.
- *Volunteering.* Volunteering activities that take place at the school have a relationship with decreases in disruptive student behaviour and increases in student motivation, engagement and retention.
- *Learning at Home.* Parent participation in literacy learning activities has a relationship with improvements in student literacy.
- *Decision-Making.* Participation in school governance offers parents an opportunity to share ownership of school decisions.
- *Collaborating with the Community.* There is a positive relationship between improved student outcomes and parenting programs that are sensitive to the cultural needs and values of parents.

Assessments of the roles of school councils and boards in various jurisdictions invariably highlight a limited rather than strategic role, with difficulties being experienced in securing the involvement of the community. The following is a summary of what has been found in selected jurisdictions to illustrate this finding.

Australia

An assessment of developments and proposals for change in Victoria (Department of Education and Early Childhood Development 2014) reflect the issues and limited evidence of impact on student achievement illustrated in these brief descriptions of what has occurred in other jurisdictions (descriptions were drawn from a comprehensive review of national and international practice in Caldwell 2013). Victoria is of particular interest because it has had nearly four decades of experience with school councils in a system of relatively high levels of school autonomy by international standards. For nearly half of this time these bodies have had powers to set policy, approve budgets and, through the principal, select teachers within a centrally-determined framework.

School councils in Victoria tend to be preoccupied with routine operational matters and local fund-raising, with expectations for a more strategic role being unfulfilled in many instances. Many schools, especially smaller schools in rural settings, struggle to fill positions. A key recommendation was that schools should be encouraged to 'fully harness the power of school federations, the success of which has been demonstrated in England over the past decade' (Department of Education and Early Childhood Development 2014: 3). Other recommendations made clear that impact on learning should be an important purpose:

- Embedding the strategic role of school councils, including amending the legislation to strengthen the school council's role in governing for improved student outcomes.
- Reforming school council membership, including reframing the involvement of school staff to be based on their capacity to contribute to the governance of the school rather than as representatives.
- Building school council capacity, through enhanced recruitment, induction, training and support.
- Strengthening accountability through developing processes for the evaluation of school council performance and a channel for the communication of school council concerns. (Department of Education and Early Childhood Development 2014: 3)

Canada

Developments in Alberta and Ontario are of interest given that these provinces rank highly in PISA. School councils in Alberta, where many school districts (notably Edmonton Public School District) have provided a relatively high level of autonomy for their schools over several decades, were established by provincial legislation in 1995 to increase parent and community involvement. Public schools, including charter schools, must attempt to establish school councils each of which must include the principal, teacher(s), parents of students enrolled at the school, and students (high schools only). Parents must form the majority. An amendment to regulations in 1998 required the election/appointment of a community representative who is not the parent of a child in the school. It is clear that school councils play an advisory role only on matters such as academic programs, school policies and budgets, and that many schools have difficulty establishing a council.

A school council effectiveness study was conducted following recommendations of the School Council Review in 1999. A report of a consultation across the province (Kaleidoscope Consulting 2004) included the following recommendations and findings:

- School boards and jurisdictions should actively foster and facilitate the creation and operation of effective empowered school councils. There are a number of schools that do not have school councils; there are a number of school councils that are floundering; and there are a number of school councils that meet because 'it is the third Monday of the month,' but have limited impact on enhancing learning in the school.
- Recognise and support the leadership role of the principal. All discussions in this study identified the principal as the cornerstone of councils that function effectively. At a minimum, jurisdictions should be clearly articulating and communicating their expectations of the school principal in supporting and enabling authentic and meaningful participation of school councils in matters of significance to the school. Ideally, the division [district] would provide mentoring, coaching and identify accountabilities for this role.
- Use a strategic planning process to develop a clear focus, define roles and set objectives. Councils that have a clear sense of purpose and have established strategic focus areas believe and can see how they have a significant positive impact on learning and the school environment. They are also able to attract more participation because people know why they are there and what the expectations are. (Kaleidoscope Consulting 2004: 4-5)

Every school in Ontario is required to have a school council, the purpose of which is 'through the active participation of parents, to improve pupil achievement and to enhance the accountability of the education system to parents' (People for Education 2012: 2). *People for Education* is a registered charity that supports public education in Ontario. Each year it conducts a survey of school councils, with the 2012 survey drawing responses from schools in 68 of the 72 school districts. Several of its findings are striking, because they suggest that the role of councils is limited, and that the aforementioned purpose is not being addressed or achieved to any great extent. For example:

According to our survey results, school councils are focusing more on communicating with parents at home and community-building through social events, than they are on direct efforts to improve student achievement and increase system accountability.

But there continues to be a disconnect between what school councils identify as their most important roles and what they actually spend the most time on. While the majority of councils say that communicating with parents is their most important role, most councils (40 percent) report that fundraising takes up the most time (People for Education 2012: 2).

It seems that much of the energy of school councils is devoted to securing the necessary participation: 'In the comments at the end of the survey, the most frequently identified challenge for school councils is the perennial problem of increasing participation on school council' (People for Education 2012: 3).

Taking these findings into account, it would seem that school councils in Ontario are struggling to find a strategic role and that little has changed since an earlier report (Kerr 2005) that found limited impact since councils were mandated in 1995. Kerr concluded that 'school councils have struggled to play a consistent and meaningful role within Ontario's education system'. It became clear that, despite the intentions of legislation and regulation that endeavoured to define a strategic role: 'it is unrealistic to expect school councils to intuitively and effectively address the goal of improving student learning in a meaningful way' and that if 'volunteers are unable to make a meaningful difference, it seems reasonable to anticipate erosion in the participation rate of parents willing to serve on a school council'. Kerr concluded that 'declining participation may threaten the viability and sustainability of the school council system in Ontario' (Kerr 2005: 1).

Finland

The high profile of Finland in discussions about student achievement and school improvement suggests that the nation may be an exemplar for structures and processes in governance and management.

The municipality is the main unit of governance as far as schools are concerned. In 2013 there were 320 municipalities of which 107 were cities. Some small municipalities combine to provide education at the upper secondary level. Municipalities may levy a flat income tax ranging from 16 to 22 percent. They provide two-thirds of all public services including schools and health care. Significantly, schools are owned and operated by municipalities (which were originally parishes), so the municipal authority through its schools office is the governing body for schools. It should be noted that there is pressure in Finland to reduce the number of municipalities.

The principal is the leader of the school as far as governance, leadership and management are concerned, and with each school having a moderate level of autonomy in respect to curriculum and approaches to learning and teaching and the support of learning and teaching (the National Board of Education sets a broad curriculum for all schools in Finland).

The principal and staff are employed by the municipality. Each school is required to have a school board but practices vary across the country and they are advisory or consultative in most instances. Salary and working conditions are determined across the country on a country-wide basis through agreements with the teachers' union. Teachers are selected by the principal. This does not mean that schools are not responsive to or enjoy the trust of the community, or that schools do not have formal or informal partnership with organisations and institutions in the wider community. As is widely reported, Finland in general is characterised by a high level of trust in its public institutions, and schools and their staff are no exception.

New Zealand

New Zealand has a small population served by about 2,600 schools but it is one of the most interesting countries as far as school governance is concerned. New Zealand is not a federation and has a national unitary government. New Zealand has been a leader in school autonomy since the late 1980s.

School boards in New Zealand, or Boards of Trustees (BoT) as they are formally known, have a more powerful role than counterparts in most comparable countries, and warrant special attention. Every state school and state-integrated school in New Zealand has a board of trustees. The board is the employer of all the school's staff and is responsible for:

- setting the school's strategic and policy direction in consultation with parents, staff and students
- ensuring that the school provides a safe environment and quality education for all its students
- overseeing the management of curriculum, staff, property, finance and administration
- constantly monitoring and reviewing progress against targets to inform future planning

The board must have a charter, which sets out long-term goals and annual targets reflecting the school's priorities. The board must monitor and report annually to its community and the Ministry of Education on progress towards those goals and targets.

A review of school governance in New Zealand concluded with the following prognosis:

There are good reasons to further build the BoT governance system that was introduced to provide self-managing schools with both local support and monitoring, and to better connect parents and schools. There are no obvious alternatives—certainly none that are likely to be as cost-effective. But the time has come to directly address some of the issues that are evident around school governance, and to build trust between schools and government through finding new ways in which they can work together, sometimes directly, sometimes through intermediaries such as the suggested local teams of accredited education professionals. The provision of good quality learning opportunities is a collective responsibility. Schools cannot operate as effectively as we would like them to—and our expectations keep increasing—unless they are provided with realistic support, understanding, networks and accountability frameworks that motivate schools to keep developing and challenging themselves. Equally, good support for schools cannot be provided by or through government agencies if schools operate in an insular fashion. It is time to think creatively about how to better connect schools and government. (Wylie 2007: 60-61)

Scotland

Particular attention was given earlier in Chapter 3 to federations of schools in England. The focus at this point is parent engagement in Scotland which has responsibility for schools under its devolved powers.

Devolved School Management (DSM), as it is known in Scotland, began in 1993 with about 80 percent of the recurrent budget decentralised to schools for local decision-making. By 2007 the average across Scotland was 90 percent. A review was commissioned in 2010 and the resulting report (Cameron 2011) recommended further change, not so much as far as the percentage is concerned but the way in which the approach was to be implemented. One of Cameron's recommendations referred to governance as it concerned plans for school improvement:

Schools should present their plans for improvement and their associated budget planning to a representative group from their school community. This group should be heavily based on their parent council but should take account of the views of pupils and other community representatives, including local employers and representatives of the local authority. (Cameron 2011: 7)

Cameron also recommended that schools work together in 'learning communities'.

Guidelines for implementation were announced in June 2012 (Education Scotland 2012) and these made clear that it was headteachers who were empowered under DSM reflecting the 'core values' of subsidiarity, openness, transparency and local accountability:

Devolved school management should be informed by local priorities and issues to ensure it contributes towards shared agendas and improved outcomes. Devolved

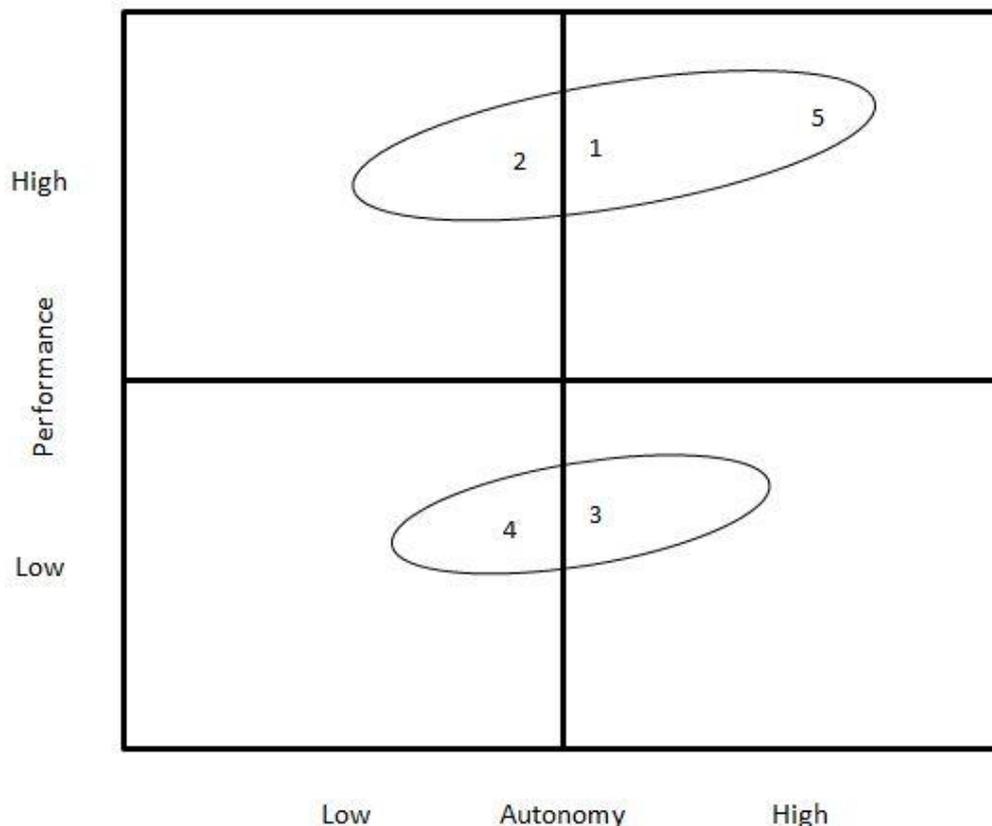
school management schemes should also enable stronger partnership working with other agencies and stakeholders in community planning partnerships and effective collaboration between education providers as part of learning communities where this adds value. (Education Scotland 2012: 9)

Is autonomy a pre-requisite?

David Hargreaves wrote a series of 'think pieces' for the National College for School Leadership in England organised around the idea of a self-improving school system (SISS) (see for example, Hargreaves 2010, 2012). He described how school improvement has 'come to be defined in terms of the processes of intervention in schools that are deemed, by whatever measure, to be underperforming' (Hargreaves 2010: 4) and considered a capacity for school self-management (autonomy) to be a pre-requisite for self-improvement. However, evidence summarised in Chapters 2 and 3 suggests that this may be over-stating the case.

On balance, relatively high levels of school autonomy are associated with relatively high levels of student achievement in certain settings, especially in developed countries, and under certain circumstances, especially where principals and other school leaders can bring about change that evidence shows is likely to have an impact on achievement. However, it is also evident that high levels of student achievement are also gained in settings where there are only modest levels of autonomy, but even this level of autonomy allows principals and others to build professional capacity in ways set out in Chapter 3. Figure 2 illustrates this state of affairs.

Figure 2: Illustrating the evidence on performance for schools with low and high levels of autonomy



Schools with moderate to high levels of autonomy may achieve relatively low (position 3 in Figure 2) or relatively high (position 1) levels of performance. Value may be added with higher levels of autonomy, especially in the areas of professional capacity and personnel management (position 5), including staff selection and appraisal, as well as strategic resourcing. Schools with relatively low levels of autonomy may achieve relatively low (position 4) or relatively high (position 2) levels of performance. This may be achieved or facilitated by principals and other school leaders building for themselves and others the capacities that have been highlighted in research reported in Chapter 3.

Key themes in Chapter 3

1. The most powerful evidence on mediating factors linking school autonomy and student achievement is on the work of principals and other school leaders in building professional capacity through staff selection, professional development and appraisal; setting priorities on the basis of data about performance; and communication of purpose, process and performance. Cultural factors may limit effects in some settings. These capacities can be built and made effective in settings where there may be only moderate levels of school autonomy. There is evidence that federations (alliances) of schools with relatively high levels of autonomy may enhance student achievement if they are focused on sharing knowledge and resources.
2. Differences between developed and developing countries in respect to the impact of school autonomy on student achievement are also evident within these contexts such that, within the former, there may be no impact or negative impact if schools do not have the capacities that research has demonstrated are likely to facilitate the links, such as those described in #1. There is evidence that the impact of school autonomy on student achievement becomes stronger and more positive the longer a school has possessed and utilised a higher level of autonomy, reflecting the time it takes for the necessary capacities to be built and confidence to be gained.
3. Parental engagement has many benefits but there is little evidence to date that there is a positive impact on student achievement, except for the engagement of parents in support of their children in the early years of schooling, even though such an impact is invariably an expectation.

CHAPTER 4: INNOVATION AND 21ST CENTURY EDUCATION

Chapter 4 deals with innovation and the so-called 21st Century skills, summarising the relatively sparse research on the impact of higher levels of school autonomy on student achievement. These topics are part of the third phase of the international project described in Chapter 1. They are also of particular interest in Australia.

School autonomy and innovation

There have been claims from time to time that a relatively high degree of autonomy, in schools or in any organisation, provides conditions that enable innovation to flourish, and that more centralised arrangements may stifle innovation. There is invariably an implication that innovation is desirable and is likely to lead to practices that may improve performance. As is often the case, the relationships and associations are more nuanced, and evidence is required to make clear the connections and the factors that should come into play if there is indeed to be improvement.

Three sources of evidence are summarised here. One is the findings of a large-scale international survey conducted for OECD. The second is more sharply focused, giving particular attention to structures, process and outcomes of initiatives in school autonomy that have been created in some school districts in the United States. The third describes examples of 'innovation zones' in districts in the United States that have introduced a relatively high degree of school autonomy.

OECD study of innovation in schools

The potential benefits of innovation in schools, as described in an OECD (2014) report, included:

- Educational innovations can *improve learning outcomes* and the quality of education provision. For example, changes in the educational system or in pedagogies can help customise the educational process. New trends in personalised learning rely heavily on new school organisations and the use of ICT.
- Education is perceived in most countries as a means to *enhance equity and equality*. Innovations could also help enhance equity in the access to and use of education, as well as equality in learning outcomes.
- Education should remain relevant in the face of rapid changes to society and the national economy. (Adapted from OECD 2014: 21)

The report acknowledged that 'the measurement of innovation and its effectiveness in the public sector, and in education in particular, is in its infancy' (OECD 2014: 22) and that 'innovation indicators in the education sector should be linked to specific social and educational objectives (e.g. learning outcomes, cost efficiency, equity, and public satisfaction)' (OECD 2014: 23).

An important finding is that, with few exceptions and contrary to often-held beliefs, innovation in education is as high or higher than in other fields, both public and private, and that, within education, it is greater in higher education than in the schools' sector. The following are key findings on these matters (OECD 2014: 15), drawing on a survey of tertiary graduates in 19 European countries:

- Contrary to common belief, there is a fair level of innovation in the education sector, both relative to other sectors of society and in absolute terms. 70% of graduates employed in the education sector consider their establishments as highly innovative, on par with the economy average (69%).
- Within education, innovation intensity is greatest in higher education, with secondary and primary education approximately equal.

- Compared to other sectors, knowledge and method innovation is above average in education, product and service innovation is below average, and technology innovation is at the average sectorial level.
- Education is at or below the average in terms of the speed of adoption of innovation: 38% of graduates reported that their educational establishment was mostly at the forefront in adopting innovations, new knowledge or methods (against 41% on average in the economy).
- Higher education stands out in terms of speed of adopting innovation, above the economy average, and well above the rate in primary and secondary education.
- The education sector has significantly higher levels of innovation than the public administration on all our indicators and is at least as innovative as the health sector on each measure.

Another approach to measuring innovation in education was based on reports of changes in practice as reported in items included in international tests such as PISA, TIMSS and PIRLS. The following are some of the key findings (OECD 2014: 16):

- There have been large increases in innovative pedagogic practices across all countries covered in areas such as relating lessons to real life, higher order skills, data and text interpretation and personalisation of teaching.
- In their pedagogic practice, teachers have innovated in their use of assessments and in the accessibility and use of support resources for instruction.
- Educational organisations have innovated in the areas of special education, creation of professional learning communities for teachers, evaluation and analytics and relationship building with external stakeholders, such as parents.
- In general, countries with greater levels of innovation see increases in certain educational outcomes, including higher (and improving) 8th grade mathematics performance, more equitable learning outcomes across ability and more satisfied teachers.
- Innovative educational systems generally have higher expenditures than non-innovative systems; however, their students are no more satisfied than those in less innovative systems.
- Overall, innovation has been higher with regards to classroom practices than school practices between 2000 and 2011.

Noteworthy among these findings are innovations in pedagogy, assessment and the use of data. As far as impact on student achievement is concerned: 'countries with greater levels of innovation see increases in certain educational outcomes, including higher (and improving) 8th grade mathematics performance, more equitable learning outcomes across ability and more satisfied teachers'.

While comparisons among countries/jurisdictions were reported by OECD, they are not specified here since there was no systematic effort to rank or compare them on the basis of degrees of relative school autonomy. It may be possible to construct a table of comparisons but it is more fruitful to explore the extent to which the innovations specified in the above list are likely to be driven by or at least consistent with what might be expected under conditions of autonomy.

Intuitively, it may be argued that a relatively high degree of autonomy provides a school and its staff with more degrees of freedom to innovate, but this depends on them having the necessary capacities, a willingness to take risks, and a professional environment in which the foregoing are not unduly constrained by accountability requirements or time limitations. However, these considerations may also apply in systems where the level of autonomy is relatively low as far as school governance and formal structures are concerned; the level of

professional autonomy at the school level may be sufficient to initiate and sustain innovation that may have an impact on student achievement.

In general, while the findings are of interest, there is no compelling evidence in the OECD report of noteworthy connections between autonomy and innovation.

An earlier report on innovation in schools was published by OECD (Kärkkäinen 2012) drawing on several of its comprehensive data bases. The focus was on innovations in curriculum and the study did not seek to investigate the links between school autonomy and student achievement. However, it provided detailed accounts of centralised and decentralised approaches and a combination of the two, along with a description of the conditions under which each is likely to be effective. The two extremes were described as follows:

At one extreme, a prescriptive central curriculum implicitly places the initiative for educational innovations at the level of the central administration. This approach provides strong incentives for schools and teachers to adapt innovations that would not otherwise take place. Innovations, supported by policy measures and informed by research, are brought within the reach of all schools and teachers in an equitable manner. The challenge is then to accommodate local needs and ensure the commitment to and implementation of innovations by schools and teachers. At the other extreme, decentralised curriculum decision making provides schools – and perhaps even teachers – with room to create their own educational innovations. This approach allows for experimentation relevant to individual students and local communities. Innovations are meant to spread through horizontal networks of schools and teachers. The challenge is then to provide incentives for individual schools and teachers to innovate or adapt innovations and ensure that they have equal capacity to do so. (Kärkkäinen 2012: 3)

Its findings were summarised in the following terms:

In terms of formal and structural arrangements, education systems need to balance some central influence on curriculum decision making with enough flexibility at school level. The optimal balance between centralisation and decentralisation depends on the conditions under which decisions on curriculum are taken:

- Under certain conditions, it seems preferable for an education system to rely on more – but not completely – centralised decision making to bring about curriculum innovations. This decision making needs to be accompanied by well-aligned policy instruments, use of research evidence as well as by the involvement of practitioners, parents and the wider community. This kind of arrangement appears preferable when the education system is faced with poorly trained teachers and principals or few possibilities for motivating them to innovate on a large scale. Conducting research or the use of research findings at school level would also be weak, but the influence of parents on schools could be strong, even though poorly informed.
- Under other conditions, allocating much of the curriculum decision making to schools with relatively light central direction may be more conducive to innovation. This kind of arrangement appears preferable when school-level curriculum decision making can rely on a large pool of adequately trained teachers and principals. Teachers and principals would also have considerable opportunities and be accustomed to conducting research, use research findings or consult experts to support their decision making. There would be incentives available to reward innovativeness as well as the adoption and dissemination of innovations. The influence of parents on curriculum decision making would be somewhat limited, especially if adequate provision and use of information could not be guaranteed. (Kärkkäinen 2012: 50)

These findings are consistent with those in the study of McKinsey & Company, cited in Chapter 2, in systems with schools on the journey from poor to fair to good to great:

There is a strong, correlation between a school system's improvement journey stage and the tightness of central control over the individual schools' activities and performance. Systems on the poor to fair journey, in general characterised by lower skill educators, exercise tight, central control over teaching and learning processes in order to minimise the degree of variation between individual classes and across schools. In contrast, systems moving from good to great, characterised by higher skill educators, provide only loose, central guidelines for teaching and learning processes, in order to encourage peer led creativity and innovation inside schools, the core driver for raising performance at this stage. (Mourshed, Chijioke and Barber 2010: 33-34)

Innovation and school autonomy in the United States

There are few reports containing evidence on the links between school autonomy and student achievement in the United States in the context of innovation. An example of a study that attempts to do this is the investigation commissioned by Boston Public Schools in Massachusetts, USA which noted that:

Boston is the birthplace of public education in the United States and, since the mid-1990s, has also been a leader in demonstrating the opportunities that school autonomy can offer. Last fall, nearly 20 years after we launched our first autonomous schools, we decided to tackle a critical question facing our system: *what role should school-based autonomy, in its various forms, play in improving student outcomes?* (French, Miles and Nathan 2014: 4)

Elsewhere the report is explicit in seeking evidence on the links between autonomy and achievement when it states that a purpose of the project was to explore 'how Boston Public Schools can strengthen and support autonomy and accountability across its portfolio to promote innovation for equity and high performance' (p. 7). A feature of the document is its account of similar initiatives in other school districts including Baltimore, Denver, Lawrence (MA), Los Angeles and New York City.

In his foreword to the report, Paul S. Grogan, President of The Boston Foundation asserted that 'Giving a principal power to make change doesn't guarantee success. . . And a growing body of evidence suggests that to move schools forward, you need to break the old command and control model. Autonomy is becoming a necessary precondition of success' (cited in French, Miles and Nathan 2014: 5). The first statement is consistent with evidence cited in the current review; the second is consistent with a view of Hargreaves (2010) cited in the final section of Chapter 3. Elsewhere, there is a more qualified statement that sits comfortably with the evidence: 'In Boston as in other communities, school-based autonomy is a crucial but not sufficient ingredient for creating and sustaining excellence in individual schools (French, Miles and Nathan 2014: 10)'. The report expressed these matters well when it noted that:

[National] Research shows that blanket autonomy for school leaders does not *by itself* lead to improved student performance. But research also demonstrates that flexibility *can* enable higher performance when leaders use it to design instruction and organize resources strategically, with the added benefit of fostering a more committed and cohesive school culture due to increased school level ownership of those choices. (French, Miles and Nathan 2014: 13)

The district has created four types of autonomy: pilot schools, innovation schools, charter schools, turnaround schools, together accounting for about one-third of the district's schools. The innovation schools were created under state legislation and call for a memorandum of agreement between each school and the school district. Each school has its own Innovation Plan and Election to Work Agreement (EWA) on working conditions for teachers, negotiated

with the Boston Teachers Union. A priority for the district is to work with the union to increase school flexibility to hire staff and change learning time for students.

Mixed-method studies, both qualitative and quantitative (mostly the former) were undertaken in the project. Top-performing schools were identified using results in the 2010-2012 Massachusetts Comprehensive Assessment System (MCAS) at three levels – Grades 3-5, 6-8 and 8-10 – in mathematics and English language arts. Researchers selected six of the best-performing schools for case study – three traditional and three autonomous which performed well on both student gains and student performance.

Researchers framed their work on high-performing schools by findings in studies around the United States:

[National] Research is also clear that leaders in high performing schools implement a common set of practices — together known as Strategic School Design — that require an ongoing level of flexibility in hiring, staffing, assignment and scheduling that does not exist for most BPS schools. These leaders focus on ensuring teacher effectiveness by creating collaborative teacher teams that use student data and expert guidance to tailor instruction. They maximize instructional time on core academic subjects, varying time based on subject and student priorities. And they ensure that students receive individualized attention through strategic scheduling, grouping and other structures to facilitate targeted interventions and strengthen student-teacher relationship. (French, Miles and Nathan 2014: 13)

In an important outcome of their work, researchers in Boston found that the high-performing schools selected for case study had introduced practices that were consistent with these national findings, regardless of the level of school autonomy. This is also consistent with evidence cited in Chapter 3 that it is what principals and their colleagues do to make the link to learning that is important. The broader international studies such as those conducted by OECD suggest that a higher level of autonomy is generally associated with a higher level of student achievement. A higher level of autonomy is not a necessary pre-condition but it may be an important driver if schools have the necessary capacities.

A careful review of student results across the district demonstrate that regardless of a school's formal autonomy status, the highest-performing schools are implementing resource practices that fall squarely in the category of Strategic School Design. (French, Miles and Nathan 2014: 13)

Innovation zones

The Innovation Schools in the Boston Public School district are one instance for what are broadly known as 'innovation zones' that have been established in several states and districts across the United States. These include the Indianapolis Innovation Network Schools, New York City (iZone), the Innovation Cluster for Metro Nashville Public schools, and Los Angeles through its Expanded School Based Management Model (ESBMM) – all within districts – and at the state level in West Virginia under the Innovation Zones Act, the Site-Governed Schools legislation in Minnesota, and Zones of School Innovation in Hawaii. Many involve 'turnaround schools' and most call for a high level of school autonomy in matters of staffing, budget, curriculum and assessment. Special enterprise agreements have been negotiated with teacher unions. Districts and states provide support for these initiatives; for example, the Wisconsin Innovation Schools Network.

There are few accounts to date on the links between the school autonomy element of these developments and student achievement. The first innovation zone in the United States was the iZone in New York City, established in 2010. As explained in its website:

Now and in generations past, education has been our nation's foundation for opportunity. But today's education system requires transformation if we want to prepare students for success in a globally-connected world. To thrive, our students

need to be engaged in learning that is relevant to their lives, and allows them to master the skills of tomorrow.

The iZone harnesses today's resources to design [the] school around the unique strengths, interests and needs of each student. We believe in expanding learning opportunities beyond the classroom walls and the dismissal bell. And we provide teachers with the resources and flexibility to support each of their students in developing the skills required for college and career success.

Starting with 25 Lab Schools in the district's 1,700 schools, the initiative is expected to involve 400 schools in 2014. The England-based Innovation Unit, which has provided support for the iZone, reported that 'The iZone has early indicators of success, including increased student achievement, students demonstrating increased motivation, problem formulation, research, interpretation and communication. The iZone initiative is being studied and replicated in cities and school districts across the US and internationally' (as cited on iZone website). On the other hand, the Innovation Unit's David Jackson suggested that increases in student achievement may be more 'potential' than 'realised'. In a paper prepared for the Global Education Leaders Program (GELP) he wrote that:

[The] iZone students demonstrated increases in intrinsic motivation, problem formulation, research, interpretation, and communication. These characteristics are linked to college and career readiness and are predictive of eventual increases in traditional student achievement metrics. (Jackson 2014: 17)

Taking all things into account there seems to be a sound theory of action underpinning innovation zones and much has been accomplished to establish them, with a high degree of school autonomy, impressive changes in structures and processes, and partnerships with other entities in the public and private sectors. Evidence of impact on student achievement was still being sought at the time of writing but it is reasonable to conclude that much remains to be done to establish the nature of that impact.

21st Century education

The term '21st Century skills' is now so widely used that there is little point in providing a comprehensive account of what are or should be included. In most respects it is beyond the purposes of this review. It is sufficient to observe that there is general agreement on the relevance of the concept but only moderate agreement on the particular attributes that should be included in various classifications. The review of the Australian Curriculum (Donnelly and Wiltshire 2014) cited the views of representatives of the OECD that included the following:

Scepticism is building in relation to so called 21st century thinking and skills, a movement which has permeated some of the educational establishment in some countries. Essentially this movement focuses primarily on competencies to the neglect of knowledge, and tries to minimise learning of content based in disciplines, preferring generalised attempts at interdisciplinarity. The OECD warns that knowledge is paramount and this requires discipline areas. It is a big mistake to replace disciplinary boundaries with cross-curricular competencies as students will lose the faculty of transferring knowledge because they do not have the conceptual understanding. They need to be able to understand concepts to apply them. And, once again, competencies cannot be taught without content, and critical thinking is best embedded in a learning area. (Donnelly and Wiltshire 2014: 34)

However, closer scrutiny of what has been proposed suggests that 21st Century skills should 'complement' or be addressed through robust content-based disciplines. Illustrations of two schemes are briefly described; one is a well-known formulation by Cisco, the other by the Centre for Curriculum Redesign (CCR).

Cisco

A sturdy touchstone for considering these matters was presented in the Cisco report entitled *Equipping Every Learner for the 21st Century* (Cisco 2008) which referred to three sequential but overlapping stages over the years, described as Education 1.0, Education 2.0 and Education 3.0. Some may not warm to the terminology but the descriptions attached to each designation and what changes they have/will entail are widely but not universally accepted.

Education 1.0 refers to learners and learning in the traditional school. Education 2.0 refers to recent developments in which there has been a preoccupation with curriculum, teaching, leadership and accountability. Education 3.0 refers to what has changed or should change in the 21st Century, with a focus on so-called 21st Century skills nurtured through a 21st Century pedagogy, enabled at least in part by technology. Education 3.0 is intended to achieve 'holistic transformation' (Cisco 2008: 7).

The designation is contentious because there is a strong case that good teaching and good learning in the traditional school (Education 1.0) nurtured these skills. It may be argued that the great achievements of humankind in any field one cares to name were underpinned by the nurturing and application of these skills.

Cisco (2008: 15) summarised the major features and the challenges of Education 3.0 in the following terms:

Our education systems continue to reinforce traditional approaches to teaching. Changing this will require leaders to develop a compelling vision of 21st century learning, communicate it with passion, and ensure that it is translated into action at all levels of the system. The transformation will need to be holistic; from government ministries to principals and classroom teachers. It will also require a holistic reform of education delivery, to align incentives and provide resources for teacher training, curriculum development, accountability, and assessment. The Education 2.0 pillars of system reform will need to be adapted significantly for Education 3.0.

Teachers: Great teaching is at the heart of successful learning. Great 21st century teachers will weave 21st century skills into core subjects through new pedagogy, enlivened by collaborative technologies. New and proven instructional approaches and digital resources will become a core toolkit for 21st century teachers. This transformation will require new forms of teacher training and professional development.

Curriculum and assessment: In the future, curricular reform will most likely be required to balance core subjects and new 21st century skills. This will also require fresh thinking about performance measures to overcome legitimate concerns that there has been limited progress toward recognising and rewarding skill development that cannot be detected in an end-of-term assessment.

Accountability for outcomes: Accountability will be more essential than ever in 21st century education systems. School leaders will be accountable to students; questioning if school is staying relevant to their lives. Policy leaders will be accountable to employers and citizens, questioning if the system is effectively preparing young people to help meet national aspirations. It will also be important to measure accurately the impact of new skills and pedagogy in the classroom to bring about new and improved outcomes.

Centre for Curriculum Redesign (CCR)

Charles Fadel is former Global Education Lead at Cisco Systems and Cisco liaison with UNESCO and the World Bank. He then established and is now Chair, Centre for Curriculum Redesign (CCR). The work of CCR is driven by the question 'What should students learn for the 21st century?' CCR is supported by a range of public and private institutions and organisations including OECD, UNESCO and World Bank; jurisdictions in Australia (New

South Wales and Victoria), Canada (Alberta and Ontario), Finland, and others; leading universities such as MIT and Stanford; foundations and not-for-profits such as the Bill & Melinda Gates Foundation, William and Flora Hewlett Foundation, and the Australian Curriculum, Assessment and Reporting Authority (ACARA); and corporations including Google, IBM, Intel and Microsoft. The following are drawn from publications of Fadel (Trilling and Fadel 2009; Fadel 2014a) and a presentation he made in October 2014 at an international conference that responded in part to the question stated above (Fadel 2014b).

Reflecting a general trend, CCR prefers to refer to '21st Century Education' rather than '21st Century Skills' although there are certain attributes ('skills') that are especially important at this time. For CCR 21st Century Education may be represented by three intersecting sets comprised of:

Knowledge 'What you know': Traditional Subjects, Modern Subjects

Skills 'How you use what you know': Creativity, Critical Thinking, Communication and Collaboration

Character 'How you engage with the world': Mindfulness, Curiosity, Courage, Resilience, Ethics and Leadership

Applying to all is the concept of Metacognition: 'How you reflect and learn'.

At first sight 'character' may not be the best or even an appropriate word but CCR provides a helpful elaboration:

Character = Agency, Attitudes, Behaviours, Dispositions, Mindsets, Personality, Temperament, Values

=

Social and Emotional Skills (OECD)

The matching of 'Character' to 'Social and Emotional Skills' refers to a current major project of the OECD that will report in 2015.

Fadel provided an open-ended set of associated traits and concepts to each of the six elements of 'character'. For example, for curiosity: open-mindedness, explorations, passion, self-direction, motivation, wonder, beauty, initiative, innovation, enthusiasm and spontaneity; and for mindedness: self-awareness, self-actualization, vision, insight, observation, consciousness, compassion, equanimity, happiness, authenticity, listening, presence, sharing, interconnectedness, empathy, sensibility, patience, acceptance, appreciation, tranquillity, balance, spirituality, existentiality, oneness, gratitude, interdependency, social awareness and cross-cultural awareness.

If the three intersecting sets encompass the curriculum, in a general sense, then addressing the skills and character elements requires a purposeful effort in the design of particular learning and developmental experiences for students and the commitment of significant time in delivery. This is one of the reasons that nations/jurisdictions are reviewing their curriculums and cutting back on the content of the knowledge component, with frequent reference to 'the overcrowded curriculum' which needs to be deeper rather than broader. The recent review of the Australian Curriculum (Donnelly and Wiltshire 2014) makes the same point in its account of developments in Asia:

In recent times these Asian countries [China-Hong Kong, China-Shanghai, Singapore and South Korea] have reviewed their school education and curriculum systems. There has been a general tendency to reduce the curriculum load and offer more school autonomy and choice for students, although changes to date are incremental. Most have also introduced measures to identify individual student needs and address these throughout the school years spectrum. (Donnelly and Wiltshire 2014: 48)

In their report *The Slow Road to Higher Order Skills* commissioned by the Stupski Foundation, Fullan and Watson (2011) examined developments in six different jurisdictions and noted the following in respect to three high-performing systems:

In all three systems – Ontario, Finland, and Singapore – higher-order skills are not an addition to the curriculum or to the tasks of schools, as much as they are a way of deepening and enriching the curriculum and the school experience, helping children and young people to become literate, learn history more than ever, while also developing the problem solving, interpersonal, innovative approaches that are touted as crucial for citizens, workers and indeed countries in the 21st Century. Thus in these three systems higher-order skills have been deliberately designed as part of the *evolution* of systems already successful in teaching the basics. Finally, recall that we said that higher-order skills would be the new norm, i.e. the vast majority of students in the future should be proficient in such skills. Ontario, Finland and Singapore have not progressed to these levels, although they aspire to do so. (Fullan and Watson 2011: 31)

They concluded (Fullan and Watson 2011: 34) that only Singapore had made significant progress: ‘it is clear that many issues are unresolved and many uncertainties remain. We think that the last 20 years has represented a very slow road to the higher order skills agenda. Almost no progress has been made (with the exception of Singapore) in positioning higher order skills as central to education reform’. To illustrate, the Singapore Curriculum for Primary Schools (see www.moe.gov.sg/education/primary/curriculum for details) is organised in three circles. As described on the website, the inner circle centres on life skills to ensure that students acquire ‘sound values and skills to take them through life as responsible adults and active citizens. It comprises the non-academic curriculum’ and includes co-curricular activities, character and citizenship education, national education, programme for active learning, physical education and values in education. Surrounding the inner circle – the middle circle – are knowledge skills that seek ‘to develop students’ thinking, process and communication skills’ enabling students ‘to analyse and use information and be able to express their thoughts and ideas clearly and effectively. It comprises skills-based subjects’. The outer circle ‘covers the content-based subject disciplines i.e. Languages, Humanities & the Arts, and Mathematics & Sciences. It ensures that students have a good grounding in content across different areas of study’.

Key themes in Chapter 4

1. While there is general recognition of the importance of innovation, there is little evidence to date that higher levels of school autonomy are more likely to foster it than initiatives taken at the central level of a school system. In some systems the latter has established what are known as ‘innovation zones’, which are innovations in their own right, within which schools are encouraged and supported to be innovative. There is modest but promising evidence that there may be an impact on student achievement in areas in which these schools are specialising so, to this extent, there is an association with a degree of school autonomy.
2. There are different views on what constitutes 21st Century skills and how they should be addressed in the curriculum. Work continues in some settings on how they should be measured. Some jurisdictions, notably Singapore, appear to be making good progress. There is no evidence in literature reviewed thus far that there is an association between higher levels of school autonomy and higher levels of student achievement in respect to these skills. 21st Century education may be a more useful concept than 21st Century skills.
3. There is a need for further research on matters related to innovation and 21st Century education as far as school autonomy and its impact is concerned. This will be a focus in the third phase of the international project.

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ATTACHMENT: SELECTED STUDIES OF HIGH-PERFORMING PRINCIPALS

Walters, Mazarno and McNulty (2003) reported a meta-analysis of 70 studies that qualitatively measured leadership impacts. These spanned 30 years of research and presented data collected from 2,894 schools. The study was also supported by an 'exhaustive' review of school leadership literature. The majority of the studies were conducted in the US and many were originally reported in unpublished dissertations. The findings included the following:

1. Principals are aware of the details and undercurrents in the running of the school and use this information to address current and potential problems (d=0.33)
2. Principals ensure that staff are aware of current theories and practices and make discussion of these a regular aspect of the school (d=0.32)
3. Principals involve teachers in the design and implementation of important decisions and policies (d=0.30)
4. Principals are willing to and actively challenge the status quo (d=0.30)
5. Principals foster shared beliefs and a sense of community (d=0.29)
6. Principals are advocates and spokespersons for the school to all stakeholders (d=0.28)
7. Principals monitor the effectiveness of school practices and their impact on student learning (d= 0.28)
8. Principals establish a set of standard operating procedures and routines (d=0.26)
9. Principals provide teachers with the materials and professional development necessary for successful instruction (d=0.26)
10. Principals recognise and celebrate school accomplishments and acknowledge failures (d= 0.25)
11. Principals communicate and operate from strong ideals and beliefs about schooling (d= 0.25)
12. Principals establish clear goals and keep these goals in the forefront of the school's attention d= 0.24)
13. Principals protect teachers from issues and influences that detract from their instruction (d= 0.24)
14. Principals are knowledgeable about current curriculum, instruction and assessment practices (d=0.24)
15. Principals establish strong lines of communication with teachers and among students (d=0.23)
16. Principals adapt leadership behaviour to the needs of the current situation and demonstrate comfort with dissent (d=0.22)
17. Principals inspire and lead new and challenging innovations (d= 0.20)
18. Principals demonstrate awareness of the personal aspects of teachers and staff (d=0.19)
19. Principals are directly involved in the design and implementation of curriculum, instruction and assessment practices (d=0.16) Principals have quality contact and interactions with teachers and students (d=0.16)
20. Principals recognise and reward individual accomplishments (d=0.15)

Day, Sammons, Hopkins, Harris, Leithwood, Gu, Brown, Ahtaridou and Kington (2009) reported the findings of research in the Effective Leadership and Pupil Outcomes Project which claimed to be the largest and most extensive study of contemporary school leadership in the United Kingdom. Based on a longitudinal (2006-2009) mixed methods research design, evidence was collected from over 350 schools identified as 'academically effective and showing sustained improvement'. Twenty substantive qualitative case studies also informed the findings which may be summarised for the purposes of this review as:

1. Principals define the vision of the school and establish a clear sense of direction and purpose
2. Principals improve conditions for teaching and learning
3. Principals redesign organisational structures, redefine roles and responsibilities and distribute leadership
4. Principals lead and support enhancement of teaching and learning
5. Principals lead and support the re-design and enrichment of the curriculum to provide broad learning opportunities and access points for every child
6. Principals monitor and support continuing professional development to enhance teacher quality
7. Principals establish relationships with the school community
8. Principals build relationships outside the school community

Dempster, Lovett and Flückiger (2011) summarised findings and offered implications for practice in their review of literature:

1. Recognition that outstanding leaders make a difference to the quality of teaching and learning, and to student achievement, is prompting a return to professional development programs, strategies and activities which concentrate on linking leadership with student learning.
2. There is a need for professional development planners and school leaders to understand that an increasingly complex policy environment requires a commitment to continuing professional learning.
3. Educational systems need to pay systematic attention to professional learning at all career stages, both to meet quality demands and to address possible supply difficulties over the next two decades.
4. School leaders need to ensure their own professional learning throughout their careers.
5. Mandatory professional development programs and opportunities are essential at each career stage.
6. Literature on leadership learning highlights common capabilities and key knowledge and dispositions in frameworks which help to guide the planning and provision of professional learning.
7. School leaders should encounter a range of generic development strategies [. . .] that are linked to school practice as they move through each leadership stage.
8. Mentoring, coaching and peer support through networks are necessary professional development strategies, no matter the career stage.
9. There is no widespread evidence of support for teacher leadership as a fundamental part of the leadership development strategies repertoire.

10. Professional development strategies which blend substantive content knowledge with leadership capabilities frameworks are becoming evident and show sufficient promise to warrant future research. (Dempster, Lovett and Flückiger 2011: 1-2)

In their meta-analytical study for the National College for School Leadership in England, Leithwood, Day, Sammons, Harris and Hopkins (2006) made 'seven strong claims' about successful school leadership, that is, leadership associated with high levels of or major improvement in student achievement:

1. School leadership is second only to classroom teaching as an influence on pupil learning.
2. Almost all successful leaders draw on the same repertoire of basic leadership practices.
3. The ways in which leaders apply these basic leadership practices – not the practices themselves – demonstrate responsiveness to, rather than dictation by, the contexts in which they work.
4. School leaders improve teaching and learning indirectly and most powerfully through their influence on staff motivation, commitment and working conditions.
5. School leadership has a greater influence on schools and students when it is widely distributed [that is, where there are many leaders among staff rather than the principal only exercising leadership].
6. Some patterns of distribution are more effective than others.
7. A small handful of personal traits explain a high proportion of the variation in leadership effectiveness. (Leithwood, Day Harris and Hopkins 2006: 3)

In a sequel to this study, the National College for Leadership of Schools and Children's Services (formerly and now again the National College for School Leadership) expanded the list to 'ten strong claims' and made principals (headteachers) the focus:

1. Headteachers are the main sources of leadership in their schools
2. There are eight key dimensions of successful leadership [Successful leaders define their values and vision to raise expectations, set direction and build trust; reshape the conditions for teaching and learning; restructure parts of the organisation and redesign leadership, roles and responsibilities; enrich the curriculum; enhance teacher quality; enhance the quality of teaching and learning; build collaboration internally; build strong relationships outside the school community]
3. Headteachers' values are key components in their success
4. Successful heads use the same basic leadership practices, but there is no single model for achieving success
5. Differences in context affect the nature, direction and pace of leadership actions
6. Heads contribute to learning and achievement through a combination and accumulation of strategies and actions
7. There are three broad phases of leadership success [early – foundation, middle – developmental, later – enrichment]
8. Heads grow and secure success by layering leadership strategies and actions
9. Successful heads distribute leadership progressively
10. The successful distribution of leadership depends on the establishment of trust (National College for Leadership of Schools and Children's Services 2010: 1)

In a McKinsey Report on leadership (Barber, Whelan and Clark 2010) the case for greater concentration on the preparation and development of school leaders rested on their analysis of eight high-performing school systems: Alberta (Canada), England, Ontario (Canada), New York (USA), New Zealand, Netherlands, Singapore and Victoria (Australia). They drew the following conclusions about high-performing principals:

1. Almost all principals say that setting vision and direction, supporting the development of staff, and ensuring effective management systems and processes are the biggest contributors to the success of their school.
2. All principals, and particularly high performers, are motivated mainly by their ability to make a difference, though early experiences of leadership and exposure to role models make a strong contribution, particularly for high performers.
3. High performing principals focus more on instructional leadership and developing teachers. They see their biggest challenges as improving teaching and curriculum, and they believe that their ability to coach others and support their development is the most important skill of a good school leader.
4. High performers are more likely to report that they greatly enjoy teaching.
5. High performing principals are distinguished less by who they are, and more by what they do (though both are important). They work the same hours as other principals, but spend more time working with the people in their school. They walk the halls more, spend more time coaching teachers, interact more often with parents and external administrators, and spend more time with students. (Barber, Whelan and Clark 2010: 7)