

An International Policy Analysis of School-Level Decision Making and Student Achievement

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BOSTON COLLEGE
Lynch School of Education

Department of
Educational Research, Measurement and Evaluation

**AN INTERNATIONAL POLICY ANALYSIS OF
SCHOOL-LEVEL DECISION MAKING AND STUDENT
ACHIEVEMENT**

Dissertation
By

LAUREN CHAPMAN

Submitted in partial fulfillment
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An International Policy Analysis of School-Level Decision Making and Student Achievement

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The purpose of this study was to inform future policy regarding school leadership practices through examining the relationship between reported decision making at the school level and student achievement. The study utilized a mixed methods design, and examined three main components. The first component involved a qualitative analysis of 14 countries' school leadership policies, as described in country background reports submitted to the Organization for Economic Cooperation and Development (OECD). The second component used hierarchical linear modeling (HLM) to examine the relationship between principal reported school decision making and student achievement in mathematics and reading on the Program for International Student Assessment (PISA) in the same 14 countries. The final component of this study connected the results from the policy analysis to the results of the HLM analysis to determine if there were patterns between a country's policies and the relationship between school-level decision making and student achievement.

The study found that out of 14 countries included in the analysis, six countries were identified as having policies that were highly decentralized, three countries had policies that were highly centralized and five countries had policies that were somewhere in between the two extremes. The quantitative results showed that school-level decision

making variables were limited in their utility as predictors of student achievement.

Finally, an examination of the combined qualitative and quantitative results did not reveal any obvious patterns. However, the findings did highlight the importance of context in examining countries' policies and the relationship between leadership practices in the form of school decision making and student achievement.

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Dedication

To my grandfather, Anthony T. Buscaglia.

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Chapter One

There is great variability in student achievement across countries. For example, during the 2006 Program for International Student Assessment (PISA), which examines the literacy skills of 15-year-olds, it was found that there were large differences in achievement separating students in the highest achieving country, Finland that year, and the lowest achieving country, Kyrgyzstan (Schleicher, 2009). While some may not find it surprising to see a difference between those two particular countries, the fact that there were also differences in student achievement between students in Canada and students in the United States, for example, countries whose differences are only modestly explained by national wealth or investments in education, has been considered more puzzling (Schleicher, 2009).

One way to explain these differences may be to examine how countries define their school leadership roles (Schleicher, 2009). According to Pont, Nusche and Moorman (2008), policy agendas internationally have made school leadership a priority due to the role that it plays in improving student achievement. Using evidence from country-provided background reports and five case studies on school leadership, Pont and colleagues (2008) cite how reforms in school leadership practices influence achievement through teachers' motivations and capacities. In an attempt to meet the evolving needs of modern society, many countries are redeveloping their education systems, resulting in evolving roles for their school leaders (Pont, Nusche, & Moorman, 2008).

Countries are interested in school reform initiatives that meet the increasing demands of the 21st century (Darling-Hammond, 2009). This has led to a reconsideration of how schools reach their goals, as well as a redesign of how schools are organized (Darling-Hammond, 2009). Additionally, school leaders have also been found to play important roles in implementing reforms aimed at improving students' basic literacy and numeracy skills (Leithwood, Jantzi, Earl, Watson, Levin, & Fullan, 2004). Therefore, with the ultimate objective of increasing student achievement and responding to 21st century agendas, there has been progress towards decentralizing some areas of decision making authority to, and increase autonomy and accountability at, local levels (Witziers, Bosker, & Krüger, 2003).

Purpose of the Study

While previous research has indicated that a relationship exists between school leadership practices and student achievement (Witziers, Bosker, & Krüger, 2003; Waters, Marzano & McNulty, 2003; Leithwood, Louis, Anderson & Wahlstrom, 2004), it has been recommended that further research be conducted on this complex subject (Pont, Nusche, & Moorman, 2008). Though the merits of effective school leadership practices have been discussed extensively in the literature and an increasing number of policies allowing for decision making at the school level are being implemented, it is important to gain a better understanding of the relationship between school leadership practices and student achievement, as well as how this relationship relates back to and informs school leadership policy (Pont, Nusche, & Moorman, 2008). This dissertation seeks to do so by

presenting a secondary data analysis using results from the Organization for Economic Cooperation and Development (OECD) PISA assessment.

The purpose of this dissertation is to inform future policy regarding school leadership through examining the relationship between reported leadership practices at the school level and student achievement. Due to the nature of the available data, the identified patterns can only lead to “tentative conclusions” and in no way establish cause and effect (Braun, Wang, Jenkins & Weinbaum, 2006, p. 6). However, results offer insights into the relationship between leadership in the form of school-level decision making and national achievement, as well as provide a basis and directions for future research.

There are three main components to this study. They all centered on gaining a clearer picture of the relationship between policies regarding school leadership and student achievement at the country level. The method of inquiry used in this dissertation is based on the model first featured in the article by Braun et al. (2006) and adapted by Braun, Chapman and Vezzu (2010), which examines the relationship between state education policies and changes in racial achievement gaps over time.

As in these two studies, the first component of this dissertation includes an analysis of countries’ school leadership policies that were in place in the participating countries from the PISA leadership study. A total of 57 countries participated in the 2006 PISA administration. Around approximately the same time as the 2006 PISA assessment was administered, 22 countries also participated in producing leadership policy reports about their country for the OECD. These reports were profiles on participating countries’

leadership policies, and were prepared by organizations within each country. However, while 22 countries originally submitted background reports to the OECD, only 14 met the criteria to be included in the study.

The second component of this dissertation is the use of hierarchical linear modeling (HLM) to examine the relationship between leadership practices in the form of teacher/principal decision making and student achievement in mathematics and reading. This is done using data from the PISA 2006 study in 14 countries (student surveys, school-level surveys as well as students' achievement data). The final component of this study connects the results from the policy analysis to the results of the HLM analyses to examine patterns between a country's policies and its students' achievement results on PISA.

Research Questions

The following research questions are examined in this dissertation:

- 1.) To what extent do the educational policies across the different countries allow for school personnel to take on leadership roles?
- 2.) Within each country, what is the relationship between school-level control of decision making and student mathematics and reading literacy achievement on the 2006 PISA assessment?
- 3.) What are the patterns that exist between a country's policies towards school-level decentralization on the one hand and the association between school-level decision making and student achievement on the other?

In the following section, the research problem is described. Specifically, this includes considerations of student achievement and accountability in a globalized society, the complexities of the construct of school leadership and its relationship with student achievement, as well as decentralization as an international education policy trend, implemented with the aim of improving student achievement.

Description of the Problem

According to the New Commission on the Skills of the American Workforce (2007), “the best employers the world over will be looking for the most competent, most creative and most innovative people on the face of the earth and will be willing to pay them top dollar for their services” (p. 7). Yet, international assessments have highlighted the existence of a global achievement gap, with even the best students in some countries lagging behind average students in other countries (Wagner, 2008). These global achievement gaps have caught the attention of the international community, as many influential writers argue that the nature of the work in the 21st century will require workers to possess complex skills (Darling-Hammond, 2010). Thus, a common orientation across countries is producing citizens able to compete in an international workforce.

As increased emphasis on student outcomes and school accountability mounts, educational researchers and policymakers have sought solutions to raise achievement. Internationally, school leadership has been identified as an “education policy priority” (Pont, Nusche, & Moorman, 2008, p. 3). A number of studies have examined the

relationship between school leadership practices and student achievement (Hallinger & Heck, 1998; Robinson, Lloyd, & Rowe, 2008). However, empirical research in the field of leadership and student achievement has been characterized as “conceptually and methodologically challenging” and there is currently a shortage of large-scale studies that examine the relationship between school leadership characteristics and student achievement using nationally representative samples (Pont, Nusche, & Moorman, 2008).

The importance of examining the relationship between school leadership characteristics and student achievement is in part due to the increasing emphasis on student achievement outcomes internationally (Fuchs & Wößmann, 2007). Additionally, results on international assessments have highlighted student achievement disparities across countries, in an already competitive global environment (Sahlberg, 2006). These concerns over achievement outcomes have influenced the widespread adoption of accountability measures across a number of countries (McEwen, 1995).

Student achievement and accountability in a globalized society. Despite the variability in the structure and operation of schools across countries, there is a common interest in providing students with quality education in the hopes of higher learning outcomes (Organization for Economic Cooperation and Development, 2006a). Student achievement is the subject of countless studies in the field of education (for example, see: Darling-Hammond, 2000; Greenwald, Hedges & Laine, 1996; Hill, Rowan, & Ball, 2005). According to Gronlund (2006), assessing student achievement is defined as “a broad category that includes all of the various methods for determining the extent to

which students are achieving the intended learning outcomes of instruction” (p. 3), thus emphasizing that the concept of student achievement is a relatively broad term.

Student achievement is a subject of high interest both in the United States and abroad (Fuchs & Wößmann, 2007). Internationally, countries may participate in a number of studies that examine student achievement, for example; PISA, Trends in International Mathematics and Science Study (TIMSS), and Progress in International Reading Literacy Study (PIRLS). While these studies all survey different subjects as well as different populations, one common characteristic is the ability to use the results to examine student achievement at a national level and in making cross country comparisons. These studies are important as they give researchers access to data that have been carefully collected and documented, and can be used to answer a variety of questions, both within individual countries as well as across participating countries.

In *The Global Achievement Gap*, Wagner (2008) identifies two achievement gaps that exist within and across many countries. The first is that which exists within each country, with children of lower socio-economic status receiving lower quality education than children of higher socio-economic status, resulting in a disparity of student achievement results (Wagner, 2008). The second achievement gap, according to Wagner, is the global achievement gap. He describes this as the discrepancy between what the best students in a country are learning and what they will actually need to learn in order to succeed in the “global knowledge society” (Wagner, 2008, p. 8).

Concerns over lagging student achievement and increased international competition have sparked a number of countries into adopting policies that emphasize

accountability measures (McEwen, 1995). These accountability systems typically stress the importance of student test results, which are often tied to rewards and sanctions (Darling-Hammond, 2004; Sahlberg, 2006). Multiple approaches to school accountability and improvement have been identified in the literature (Darling-Hammond, 2004; Darling-Hammond, 2009; Leithwood, 2001; Leithwood, Edge, & Jantzi, 1999; Sahlberg, 2010). Labeled “new accountability” in the late 1990s and early 2000s, characteristics of these accountability systems include an emphasis on student outcome data, public reporting of test scores, and consequences attached to student performance, with schools oftentimes serving as the unit of improvement (Fuhrman, 1999; O’Day, 2002).

The similarities across countries in their policies regarding accountability systems—often accompanied by a reliance on performance standards and a heavy emphasis on literacy and numeracy—have been referred to as the global education reform movement (Aho, Pitkanen, & Sahlberg, 2006; Hargreaves, Earl, Shawn, & Manning, 2001; Sahlberg, 2004; Sahlberg, 2007). Globalization has led to an increase in economic competition within and between countries (Sahlberg, 2006; Wells, Carnochan, Slayton, & Allen, 1998). It has also led many countries to adopt policies aimed towards improving education with the ultimate goal of improving economic competitiveness (Sahlberg, 2006; Sahlberg, 2007). Since the challenges countries face in educating their citizens tend to be similar, solutions to these challenges, and resulting reform agendas have also grown increasingly similar (Sahlberg, 2006). Thus, many of these policies have featured the common characteristics of the global reform movement, including increased standardization of teaching and learning and greater emphasis on student outcomes

(Fuhrman, 1999; Sahlberg, 2007). However, some of the actions that schools are expected to take in promoting economic competitiveness, actually interfere with achieving the goals that are central to global education reform (Sahlberg, 2006).

As originally coined by Thomas Friedman (2005), and more recently explored by Darling-Hammond (2010), globalization has led to what has been described as a “flat” world. Globalization, according to Darling-Hammond, “is changing everything about how we work, how we communicate, and ultimately, how we live” (p. 3). This “flat world” has led to concerns regarding how globalization of education specifically, may be lacking in global responsibility and moral purpose (Hargreaves, 2003).

Some educational researchers have argued that unintended consequences have resulted from the standards-based reforms and accountability systems that have become increasingly prevalent internationally (For example, see: Darling-Hammond, 2004; Hargreaves, 2003; Sahlberg, 2010). Some scholars have concluded that an emphasis strictly on improving teaching and student achievement outcomes are detrimental to fostering a knowledge society, which requires productive rather than passive learning (Hargreaves, 2003; Sahlberg, 2010). Hargreaves (2003), for example, uses Ontario, Canada as the backdrop in describing how standardization policies have negatively impacted knowledge-society objectives, including contributing to an “end to ingenuity,” with emphases placed on uniformity and accountability instead of fostering creativity and a sense of community (p. 99).

Within the concept of globalization, knowledge is found to be rapidly expanding (Darling-Hammond, 2010). This expansion of knowledge combined with the skills that

will be required for workers in the future, has resulted in some countries transforming their school systems in order to better prepare their students for these increasing demands (Darling-Hammond, 2010). Darling-Hammond reports that in an effort to broaden students' knowledge and skills in preparation for the growing demands of the 21st century, countries are adapting policies that expand access to education, revise curricula, and reform classroom instruction and assessment methods.

While the development of 21st century skills have been emphasized in policy agendas internationally, previous research has demonstrated that lack of basic literacy and numeracy skills also impacts labor markets (For example, see McIntosh & Vignoles, 2000). Workers who do not possess these basic skills face higher rates of unemployment, and for those who do find jobs, lower wages (Sum, Kirsch, & Taggart, 2002). Subgroups of workers entering the workforce with weak basic literacy and numeracy skills has been said to lead to “continued growth between the ‘haves’ and the ‘have nots,’” resulting in economic and social consequences (Comings, Sum, & Uvin, 2000, p. v).

In recognition of the need for fostering basic literacy and numeracy skills across all students, internationally governments have placed an increased emphasis on policies addressing literacy and numeracy (Fullan, 2009). These policies have often led to greater accountability in how students score on literacy and numeracy assessments (For example, see Australian Education Union, 2010). Even those who disagree with the global education reform movement and the extensive national accountability systems that have accompanied it have conceded that in particular countries and contexts, certain features of accountability systems have their place in addressing students' attainments of basic

skills. As Hargreaves and Shirley (2009) argue, in developing countries and in places such as the United States where large gaps in student achievement exist among sub-groups of the population, assessing literacy and numeracy is an “understandable priority” (p. 77).

An important component of government reform initiatives that call for greater accountability is the presence of school leadership (Leithwood, Steinbach, & Jantzi, 2002). For example, previous research has found that school leaders have played key roles in implementing literacy and numeracy reform initiatives (Leithwood, et al., 2004). Ultimately, school leadership is an important component of many of the reforms associated with the current global education reform movement and corresponding accountability systems.

School leadership. Accountability policies are not the only ones that have become prominent across countries. School leadership has also emerged internationally as a policy priority. These leadership policies, often associated with an increased decentralization of educational decision making, frequently combine increased autonomy with accountability at the school level (Pont, Nusche, & Moorman, 2008). This emphasis on leadership policies has sprung from growing concern for quality of education and student achievement (Pont, Nusche, & Moorman, 2008).

The concept of leadership has been characterized as a “notoriously perplexing and enigmatic phenomenon” (Allix & Gronn, 2005, p. 181). As Davies (2005) points out, “leadership can take many forms” (p. 2), and much research has been conducted on the subject of leadership in different fields, with education being no exception. Quality

leadership is considered to be critical in many of society's organizations, including schools, and has been increasingly emphasized in the growing concern for student performance (Fullan, 2007).

One of the responsibilities of school leaders is to “guide their schools through the challenges posed by an increasingly complex environment” (Leithwood & Riehl, 2003, p. 1). To add to the complexity of the school leader role, the nature of leadership is also a product of the context in which it exists (Gronn & Ribbins, 1996). One such context is a country's accountability system. It is common for initiatives involving greater accountability to include a key role for school leadership (Leithwood, Steinbach, & Jantzi, 2002).

The nature of the relationship between accountability policies and school leadership is complex. In many countries, accountability at the school level has been accompanied by increased autonomy and decentralization of school polices (Pont, Nusche, & Hopkins, 2008). This has led to a redefinition and broadening of the role of school leaders (Pont, Nusche, & Hopkins, 2008).

Ultimately, it is important to consider leadership policies in the context in which the leaders work. Regardless of the position taken on the necessity of national assessment-based accountability systems, what is evident is that these policies and their aftereffects intersect with school leadership roles. Also, since accountability systems are an ever present, albeit contentious aspect in the current international education landscape, they must also be considered when examining a country's education policies generally, and policies regarding leadership specifically.

In addition to accountability, another important contextual consideration involves the culture in which the leadership structures occur. Countries have differences in education systems, and accordingly the conceptualization of leadership may also differ across these systems. Ultimately, there are differences among countries in societal, governmental and professional contexts in which leaders work, and even differences in the contexts in which the research on school leadership is conducted (Mulford, 2005).

These differences in how leadership practices are conceptualized across countries are especially important in light of the current trend in globalization of education policies, which exists in tension with societal cultures (Dimmock & Walker, 2000). For that reason, globalization, and the resulting transmission of education policies across countries and cultures should be accompanied by an understanding of how these cultural influences are associated with educational leadership practices (Hallinger & Leithwood, 1998). Ultimately, as with accountability contexts, the cultural contexts in which leaders work must be considered in examining leadership practices across countries, thus further highlighting the complexity of the concept of school leadership.

School leadership and student achievement. Leadership practices have a significant impact on student learning (Leithwood, Louis, Anderson & Wahlstrom, 2004). However, the complexity of the concept of leadership presents a challenge when examining the relationship between leadership and student outcomes (Pont, Nusche, & Moorman, 2008), and requires consideration when either analyzing previous research or conducting analyses with these two constructs. Despite challenges in operationalizing the concept of school leadership practices, typically in the form of the principalship, these

practices have been linked with increases in student achievement. As Leithwood, Louis, Anderson and Wahlstrom (2004) concluded, the total effects of leadership practices are second to only classroom instruction among school level factors that impact student learning. This includes both direct-effects models in which the principal and their practices directly impact student achievement, as well as indirect models where there are intervening variables through which the principal affects student learning (Hallinger & Heck, 1998).

A recent literature review of the field, presented in detail in Chapter Two, included fourteen studies of the relationship between school-level leadership practices and student achievement. From this literature review, three main limitations emerged. The first is the inconsistency in terms of finding statistical significance, or patterns among the results. Across the fourteen studies, there were no obvious patterns based on type of model used to examine the relationship between leadership practices and achievement (direct versus indirect), grade level of students, or country examined in terms of statistically significant results.

Second, there is variability in how leadership is defined, leading to inconsistencies in how it is understood to be associated with other important outcomes such as student achievement. It is hard to speak of school leadership generally as one unified and generic construct, when school leadership is defined differently in each of the studies conducted on the subject, and different types of leadership have been found to differentially impact student learning (Robinson, Lloyd, & Rowe, 2008). For example, in their meta-analysis of the differential effects of leadership types, Robinson and

colleagues (2008) found that instructional leadership practices had a stronger relationship with student outcomes than did transformational leadership practices. This variability in the definitions of school leadership across studies makes it difficult to compare findings about school leadership across the field generally.

The third major limitation in the current literature is the lack of research examining school leadership practices and student achievement in an international context. This is exemplified by the fact that only one of the studies examined investigated the relationship between leadership practices and achievement in more than one country in a single study. According to Levin (1998), there is a ‘policy epidemic,’ in which education policy transfer is akin to the spread of diseases. Levin proffers that some of the commonalities in policies that are apparent across countries, are due to this spread of education policies. Taking this spread of policies that Levin describes into consideration, it would subsequently be beneficial to examine the relationship between school leadership practices and student achievement across multiple countries, as the common measures of student achievement and school leadership practices would lend themselves to comparisons.

Previous research has highlighted a need to examine the relationship between leadership practices and achievement, as there has not yet been a large-scale study on the subject that policymakers have considered “nationally representative and generalizable” to all schools within a given country (Pont, Nusche, & Moorman, 2008, p. 34). This gap in the research must be addressed for both future research and future policy—to both better understand the relationship between policy and achievement results, as well as to

inform future policy decisions. This leaves a gap in the literature that is important to address in order to expand the depth and breadth of knowledge in the school leadership field for researchers, educators, and policymakers (Pont, Nusche, & Moorman, 2008).

International education policy and decentralization. With the ultimate objective of increasing student achievement, an important method of restructuring school leadership has been through decentralization (Witziers, Bosker, & Krüger, 2003). The term ‘decentralization’ does not have an unambiguous definition (Karlsen, 2000). While some school systems are highly centralized, meaning that many decisions are not made at the school level, there are other school systems that are decentralized, i.e., characterized by decisions being made at the local level (Woessmann, 2001). Since effective leadership practices are considered to be central to implementing large-scale school reforms, this has highlighted the need for “devolving decision making from middle managers to school-level principals and teachers” (Bjork & Blase, 2009). This shift of decision-making authority to local levels ultimately appeals to policymakers because they believe it will increase the local relevance of educational content by giving increased decision-making power to those in the schools (Wong, 2006).

Decentralization has frequently been coupled with increased autonomy and accountability, specifically at the school level (Pont, Nusche, & Moorman, 2008), demonstrating the coexistence of central monitoring/auditing (accountability) with decentralization (autonomy). This aligns with previous research, such as Meyer (2009) who argues that centralization and decentralization are “dialectical, not antagonistic” and that recent thinking has accordingly shifted from “either/or” to an integration of both

centralization and decentralization (p. 459-460). This is supported by Weick and Sutcliffe (2001) who argue that there should not be centralization or decentralization, but rather, a “balance of centralization with decentralization” (p. 170; Meyer, 2009).

Oftentimes, countries have more than just two levels of control (i.e., national and school-level) in their education system. For example, in Denmark there are four possible levels where decision making can occur: at the national level by the Minister for Education, at the municipal level by municipal councils, by a board of governors that is convened for each school, and at the school level by principals and teaching staff (Pluss Leadership A/S , 2007). The existence of these multiple levels introduces more complexity to the examination of decentralization policies. Decision making capabilities in Denmark could theoretically be spread across all four of the described levels. However, this dissertation does not focus on the spread of responsibilities across multiple levels; rather it focuses specifically on what decision making control is available to those in the schools. This information is provided in the OECD country background reports.

Additionally, in 2008 a volume of case studies offering current examinations of decentralization policy and leadership in the field of education was published by the OECD (Pont, Nusche, & Hopkins, 2008). A review of these studies demonstrated that there were three major themes across cases. These themes included: clarity in countries’ visions for school reforms, the existence of distributed leadership, and the similarity of the countries all facing challenges in determining and executing better ways to educate their populations. As a result, all of the five countries and regions examined in the case studies have included school leadership practices as a centerpiece in their school reform

movements. Though the methods with which they built leadership capacity differed, using leadership practices as a vehicle for school improvement was very much in common.

Student achievement was also a central concern in each of the countries' case studies. However, within these particular studies, no explicit connections were made in examining the relationship between student achievement and leadership practices. If, as Hargreaves (2008) suggests, improving school equity and student achievement really is considered both an essential and urgent matter across countries, then considering the relationship that student achievement has with an increasingly utilized policy approach is important to consider in future research. Subsequently, this relationship is explored in this dissertation.

Significance of the Study

According to Pont, Nusche and Moorman (2008), school leadership has the potential to affect multiple facets of education, from shaping school climate to improving the equity of schooling, to building a bridge between external reforms and internal school improvement. However, the concept of leadership is extraordinarily complex (Allix & Gronn, 2005), making it a difficult construct to capture with survey measures. Bearing this in mind, this study is not attempting to measure or describe school leadership practices in terms of how leaders make their day-to-day decisions, as these are not the types of variables available in the PISA database. Rather, this study is interested in the policies that countries have established regarding leadership practices, as well as whether

these policies are related to local control at the school-level as reported by those in the schools. Thus, this takes the analysis back a step, since school leadership cannot happen if school leaders are not given the ability and capacity to lead through decentralized decision making (Datnow, 2001; Gitlin & Margonis, 1995).

Accordingly, in order to examine school leadership policies and how these policies are related to improved outcomes, this study uses a mixed methods approach to conduct a policy analysis of the relationship between decentralized decision making at the school level as a manifestation of leadership policy decisions, and student achievement in mathematics and reading literacy. Additionally, a descriptive approach is taken to consider the relationships between school-level decision making and student achievement, alongside countries' school leadership policies. This is accomplished by linking the qualitative policy aspect of the study with the quantitative achievement aspect, and examining patterns and discrepancies that arise across countries.

In the current political and economic climate, with many countries having limited resources, policymakers and practitioners are interested in reforms that have tangible results. Therefore, in order to determine the viability of school leadership—in the form of school-level decision making—as a justifiable reform effort, further research must be conducted to better understand the impact of school leadership practices on student learning. But, as Evans (1996) points out, “no innovation can succeed unless it attends to the realities of people and place” (p. 92). School leadership as a reform strategy is no exception.

Consequently, a clear strength of the nature of the data used in this dissertation is the inclusion of the qualitative policy reports to complement the quantitative data. For example, as described in the OECD policy background reports, consider Spain, where school leaders are elected to their leadership positions by school councils (Spanish Ministry of Education and Science, 2007). This is in contrast to the Hungarian school system where teachers are promoted to the role of school principal, with the position considered more an extension of teaching duties and the highest step in a teacher's career as opposed to an autonomous managerial task (Performance Management Research Centre, 2007). The richness of the data used in this dissertation allows for these observations to provide context alongside the formal analyses.

The following Chapter Two contains an in-depth synthesis of the previous work cited in describing the purpose and importance of the study, and presents an expanded review of the literature. Specifically, three main components are addressed: a discussion of the complexities of school leadership in an international context; an examination of the previous literature regarding the relationship between school-level leadership practices and student achievement, and a presentation of the literature on international education policy and decentralization, with an emphasis on case studies published by the OECD (Pont, Nusche, & Hopkins, 2008).

Chapter Two

This chapter provides an overview of the literature regarding school leadership practices and student achievement. It is broken up into three main components; an introduction to the school leadership literature, previous research on school leadership practices and student achievement, and the trends towards decentralization and decision making leadership at the school-level in current international education policy. The format of the proceeding literature review is best represented by a pyramid, as all three components build on one another. These are illustrated in the following figure.

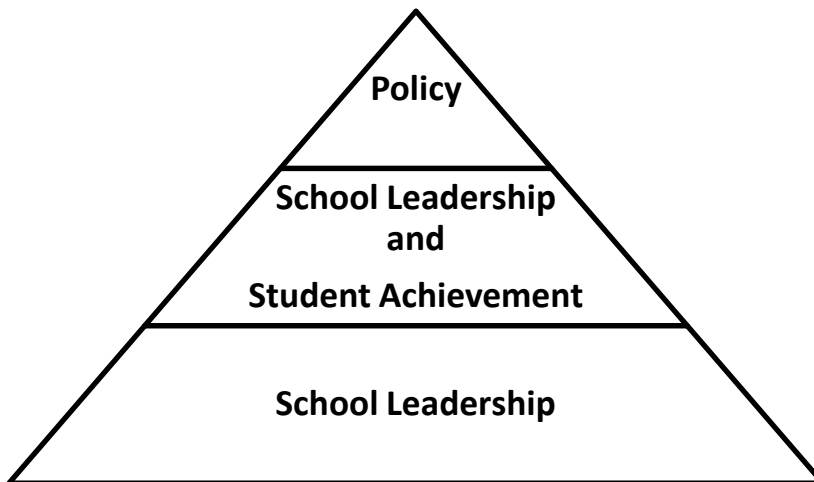


Figure 2. 1: Graphic Representation of Chapter 2

Source: Author's creation

As shown in Figure 2.1, the first section of the literature review, and subsequently the base of the pyramid, is an overview of the school leadership literature. The German philosopher Nietzsche said, “[A] high civilization is a pyramid: it can stand only on a broad base.” Here the definition of successful school leadership, as well as

considerations of educational contexts, are featured as the base of the pyramid, included as a means of providing a foundation for the information featured in later sections. The second portion of the literature review, shown as the middle piece of the pyramid in the figure, examines the relationship between school leadership practices and student achievement. This topic is central to this dissertation, therefore an examination of the previous research that has been done on the relationship between school leadership practices and student achievement is important in informing the work of the current study.

The last section of the literature review, which corresponds to the top of the pyramid, discusses international education policy. Specifically, this section explores the current trends towards decentralization within the international education policy realm. It is appropriate to put policy at the top of the pyramid because, while Elmore (2009) has argued that research, policy and practice were each “highly self-interested enterprises,” other researchers have found that research does in fact have an “informative effect” which impacts practice and policy (p. 222; for example, see Cohen, Furhman & Mosher, 2007; Cohen & Hill, 2001).

While the first section is designed to provide an overview of the definition of school leadership along with its complexities and contexts, the format of the latter two sections of the literature review, which focus on empirical studies and case studies, are modeled after the format of Wayne and Youngs’ (2003) literature review on teacher characteristics and student achievement. Like these authors’ approach, these two sections of the literature review will be further broken up into three components. Generally, these

components include the following; (a) a description of relevant studies and their findings; (b) interpretations across studies; (c) implications for policy and future research.

School Leadership

The world has become increasingly complex (Shapiro & Stefkovich, 2010) and schools serve the complex societies that they are embedded in (Hargreaves, 2003). Hargreaves and Shirley (2009) describe that the hardships facing many developed countries, especially in regards to the current economic downturn, have certainly impacted education, with debates centering on both the amount of public spending and the current rigor of schools. Consequently, education not only exists in a complex society, but is a complex concept in its own right. As Hodgkinson (1991) describes, the concept of education “turns out to be one of the most complex concepts of the language. Far more complex than commerce or industry or bureaucracy. It is not merely complex but also profound” (p. 15).

School leaders are expected to guide their schools through this increasingly complex environment (Leithwood & Riehl, 2003). Just as education is a complex field, the leading of schools is a complex task. Accordingly, as Leithwood and Riehl (2003) write, “Like other complex human activities, leadership is difficult to pin down” (p 2). Unsurprisingly, leadership has been characterized as a “notoriously perplexing and enigmatic phenomenon” (Allix & Gronn, 2005, p. 181).

Much research has been conducted on the subject of leadership across fields, with education not being an exception. But the concept of school leadership is not clearly or

consistently defined in the literature, as school leadership is both complex and diverse. Indeed, there has not been an agreed upon definition of school leadership across the literature (Leithwood, Jantzi, & Steinbach, 1999). Any definitions of leadership have been characterized as arbitrary and subjective, and while some may be more useful than others, there is not one 'correct' definition (Yukl, 2002, p. 4).

Recognizing these variations in definition, in their literature review of school leadership for the American Educational Research Association, Leithwood and Riehl (2003) identify two main components that are broadly included across the literature which define successful school leadership; "providing direction" and "exercising influence" (Leithwood & Riehl, 2003, p. 2). In terms of providing direction, Leithwood (2005) argues that successful leadership creates a "compelling sense of purpose in the organization by developing a shared vision of the future, helping build consensus about relevant short-term goals and demonstrating high expectations for colleagues' work" (Leithwood, 2005, p. 620). Within exercising influence, leaders can "develop people" through supporting colleagues ideas and initiatives, provide intellectual stimulation, as well as "walk the talk" by modeling important values and practices (Leithwood, 2005, p. 621). Leaders can also contribute to redesigning the organization that they work in by building a collaborative school culture in which participation in decision making, and relationships with parents and community members is encouraged (Leithwood, 2005).

Expanding upon their definition, Leithwood and Riehl (2003) describe three implications for the two components of direction and influence. First, leaders do not impose goals, but work with their colleagues to achieve a sense of shared purpose. This is

supported by Elmore (2000) who asserts that ideal leadership does not include managers who “control” functions of their organization, because a leader does not “control” improvement processes, but rather guides and provides direction (p. 14).

The second implication described by Leithwood and Riehl (2003), is that leaders achieve their goals both through and with others, allowing both themselves and others to be effective. As Shulman (1989) contends, “leadership is not monopolized by administrators, but is shared with teachers” (p.6). The concept of teachers as leaders is not a creation of modern educational change scholarship. Rather, Plato’s accounts of the dialogues of Socrates highlight that the concept of teacher and leader as one is age old (Reeves, 2008). Referred to as “essential to change and improvement in a school” (Whitaker, 1995, p. 76; Murphy, 2005), teacher leadership has gained recognition as an important component of successful and sustainable school reforms (Hargreaves, 2003). The inclusion of teachers, and the rebuttal of the concept of school leadership centering on the principal, has been reflected in the literature on school leadership practice (Spillane, 2005). The importance of teachers in the leadership process is further demonstrated by researchers such as Hallinger and Heck (1996) and Leithwood, Harris and Hopkins (2008) who have argued that principals’ actions impact students’ achievement through intervening variables, such as the actions of teachers.

The third and final implication for the definition of school leadership according to Leithwood and Riehl (2003), is that leadership “is a function more than a role” allowing many different people to take on these functions within a school (Leithwood & Riehl, 2003, p. 2). Elmore (2000) also recommends a shift away from “role-based conceptions”

of leadership toward a distributed view of leadership (p. 35). Distributed leadership is a type of leadership that embraces leading as a shared concept, where tasks such as making important decisions are shared with several members of a group (Yukl, 1999). This is identified by Hargreaves and Fink (2006) as breadth, since leadership practices should spread beyond one leader.

Regardless of who is involved in the leadership process, one key component that has been identified across all types of leadership is sustainability. Sustainability is the continuation of a reform effort over time. Hargreaves (2005) emphasizes that “sustainability does not simply mean whether something can last. It addresses how particular initiatives can be developed without compromising the development of others in the surrounding environment, now and in the future” (p. 176). Introduced in their work in 2003 and later expanded, Hargreaves and Fink (2006) identify what they refer to as the “seven principles of sustainability” for schools and school systems to be used in order to build the capacity for sustainability and sustainable leadership:

- Depth: Commitment to learning due to a sense of moral purpose.
- Length: Values of leadership are preserved even despite the challenges of succession.
- Breadth: Due to the complexity of leadership, it is distributed across the organization.
- Justice: Improvements to one system (such as a school) are not made at the expense of another.
- Diversity: Diversity is embraced, while standardization is avoided.

- Resourcefulness: Leaders are not overburdened and the organization is not depleted of its resources.
- Conservation: Leadership learns from past events and uses that prior knowledge to adapt as necessary for the future.

Fullan (2005) writes that addressing sustainability is the “ultimate adaptive challenge” (p.14). He argues that a new mind-set is necessary in order to reconcile the “intractable dilemmas fundamental for sustainable reform” including: top-down versus bottom-up, local and central accountability and informed prescription versus informed professional judgment (Fullan, 2005, p. 11). In order to create this new way of thinking about reform, Fullan identifies what he refers to as “eight elements of sustainability” as the following: (p. 14)

- Public service with a moral purpose: Moral purpose must be considered at all levels of an organization.
- Commitment to changing context at all levels: This means that contexts are not adapted at simply the school level, but at all levels, as well as changing the interactions between levels.
- Lateral capacity building through networks: An example of this could be achieved through the staff of one school collaborating and learning from the staff of another school in effort towards school improvement.
- Intelligent accountability and vertical relationships: Balancing local ownership with external accountability.
- Deep learning: Constant evaluation and adaptation based on efficacy.

- Dual commitment to short-term and long-term results: Avoiding waste of resources in the short term, increased investment of resources in the long term.
- Cyclical energizing: Concentration on both energy levels within an organization coupled with continued search of improved solutions and acceptance of time commitment.
- The long lever of leadership: Leaders at all levels of a system are able to “think in bigger terms and act in ways that affect larger parts of the system as a whole: the new theoreticians” (p. 27).

Looking across the collective fifteen points separately identified by Hargreaves and Fink (2006) and Fullan (2005), one can draw some conclusions regarding sustainable leadership. First, sustainable leadership requires the ability to be both reflexive and adaptive. Hargreaves and Fink (2006) identify this as “conservation” while Fullan (2005) labels it as “deep learning” though it can also be considered a part of what he calls “cyclical energizing.” Fullan argues that by definition, sustainability requires “continuous improvement, adaptation and collective problem solving” in order to address challenges (2005, p. 22). In addition, sustainable change also must attune to the past, since “when change has only a present or future tense, it becomes the antithesis of sustainability” (Hargreaves & Fink, 2006, p. 226).

Another major theme across the two frameworks addresses resources. According to Fullan, “sustainability is resource hungry but in such a way that conserves, refocuses, and reduces waste, as well as results in growing financial investment over time” (2005, p. 25). Hargreaves and Fink (2006) make the similar argument that healthy organizations

promote growth and thus can sustain themselves, which in turn increases leaders' energy and improves their achievement. This connects to Fullan's "cyclical engineering" in which he argues that monitoring leaders' energy levels in an attempt to avoid burnout also contributes to sustainability over time.

Both the Fullan and Hargreaves and Fink frameworks also include leadership that is spread to all levels of an organization. Hargreaves and Fink (2006) highlight this through their discussion on distributed leadership, which they label as "breadth," by arguing that sustainability is established through "genuinely shared responsibility" (p. 139). In both his "intelligent accountability and vertical relationships" and "long lever of leadership" elements, Fullan maintains that sustainability requires shared responsibility, as well as leaders that are active at all levels of a system. As Hargreaves and Fink (2006) assert, "sustainable leadership spreads" (p. 19).

Lastly, sustainable leadership must possess moral purpose. Fullan contends that it must "transcend the individual" and include three main components; addressing student achievement gaps, treating people with respect and improving social environments (2005, p. 15). Hargreaves and Fink (2006) take this further by maintaining that sustainable leadership with moral purpose reflects a willingness to put quality of learning before short term results.

Ultimately, as Pont, Nusche and Hopkins (2008) point out, "sustainability is among the most critical" of the challenges facing leadership and school improvement (p. 3). This is reinforced in their volume produced for the OECD where four of five featured case studies include a discussion on the importance of support for and sustainability of

school reforms in the individual countries (Pont, Nusche, & Hopkins, 2008).

Additionally, the education policies in Finland—a country revered for its high student achievement and flexibility and creativity in teaching practices—have been built upon sustainable leadership, with an emphasis on commonly accepted values and shared vision (Sahlberg, 2007). Finland’s focus exemplifies that when considering decentralization policies and the shifting of responsibilities to the school level, sustainability of leadership is an important component.

Beyond the broad ways in which leadership is defined, as well as the conditions necessary for it to contribute to a successful and sustainable environment, leadership must also be considered in context. As Leithwood (2001) explains, “the practices of school leaders need to acknowledge salient features of the contexts in which they find themselves” (p. 217). Therefore, one of the challenges that leaders face is navigating the “larger context within which they operate” (Fullan, 2003, p. 60), while a challenge of conducting research on leadership is being cognizant of the context in which leaders work.

Gardner (2007) makes the argument that when people reflect on historical leaders they tend to strip them of their contexts. He cites Thomas Jefferson, Queen Isabella and Martin Luther as examples of historical figures whose abilities as leaders must be considered in relation to the settings and situations in which they led, and not simply in terms of individual leadership traits. Leadership is therefore contextualized, where the situation in which one is leading, shapes the way in which one leads (Southworth, 2005). Elmore (2000) applies this similar concept to educational leadership by asserting that

“contrary to the myth of visionary leadership” most leaders are “creatures of the organizations they lead,” especially in education where leadership roles, such as principalships, are “recruited almost exclusively from the ranks of practice” (p. 2). The Finnish system provides an example of this, as teachers in the country are often promoted from amongst their colleagues to the role of school leader (Hargreaves, Halasz, & Pont, 2008).

Leadership in an accountability context. As O’Day (2002) asserts, “Everywhere you turn...some people are trying to make other people more accountable for some thing in education” (p. 293). Within the current standards-based reforms and accountability systems, the focus is frequently on the individual school as the basic unit of accountability (Fuhrman, 1999; O’Day, 2002). Within this approach to accountability, outside sources seek to influence what goes on within the school, with the assumption that external forces are able to be key determiners in changing schools’ inner workings (O’Day, 2002). Manna (2006) labels these standards and test-based accountability policies as “implementation as control” with standards and tests implemented so that leaders at upper levels of the policy system, compel lower level actors to produce desired results (p. 473).

A country’s accountability context has clear implications for its school leaders (Fullan, 1998). It is common for initiatives involving greater accountability to include a key role for school leadership (Leithwood, Steinbach, & Jantzi, 2002). In England, for example, the “Government imposed ‘standards’ agenda” have forced leaders in the

country to focus their efforts on meeting government-set targets for student achievement for specific areas of the curriculum (Day, 2005, p. 574).

Like the very concept of leadership itself, the reality of the relationship between accountability policies and school leadership is complex. Previous research has found that school leaders perceive standards to be formal legal requirements that fail to attend to the realities of their school settings (Elmore, 2000). Also, as Leithwood, Steinbach and Jantzi (2002) found in their work with teachers and administrators in Ontario, Canada, the majority of participants did not feel that the provincial government's accountability policies were implemented with the goal of improving teaching and learning.

In many countries, accountability at the school level has been accompanied by increased autonomy and decentralization of school polices (Pont, Nusche, & Hopkins, 2008). This has led to a redefinition and broadening of the role of school leaders (Pont, Nusche, & Hopkins, 2008). While some argue that the role of the principal has always been complex and demanding (Kafka, 2009), there appears to be agreement in the fact that the principal's role has recently become increasingly so (Pont, Nusche, & Moorman, 2008; Rousmaniere, 2009). In some countries it has been concluded that the role of principal as it has been defined in the past, is no longer sufficient to meet the current demands of modern schools (Pont, Nusche, & Moorman, 2008), with many principals reporting being too bogged down with administrative tasks to focus on other responsibilities, such as that of instructional leader (Stoll & Fink, 1996). Some researchers have argued that the role of principal has become too large for any one person to adequately fulfill (Davis, et al., 2005).

Regardless of the position taken on the need for accountability systems, what is evident is that these policies and their unintended side effects intersect with school leadership roles. Also, since standards-based reforms and accountability systems are an ever present, albeit contentious aspect in the current international education landscape, they must also be considered when examining a country's policies. Ultimately, it is important to consider leadership policies in the context in which the leaders work.

School leadership and culture. In light of the complexities and aside from the broad commonalities in the basic leadership structures across countries, the reality is that internationally, school leadership exists across countries that have differences in education systems, and accordingly the concept of leadership is not neutral across these systems. Therefore, another important contextual consideration involves the culture in which the leadership practices are occurring (Hallinger & Leithwood, 1996; Heck, 1998). Ultimately, there are country-based differences in societal, governmental and professional contexts in which leaders work, as well as differences in the contexts which the research on school leadership is conducted (Mulford, 2005). Even across the Anglo-American world, there are divergences in how the concepts of policy, leadership and management are understood (Dimmock & Walker, 2000). Hence, culture can play a significant role in school leadership within a country. For instance, in German-speaking countries there have been challenges encountered in changing school leadership structures due to the word 'führung,' which is the German word for leadership and related with the word 'führer.' The negative connotations associated with the term have

impacted the relationship between 'leaders' and 'followers' which until recently have not been able to be addressed in a productive manner (Schratz, 2003).

Distributed leadership is another example of the impact culture has on school leadership practices. The inclusion of teachers, and the rebuttal of the concept of school leadership centering on the principal, has been reflected in the literature on school leadership practice (Harris, 2005; Harris, 2008; Spillane, 2005). Also known as “shared,” “team” and “democratic” leadership, distributed leadership has become a recent “series of antidotes, to the work in the heroics of leadership” (Spillane, 2005, p. 143). Indeed, distributed leadership, has become an increasingly popular topic in the school leadership literature, as well as an increasingly popular concept among policymakers and practitioners (Mayrowetz, 2008; Harris, 2005). Moreover, the inclusion of teachers in leadership decisions has been encouraged, and to a certain extent, embraced by a number of Western countries, including England, Australia, Finland, Canada and the United States (e.g., Gronn, 2008; Hargreaves, et al., 2008; Harris, Moos, Moller, Robertson, & Spillane, 2007; Mulford, 2007)

In contrast, countries in Asia and the Pacific, such as Thailand, Singapore and Indonesia, tend to be more centralized than Western countries, such as the United States (Hallinger & Kantamara, 2000; Heck, 1996). In these Asian countries the relationship between leader and follower is considered more hierarchical than is commonly seen across their Western contemporaries. Oftentimes, leaders in Asian countries make their decisions in isolation from others (Hallinger & Leithwood, 1996). The Chinese, for instance, have a long history of moral leadership, influenced by Confucian thought.

Within this moral leadership, Chinese school leaders take it upon themselves to articulate and uphold school values, which in turn they believe will impact the lives of teachers and students, and ultimately motivate school performance (Wong, 1998).

These cultural differences are especially important in light of the current trend in globalization of education policies, which exists in tension with societal cultures (Dimmock & Walker, 2000). For that reason, globalization, and the resulting transmission of education policies across countries and cultures should be accompanied by an understanding of how these cultural influences impact educational leadership practices (Hallinger & Leithwood, 1998). These differences in context and culture also highlight the need for school leadership practices to be studied comparatively (Heck, 1996).

Conclusions. School leadership is a complex role, and school leaders are expected to guide their schools through an increasingly complex global environment (Leithwood & Riehl, 2003). Due to the complexity of the role of school leader, the concept of school leadership is not clearly or consistently defined. Indeed, there has not been an agreed upon definition of school leadership across the literature (Leithwood, Jantzi, & Steinbach, 1999).

Leithwood and Riehl (2003) identified two main characteristics of successful school leadership practices. The first was providing direction, where leaders foster a sense of purpose for their organization through promoting a shared vision, as well as exercising influence, where leaders support colleagues ideas and initiatives and model important values and practices (Leithwood, 2005, p. 621). With the second characteristic

of successful leadership practice, leaders can also contribute to redesigning the organization that they work in by building a collaborative school culture in which participation in decision making, and relationships with parents and community members are encouraged (Leithwood, 2005). Previous research has demonstrated that these successful leadership practices persist across different contexts (Leithwood, 2005).

Two educational contexts were specifically considered in this literature review. The first concerns a country's accountability system. A country's accountability context has clear implications for its school leaders (Fullan, 1998), as it is common for initiatives involving greater accountability to include a key role for school leadership (Leithwood, Steinbach, & Jantzi, 2002). Like the very concept of leadership itself, the reality of the relationship between accountability policies and school leadership is complex. In many countries, accountability at the school level has been accompanied by increased autonomy and decentralization of school polices (Pont, Nusche, & Hopkins, 2008).

School leadership exists across countries that have differences in education systems. Therefore, culture is another important contextual consideration (Hallinger & Leithwood, 1996; Heck, 1998). Even across the Anglo-American world, there are divergences in how the concepts of policy, leadership and management are understood (Dimmock & Walker, 2000).

Ultimately, as with accountability contexts, the cultural contexts in which leaders work must be considered in examining leadership practices across countries, thus further highlighting the complexity of the concept of school leadership. These complexities and contextual differences surrounding school leadership practices are important to consider

when operationalizing the school leadership construct. Additionally, an examination of the literature highlights the need for awareness of and sensitivity for country differences when analyzing school leadership policies and practices internationally.

School-Level Leadership and Student Achievement

Ask any group of businesspeople the question “What do effective leaders do?” and you’ll hear a sweep of answers. Leaders set strategy; they motivate; they create a mission; they build a culture. Then ask, “What *should* leaders do?” If the group is seasoned, you’ll likely hear one response: the leader’s singular job is to get results (Goleman, 2000, p. 78).

In the field of education, the desired results are typically in the form of student achievement. Student achievement, as well as how students perform in relation to students in other countries, is a subject of high interest in the United States and abroad (Fuchs & Wößmann, 2007). As Heck and Hallinger (2010) describe, student achievement has “become the key performance indicator favored by education policymakers from Hong Kong to Sydney and New York to London” (p. 6). Gronlund (2006) defines the assessment of student achievement as “a broad category that includes all of the various methods for determining the extent to which students are achieving the intended learning outcomes of instruction” (p. 3).

Internationally, countries may participate in a number of studies that examine student achievement, for example; Program for International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS). While these studies all examine different

subjects as well as different populations, one common characteristic is the ability to use and compare the results to examine student achievement at both the national and international levels. There is also variability in the structure and operation of schools across countries.

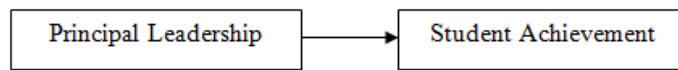
There are two distinct achievement gaps that exist in and across many countries. According to Wagner (2008), one gap exists within the country, with children of lower socio-economic status receiving lower quality education than children of higher socio-economic status, resulting in disparity of student achievement results. The other gap, coined a “global achievement gap,” is identified as a discrepancy between what the best students in one country are learning and what they need to learn in order to succeed in the “global knowledge society” (Wagner, 2008, p. 8). Global achievement gaps have caught the attention of many educators, researchers and policymakers in the international education community (Darling-Hammond, 2010).

Darling-Hammond (2010) describes how as a result of globalization, “knowledge is expanding at a breathtaking pace” (p.4). This expansion of knowledge combined with the skills that will be required for workers in the future, has resulted in some countries transforming their school systems in order to better prepare their students for these increasing demands (Darling-Hammond, 2010). It is widely argued that the nature of the work in the 21st century will require workers to possess complex skills (Darling-Hammond, 2010). Additionally, internationally there is an interest in providing students quality education in the hopes of increasing student learning outcomes (OECD, 2006 a) and ultimately to produce citizens that are able to be competitive in an international

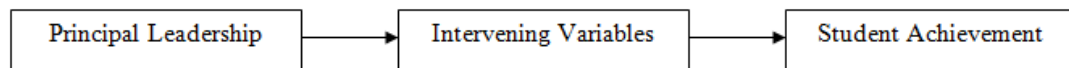
workforce. However, some have argued that a narrow focus on the 21st century agenda has distracted from including other vital skills into the curriculum (Hargreaves, 2003). In addition to 21st century skills, students must possess other abilities, such as creativity and the ability to innovate, the ability to analyze and synthesize, the ability to work with others as a team, and to adapt quickly to changes in the labor market (Hargreaves, 2010; New Commission on the Skills of the American Workforce, 2007).

A framework of student learning. Prior to discussing the empirical studies examining the relationship between leadership practices and student achievement, it is important to examine the theoretical frameworks through which leadership is thought to influence student learning and achievement. The framework that will be considered first was developed by Hallinger and Heck (1998). It examines the proposed relationships between leadership practices and student learning. In their review of the research on principals and school effectiveness, Hallinger and Heck (1998) adapted the work of Pitner (1988) to create three models which they use to classify the studies that had been conducted in the field. These models included; direct effects, mediated effects and reciprocal effects. Hallinger and Heck's models are reproduced below in Figure 2.2. While there are other perspectives that examine the relationship between leadership practices and achievement (for example, see Slater, 1995), the work of Pitner (1988) and especially that of Hallinger and Heck (1998) have often been cited and their labels of leadership models, particularly of "direct effects" and "indirect effects" appear in the leadership literature in relation to student achievement (for example, see Nettles & Herrington, 2007).

Model A: Direct-effects Model



Model B: Mediated-effects Model



Model C: Reciprocal-effects Model

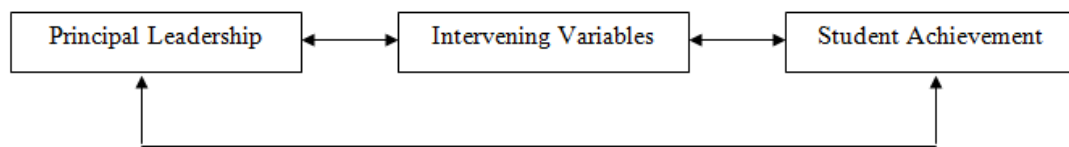


Figure 2. 2: Hallinger and Heck's Models of Leadership and Achievement

Source: Hallinger and Heck, 1998, p. 162.

At the top of the figure, in the Direct-effects model, the principal and his/her practices directly impact student achievement. Within this model, it is assumed that the leader's effects can be measured distinctly from other variables (Hallinger & Heck, 1998). In the Mediated-effects model there are intervening effects through which the principal affects student learning. According to Hallinger and Heck (1998), these intervening effects typically take the form of other people—mainly teachers, as well as events and organizational factors. In the Reciprocal-effects model the principal and teachers affect each other, and this in turn influences student achievement outcomes. In turn, student achievement outcomes influence leadership practices. In this way, the

relationship between principal and the school environment is “interactive” (Hallinger & Heck, 1998, p. 167).

More recently, Seashore Louis, Leithwood, Wahlstrom and Anderson (2010) expanded upon the indirect effects portion of Hallinger and Heck’s (1998) model. These indirect leadership influences on student learning are presented in Figure 2.3

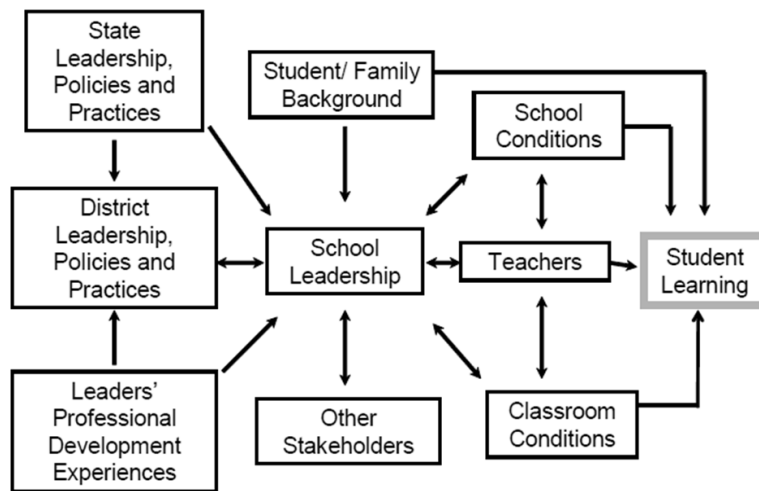


Figure 2. 3: Seashore Louis, Leithwood, Wahlstrom and Anderson's Model of Leadership Influences on Student Learning

Source: Seashore Louis et al., 2010, p. 14.

Within this framework presented by Seashore Louis and colleagues (2010), policies and practices from the state and district levels as well as leaders’ own professional development experiences all influence what school leaders do. Other stakeholders, such as community members, unions and local business groups also influence school leadership practices, as do the family backgrounds of the students in their school. School leadership practices, in turn, helps to influence school and classroom conditions, which shape teachers’ sense of professional community (Seashore Louis et

al., 2010, p. 14). Finally, within this framework, school and classroom conditions, teachers, and student/family background conditions are directly attributable for student learning (Seashore Louis et al., 2010).

Bearing in mind the frameworks of how Hallinger and Heck (1998) and Seashore Louis and colleagues (2010) model the relationship between leadership practices and achievement, the following section will examine the current research in the field of school leadership and how it relates to student achievement. The section begins with the criteria by which studies were identified and is followed by a synthesis of the literature. In the words of Goleman, this section will be an examination of whether, based on the previous research conducted, school leadership practices have been shown to be a method of reform that “gets results” (2000, p. 78).

Review of the school leadership and student achievement literature.

Challenges exist in examining the relationship between leadership practices and achievement. As Pont, Nusche and Moorman (2008) point out, “empirical research on the factors influencing student learning is conceptually and methodologically challenging” (p. 34). In addition, there has not been “any clear, agreed-upon definition of the concept” of school leadership (Leithwood & Duke, 1999, p. 45). These challenges must both be considered while reviewing the school leadership and student achievement literature.

The purpose of this literature review was to examine empirical studies on school leadership practices and student achievement published between 2003 and 2010. The year 2003 was selected, as it was a midpoint of when four articles—considered important to the field—were published, and thus a good starting point to have begun examining more

recent work. The first of these studies, by Silins and Mulford (2002) examined the relationship between school leadership practices and perceived student achievement in Australia. Waters, Marzano and McNulty published a meta-analysis in 2003, which was an investigation of the literature on the effects of leadership practices on student achievement over the course of 30 years of literature. Witziers, Bosker and Kruger (2003) also published a meta-analysis in that same year, focusing on the direct effects of principal leadership practices on student outcomes. In addition, Leithwood, Louis, Anderson, and Wahlstrom (2004) conducted a review of the research focusing on the influences of leadership practices on student achievement. Accordingly, this literature review will begin with a summary of Silins and Mulford's (2002) findings, proceeded by summaries of Waters et al. (2003), Witziers et al. (2003) and Leithwood et al. (2004), which will then be followed by a synthesis of more recent scholarship in the field.

Articles were located primarily using the Educational Resource Information Center (ERIC) database, with other databases such as Google Scholar, used to check the thoroughness of the results of the search. While multiple search terms were conducted, the primary terms included 'leadership' and 'student achievement.' In addition, if sources within located articles indicated other sources that were identified in the search and were published after 2003, they were also included in the literature review. Also, due to the international component of this dissertation, studies were not restricted based on the country in which they were conducted, though they had to be published in English.

After articles were located, they had to meet the following criteria in order to be eligible for review. Only empirical studies were considered, meaning that these studies

must have some type of data collection methods which were used to inform and support authors' claims (Johnson, et al., 2009). The leadership construct must be some measure of leadership practices. Whether it is school, principal or teacher, this leadership construct must be clearly conceptualized and defined, as well as valid and reliable (Witziers, et al., 2003). The construct of student achievement must be measured using some student performance outcome that was standardized, norm-referenced or some other "objective" measure of student achievement (Waters, et al., 2003, p. 2). Lastly, the research had to purposely examine the relationship between the two main constructs of interest; leadership and student achievement. In addition, qualitative case studies were not included. While admittedly, qualitative cases studies are often extremely important for providing context which can aid in deeper understanding, it has also been criticized for a lack of external validity (Leithwood, et al., 2004).

Based on the search criteria detailed above, out of 107 sources examined, 14 studies were included in this literature review. These excluded any studies on leadership above the school level (i.e., examinations of superintendent leadership), as well as any studies beyond K-12 (i.e., the relationship between student achievement and leadership in universities). These studies were restricted to peer-reviewed journal articles, as refereed journals provide a "quality indicator," and researchers have identified this as an acceptable restriction in previous literature reviews (Bryman, 2007, p. 694). Even on the basis of this stringent criterion, very few publications were excluded due to publication type. Based on the selection criteria, the following review aimed to provide a thorough

understanding of the most recent literature examining the impacts of school leadership practices on student achievement.

Synthesis of results. In order to organize the results of the literature in a more comprehensive manner, the 14 studies that met the criteria of inclusion are presented separately based on two groups; direct and indirect models of leadership practices and student achievement. These two groups emerged from the literature as importantly distinct methods of examining the relationship between school leadership practices and student achievement. The importance of these two groups within the leadership and student achievement literature is further reinforced by inclusion of the terms “direct” and “indirect” by previous researchers (Witziers et al., 2003).

These direct and indirect methods, a framework for understanding student learning, were previously introduced in Figure 2.2. The direct methods were shown in model A of the figure, where leadership practices are thought to directly influence student achievement outcomes. The indirect methods were shown in models B and C of the figure; the Mediated-effects and the Reciprocal-effects models, respectively. Here it is assumed that there is some other variable intervening between the leader(s) and the students. Consequently, the studies in which the direct relationship between leadership practices and achievement was examined will be grouped in the “direct methods” section which includes seven studies, while the studies in which intervening variables are considered in examining leadership practices and achievement will be grouped in the “indirect methods” section which includes nine studies. This distinction was determined based on study design and type of analysis.

Literature prior to 2004. In their 2002 study, Silins and Mulford used data from the Leadership for Organizational Learning and Student Outcomes (LOLSO) project. The LOSLO project, funded by the Australian Research Council, collected survey data from 3,500 students taught by over 2,500 teachers from almost one hundred secondary schools across two Australian states. As part of a larger study, the researchers examined the relationship between school leadership practices and perceived student learning. The measures were developed using survey items. Within this study, student achievement was measured indirectly by asking students about their engagement with the learning process. Additionally, within this study transformational leadership (dimensions included: vision and goals, culture, structure, intellectual stimulation, individual support and performance expectation) was used as a measure for principal's practices. Measures of teacher leadership practices in the form of individual teachers, teacher teams, and whole staff involvement were also included in the model.

The researchers used path analysis to examine the relationship between leadership practices and perceived student learning. Silins and Mulford (2002) found that within this model, transformational leadership practices had a weak indirect effect on perceived student engagement with learning, while teacher leadership practices were not a significant predictor. It is important to note that Silins and Mulford (2002) did not use a direct measure of student achievement, which differentiates it from the other studies that will be included in this section of the literature review.

In 2003, Waters, et al. published their meta-analysis of the effects of school leadership practices on student achievement. They only selected studies where the

construct of school leadership was measured using teachers' perceptions of leadership practices. Based on approximately thirty years of research, including 70 studies, the researchers concluded that there was a "substantial" relationship between school leadership practices and student achievement, with an average effect size—in this case the average r , or correlation—of .25 across the examined studies (Waters, et al., 2003, p. 3). However, Waters, et al. (2003) also found that while leadership practices may have a positive relationship with student achievement, leaders can also have a negative impact. The authors claim that this negative impact on student achievement is the result of either concentrating on the wrong issues or miscalculating the magnitude of the change they are trying to implement (Waters, et al., 2003). The authors conclude that there are two facets of school leadership that influence whether leadership practices will have an impact on student achievement. The first is "focus of change," or whether the leader is able to identify the school improvement necessary to positively impact their students (Waters, et al., 2003, p. 5). The second is whether leaders are able to understand the "order" of change (Waters, et al., 2003, p. 5). The authors describe this to mean that not all changes impact school stakeholders uniformly, and consequently, leaders must tailor and prioritize their leadership practices in reaction to these differential impacts.

Witziers, et al. (2003) also conducted a meta-analysis on the association between school leadership practices and student achievement through examining research from different countries. The articles selected by Witziers and his colleagues all used direct effect models, asking the question, "To what extent does educational leadership *directly*

affect student achievement?” (Witziers, et al., 2003, p. 400). Their meta-analysis involved 37 studies, published between the years 1986 and 1996.

Findings indicated that while leadership practices had a positive and significant relationship with student achievement, the effect sizes were very small (Witziers, et al., 2003). The researchers found that effect sizes were influenced by a number of factors, including the country in which the study was conducted and level of schooling. Across countries, the researchers found large discrepancies in the relationship between leadership practices and student achievement between the different educational contexts (Witziers, et al., 2003). In terms of the level of schooling, the effects appear to be bigger at the primary level of schooling than at the secondary level. In addition, Witziers, et al. (2003) found that the research designs of the studies did not appear to impact effect sizes.

Leithwood, et al. (2004) examined a number of aspects of leadership practices in their review, with the relationship between school leadership practices and student achievement as one component. Based on their review of the literature, these authors concluded that school leadership can “play a highly significant—and frequently underestimated—role in improving student learning” (Leithwood, et al., 2004, p. 5). They identify two claims regarding the relationship between student learning and leadership practices that emerged through their literature review.

Their first claim is that the relationship between school leadership practices and student achievement is frequently underestimated in the literature, and is actually an important school-level factor in predicting student outcomes. Leithwood, et al. (2004) report that the relationship between school leadership practices and student achievement

is second only to that of the relationship between classroom instruction and student achievement. Their second claim is that “leadership effects are usually largest where and when they are needed most” (Leithwood, et al., 2004, p. 5). This means that, from what Leithwood and his colleagues observed in the literature, the effects of leadership practices on student achievement are greater in disadvantaged schools. They draw the conclusion that while many factors are associated with increases in student achievement within these school environments, “leadership is the catalyst” (Leithwood, et al., p. 5).

There are differences in some of the results across these four studies. For example, while Witziers, et al. (2003) concluded that the relationship between leadership practices and achievement was positive, Waters, et al. (2003), found that this relationship can be both positive and negative. In addition, while Witziers and colleagues found the effect sizes across their examined studies were small, in their review of the literature Leithwood and colleagues (2004) concluded that the impact of school leadership practices on student learning is second only to classroom instruction. Ultimately, across all four studies, the authors conclude that the relationship between leadership practices and student achievement is both important, and in many cases, statistically significant.

A review of the Literature from 2003 to 2010. This section provides an examination of the literature featuring the relationship between school leadership practices and student achievement from 2003 through the present time.

Direct models of the relationship between school leaders and student achievement. Out of the 14 articles included in the literature review, seven employed

direct models to examine the relationship of interest. A summary of these seven articles is presented in Table 2.1.

Table 2. 1: Summary of Direct Models

Study Citation	Purpose	Achievement Data	School Leadership Construct	Country
Marks & Printy (2003)	What is the relationship of transformational and instructional leadership practices to student achievement?	Demonstrated using student work that was rated by researchers (inter-rater reliabilities were .77 for social studies and .70 for math)	Developed by the researchers as a combination of both survey measures and case studies that had been coded and variables were derived from them.	United States
Griffith (2004)	What is the direct effect of transformational leadership practices (through the principal) on school performance (as measured by student progress)?	The researchers used residuals to determine the number of scale score points that each student's grade five score was above or below the average score of a cohort of students with the same grade three (initial) score. School performance was determined by taking the average performance progress of students in each school.	Survey items were administered, which represented the three components the researcher identified as central to transformational leadership practices (charisma, individualized consideration and intellectual stimulation).	United States
O'Donnell & White (2005)	Is there a relationship between principals' instructional leadership practices and 8th grade student achievement in reading and mathematics?	Eighth grade reading and mathematics scores on the 2000-2001 Pennsylvania System of School Assessment (PSSA)	Survey items which included the instructional leadership tasks included on the Hallinger's (1987) Principal Instructional Management Rating Scale.	United States
Kaplan, Owings & Nunnery (2005)	Does a significant relationship exist between principal quality and student achievement?	The percentage of students passing the Virginia Standards of Learning assessments were combined and a single school level achievement score was calculated.	Two supervisors were asked to rate each principal using the Interstate School Leaders Licensure Consortium questionnaire.	United States
Miller & Rowan (2006)	What is the relationship between organic management and student achievement growth in elementary and secondary schools?	NELS:88 and Prospects: The Congressionally-Mandated Study of Educational Opportunity were used for their longitudinal information on student achievement in reading and mathematics.	Using the NELS:88 and Prospects surveys, common items that measured organic management were taken from both studies. Specifically the three measures of organic measurement examined included: supportive leadership, teachers' control over decisions and staff collaboration.	United States

Study Citation	Purpose	Achievement Data	School Leadership Construct	Country
Anderson (2008)	Does a significant relationship exist between principal background characteristics and student achievement?	Scores from UNESCO-developed language and mathematics assessments for students in fourth grade	Measures of teacher and principal interactions include items on meetings between teachers and principals, management indicators (such as teacher turnover and preparation time for teachers). Also number of hours a week teachers meet with the principal is included.	Mexico, Brazil, Argentina and Chile
Gordon & Seashore Louis (2009)	What is the relationship between participatory and shared school leadership practices, and student achievement?	2005-2006 mean math proficiency for each school, provided by state departments of education.	Survey items focused on the following leadership components; parent/teacher shared leadership, district/school leadership, teacher influence and teachers' perceptions of parental involvement.	United States

Relevant studies and findings. The first of the seven studies published during the 2003-2010 time period to use direct methods to examine the relationship between school leadership practices and student achievement that was by Marks and Printy (2003). Their study, titled “Principal Leadership and School Performance: An Integration of Transformational and Instructional Leadership” sought to examine the relationship between transformational and shared instructional leadership practices to both teachers’ pedagogical practices as well as student performance on what the authors referred to as “authentic measures of achievement” (Marks & Printy, 2003, p. 377). While the study sought to answer three research questions, only one of their research questions pertained to leadership practices and achievement. Therefore, only their exploration of the question, “What is the effect of transformational and shared instructional leadership on school performance as measured by the quality of pedagogy and the achievement of students?,” will be presented in this literature review (Marks & Printy, 2003, p. 378). In answering their research question, the authors included 24 schools in the United States to participate in the study; eight elementary, eight middle, and eight secondary schools in their sample.

Due to the multi-level nature of their dataset, Marks and Printy (2003) use a hierarchical linear model to address the research question of interest, specifically a three-level model, without any predictors entered in at level two. Within this model the student achievement measure was derived through the assessment of student work scored by trained researchers. The leadership construct was examined using a combination of survey measures from a larger study, the School Restructuring Survey (SRS), as well as data from case studies that had been coded and used to create measures. The instructional

leadership measure was developed using data on the extent to which principals focused on instruction, teacher took on instructional roles outside of their classrooms, and the extent to which the principal and teachers interacted with each other to work on instructional, curriculum or assessment matters (Marks & Printy, 2003). The transformational leadership practices were measured using variables that examined the extent to which principals provided intellectual leadership, the extent to which they were supportive and encouraging to staff and interested in innovation and new ideas, if they were influential in school restructuring, and whether or not they shared power with teachers (Marks & Printy, 2003). The researchers also included student background characteristics in their model as control variables, including gender, race, ethnicity, socioeconomic status, NAEP achievement and a student baseline test score (Marks & Printy, 2003). The authors found that when schools have leaders who exhibit the characteristics associated with both instructional and transformational leadership practices, the students have higher achievement, after taking student demographics into account.

The next study using a direct model during this time frame, Griffith (2004) examined both direct and indirect models of leadership practices and student achievement, and will therefore be described in both sections of this literature review. To examine the direct relationship between transformational leadership practices and student achievement, the author constructed a structural equation model, which included data from 117 elementary schools within the United States. In total, 1,791 school staff members responded to the survey instruments.

Within the model, the construct of student achievement was measured using residuals to determine the number of scale score points that each student's score was above or below the average score of a cohort of students with the same grade 3 (initial) score. School performance was determined by taking the average performance progress of students in each school. The school leadership construct was measured using survey items on transformational leadership practices, specifically focusing on three components: 1) charisma or inspiration of the leader, 2) leader's ability to treat their followers as unique individuals, 3) leader's encouragement to consider solutions to traditional problems in non-traditional ways (Griffith, 2004). Griffith (2004) found that in examining the direct relationship between transformational leadership practices and student achievement, ultimately the structural equation model had poor fit, and the path from leadership practices to student achievement was not statistically significant. This is in contrast to the results found by Marks and Printy (2003), who found statistical significance between transformational leadership practices and student achievement, using a measure of transformational leadership practices that was focused more on the principals relationship with others as opposed to the leader themselves, and that combined survey results with information from case studies.

In their article, "Within the Accountability Era: Principals' Instructional Leadership Behaviors and Student Achievement," O'Donnell and White (2005) examine whether or not a significant relationship exists between principals' instructional leadership practices and student performance in eighth grade reading and mathematics state assessments (N=75 schools, and N=325 school staff). The authors used regression

analysis to examine this relationship. Within this analysis, the construct of student achievement was measured by eighth grade students' scores in reading and mathematics on the 2000-2001 Pennsylvania System of School Assessment. The instructional leadership construct was developed based on participants' scores on the Principal Instructional Management Rating Scale survey, given to school staff (teachers and principals) to measure perceptions of instructional leadership behaviors. School-level socio-economic status was included in the model as a contextual variable.

O'Donnell and White (2005) found that overall, their regression model did not demonstrate a significant relationship between ratings of principals' instructional leadership practices and student achievement. However, the authors note that subsequent to this finding they examined the correlation between ratings and achievement and concluded that there was a significant positive relationship between the examined leadership dimensions and students' reading and mathematics achievement. Based on these findings the authors concluded that higher perceptions of principals' instructional leadership behaviors were related to higher student achievement (O'Donnell & White, 2005).

Kaplan, Owings and Nunnery (2005) addressed three research questions in their study, two of which are of interest in this literature review; 1) does a relationship exist between principal quality and student achievement and 2) does this relationship have differential effects based on school level (i.e., elementary, middle and high school). This study, conducted in the United States included 160 schools—44 high schools, five primary schools, 61 elementary schools, and 50 middle schools. Repeated measures

ANOVA was used to examine the relationship between the constructs of interest. The construct of student achievement was measured using a single school-level achievement score that was created by combining the percentage of students passing the Virginia Standards of Learning (SOL) state test across subjects. The construct of school leadership was measured using a rating of principal quality by two independent raters, which was derived from the rubric from the Interstate School Leaders Licensure Consortium questionnaire. In addition, the percentage of students in each school that qualified for free/reduced price lunch was included in the model. Overall, Kaplan, et al. (2005) found that in the third and fifth grades, there was a significant main effect for principal quality ratings on student achievement, while in eighth grade and high school there was not a significant effect.

Miller and Rowan (2006) conducted a study in which they looked at the relationship between organic management, which they define as a “shift away from conventional, hierarchical patterns of bureaucratic control toward what has been referred to as a network pattern of control,” and student achievement in elementary and secondary schools in the United States (p. 219). These researchers used data from both the *NELS:88* and *Prospects: The Congressionally-Mandated Study of Educational Opportunity*. The student achievement measures used in the study were the longitudinal scores of student achievement in reading and mathematics from these two studies. There were two cohorts included from the *Prospects* study, with a total sample size across cohorts and subjects of N=21,588 students within N= 564 schools. The cohorts included in the *NELS: 88* study involved N= 19, 311 students within N= 1, 612 schools. The measure of school

leadership was also taken from these studies, with the researchers using common survey items from the teacher questionnaires that were measures of organic management. These included three main components: 1) supportive leadership by administrators, 2) teachers' control over instructional decision making and 3) staff collaboration within the school.

Miller and Rowan (2006) used a three-level hierarchical linear growth model to answer their research questions. In addition to the measures described, the researchers also included control variables in their model. At the student level, these control variables included: race and ethnicity, gender, family socio-economic status, educational engagement, ability grouping, and the courses that the student was taking. At the school level the following control variables were included: average student socio-economic status, the dispersion of family socio-economic status among students, and total number of students enrolled at the school.

At the elementary school level, using the *Prospects* data, the results demonstrated that none of the measures of organic management were related to student achievement in mathematics or reading for one of the cohorts, while for the other cohort, there was a negative relationship found between teacher control (one of the three components of organic management) and fourth grade mathematics achievement. At the high school level, it was found that there was a positive relationship between teacher control and achievement in both mathematics and reading at the end of tenth grade.

Anderson (2008) looked at the role of the principal in public primary schools in four cities: Leon, Mexico; Belo Horizonte, Brazil; Buenos Aires, Argentina, and Santiago, Chile. The research question of interest here was whether there was a direct

relationship between principals' background characteristics and student learning. To examine this relationship, the researcher selected twenty fourth grade students per classroom, one classroom per school, with 24 schools selected in each city to participate (N=96 schools, N=2, 048 students). Scores on UNESCO-developed language and math tests were used as a measure of student achievement. There were a number of measures used in examining school leadership practices, all of which were taken from surveys of principals and teachers. These included principal background (years leading school, total years as a principal, teaching experience, etc.), questions regarding time allocation, frequency of meetings between principal and teachers, and indicators of "indirect management" (such as teacher turnover, teacher absenteeism, etc.) (Anderson, 2008, p. 47).

The researcher utilized hierarchical linear modeling to address the research question. In addition to the measures above, the following control variables were also entered into the model: student ability, socioeconomic status and student gender. Anderson (2008) found that for the subject of language, the number of years the principal had been at their school—what the study author referred to as experience at the school—was a significant predictor of student achievement.

The final study found between the 2003 and 2010 time period which used a direct model to examine the relationship between school leadership practices and student achievement was conducted by Gordon and Seashore Louis (2009). These authors were specifically interested in answering the question, "How are participatory and shared leadership structures related to student learning?" (Gordon & Seashore Louis, 2009, p. 3).

The authors used stepwise linear regression. The construct of student achievement was measured using the mean proficiency in mathematics on a state assessment during the 2005-2006 school year across all three levels of schooling; elementary, middle and high school. The construct of school leadership was measured based on results of a survey given to teachers and principals (N=4,491 and N= 157 respectively), in which the school staff were asked to respond to questions regarding their perceptions of different leadership practices within their school (parent/teacher shared leadership, district and school leadership influence, teachers' perceptions of parent influence and teacher influence). In addition, the percent of students receiving free/reduced price lunch at the school level was controlled for in the model. Results demonstrated that none of the leadership measures were statistically significant with the exception of parent/teacher shared leadership which was found to be positively related to mathematics achievement. This particular facet of school leadership was constructed using items such as "My school principal ensures wide participation in decisions about school improvement" and "My school principal promotes leadership development among teachers" (Gordon & Seashore Louis, 2009, p. 12).

Interpretations across studies. In this joint interpretation across the seven studies, it is noted that, with the exception of Anderson (2008) who looked at schools in Latin America, all of the studies exploring direct models had been conducted on schools in the United States. In addition, there are similarities in the data collection type used to construct the indicator of school leadership practices. Almost all of the leadership measures were a product of self-reported survey data with the exception of Marks and

Printy (2003) who incorporated results from case study reports, as well as Kaplan, et al. (2005) who used the ratings of principals from their superiors.

However, a different form of leadership was examined in each of the seven studies. Marks and Printy (2003) looked at a form of leadership that they refer to as “integrated leadership” which they describe as the combination of transformational leadership on the part of the principal and shared leadership among teachers (p. 377). Griffith (2004) focused on the effects of transformational leadership practices, while O'Donnell and White (2005) examined instructional leadership practices, and Gordon and Seashore Louis (2009) measured the impacts of participatory/shared leadership practices. Kaplan, et al. (2005) used a measure of principal quality to examine school leadership, Anderson (2008) created the school leadership construct using principal background characteristics, while Miller and Rowan (2006) were interested in a concept that they referred to as organic management. This aligns with the assertion that school leadership has not been clearly or consistently defined in the literature (York-Barr & Duke, 2004).

Half of these studies utilized a state assessment as an indicator of student achievement (O'Donnell & White, 2005; Kaplan, et al., 2005; Gordon & Seashore Louis, 2009), while one used national tests of student achievement (Miller & Rowan, 2006) and one an international measure of student achievement (Anderson, 2008). Griffith (2004) did not identify the specific measure of student achievement used beyond referring to it as a “standardized test.” Marks and Printy (2003) conducted the only study of the group which did not use student test scores as an indicator of student achievement, but instead opted for student work which was rated by trained researchers.

All of the seven studies conducted analyses which utilized forms of the general linear model to look at the direct relationship between leadership practices and learning. The analyses conducted in these six studies included repeated measures ANOVA (Kaplan, et al., 2005), multiple regression models (O'Donnell & White, 2005; Gordon & Seashore Louis, 2009) and hierarchical linear modeling (Marks & Printy, 2003; Miller & Rowan, 2006; Anderson, 2008). Griffith (2004) used structural equation modeling to look at the direct relationship between school leadership practices and student achievement.

There was variability in the significance of the results across the seven studies. Two studies did not find statistical significance between the indicator of school leadership practices and student achievement (Griffith, 2004; O'Donnell & White, 2005), one study did find statistical significance (Marks & Printy, 2003), while the other four studies found both significant and non-significant results across groups within their studies (Kaplan, et al., 2005; Miller & Rowan, 2006; Anderson, 2008; Gordon & Seashore Louis, 2009). In addition, there did not appear to be patterns in significance across the different levels of schooling examined. Thus, significance, or lack thereof, did not appear to be related to level of schooling within these particular studies.

Implications for policy and research. First, six of the seven studies between 2003 and 2010 that utilized a direct model of examining the relationship between leadership practices and learning, conducted their studies within the United States. However, Witziers, et al. (2003) found that studies of leadership practices and achievement had higher effect sizes in the United States than in other countries. This highlights the need

for future research on the direct models of leadership practices and student achievement in countries outside of the United States.

In addition, the results of Kaplan, et al. (2005) reinforced Witziers and colleagues' (2003) findings that there is not a relationship between leadership practices and student achievement at the secondary school level. Witziers et al.'s (2003) findings were contradicted by those of Marks and Printy (2003), Miller and Rowan (2006), and Gordon and Seashore Louis (2009), who found statistical significance at the secondary level. These divergent results also indicate a need for further research.

Indirect models of the relationship between school leaders and student achievement. Out of the 14 articles included in the literature review, nine employed indirect models to examine the relationship of interest. A summary of these nine articles is presented in Table 2.2.

Table 2. 2: Summary of Indirect Models

Study Citation	Purpose	Achievement Data	School Leadership Construct	Country
Griffith (2004)	What is the indirect effect of transformational leadership practices (through the principal) on school performance when measured through school staff satisfaction?	The researchers used residuals to determine the number of scale score points that each student's grade five score was above or below the average score of a cohort of students with the same grade three (initial) score. School performance was determined by taking the average performance progress of students in each school.	Survey items were administered, which represented the three components the researcher identified as central to transformational leadership practices (charisma, individualized consideration and intellectual stimulation).	United States
Ross and Gray (2006)	Do principals influence student achievement indirectly through teacher variables regarding commitment and their beliefs about collective capacity?	The mean percentage of students in each school that reached the Ontario provincial standard in grades three and six in reading, writing and mathematics.	Teacher survey responses to questions regarding transformational leadership practices within their school.	Canada
Leithwood & Jantzi (2006)	What are the effects of a school-specific model of transformational leadership practices on student achievement gains?	Scores on the Key State 2 tests over two years for numeracy or three years for literacy	Teacher survey on transformational leadership practices (specifically questions regarding setting directions, developing people, and redesigning the organization)	England
Leithwood, Jantzi & McElheron-Hopkins (2006)	What is the relationship between school leadership practices and student achievement within a school improvement model?	Mean achievement levels on Ontario provincial tests in mathematics and literacy during grades three and six.	Scales were created using survey questions about the principal's role in school improvement processes.	Canada
Leithwood & Mascall (2008)	What are the collective leadership effects on student achievement?	The percentages of students meeting or exceeding the proficiency level on the state developed language and mathematics tests. (Averaged across grades and subjects to produce a single score for each school)	Survey items regarding teacher perceptions of collective leadership practices.	United States
Leithwood & Jantzi (2008)	What is the relationship between leader efficacy and student learning?	School-wide results from state tests in the subjects of mathematics and language. An average percentage of students meeting or exceeding proficiency was averaged across grades and subjects.	Survey items were administered to principals regarding district measures, as well as teachers regarding school and classroom measures. Teacher survey data was aggregated to the school level, and merged with the principal responses.	United States

Study Citation	Purpose	Achievement Data	School Leadership Construct	Country
Anderson (2008)	Are stronger teacher/principal relationships associated with higher student achievement?	Scores from UNESCO-developed language and mathematics assessments for students in fourth grade	Measures of teacher and principal interactions include measures on meetings between teachers and principals, management indicators (such as teacher turnover and preparation time for teachers). Also number of hours a week teachers meet with the principal is included.	Mexico, Brazil, Argentina and Chile
Dumay (2009)	How are teacher decision making and principal leadership practices related to school culture, and subsequently, how is school culture related to student achievement?	Test scores of sixth grade students on two mathematics achievement tests	Teacher survey on the principal's leadership practices, school culture and teacher collegiality	Belgium (French speaking)
Heck & Hallinger (2010)	Is there an indirect effect of initial distributed leadership practices on initial reading and math scores? Is there an indirect effect of changes in distributed leadership practices on changes in student achievement?	Reading and math test scores were collected over three years (grades three through five)	Teacher survey on perceptions of leadership practices in the school (not limited to the principal), including school improvement, school governance and resource management and development	United States

Relevant studies and findings. Griffith (2004) was the first of the nine studies using indirect methods to examine the relationship between school leadership practices and student achievement to be published during the 2003-2010 time period. Within the study, the author examined both direct and indirect models of leadership and achievement (see previous section for more details). The relationship of interest was that of transformational leadership practices and school performance, which he examined indirectly through the self-reported job satisfaction of school staff. Like the direct relationship, this indirect model was also measured using a structural equation model. Griffith (2004) found that schools with transformational leaders had higher job satisfaction amongst their staff, and also had higher student achievement.

Ross and Gray (2006) were interested in looking at the relationship of principals' transformational leadership skills to teacher efficacy and school commitment, which in turn the researchers hypothesized impacted student achievement. The leadership construct, transformational leadership, was developed from 12 items relating to the principal's ability to develop school capacity and adapt to organizational change. In total, 3,042 teachers in 205 schools responded to these survey items. The construct of student achievement, was represented by scores on Ontario's provincial assessment, Education Quality and Accountability Office (EQAO). Current student achievement was represented by the mean percentage of students who met the provincial standard in third and sixth grade in reading writing and mathematics. The previous student achievement measure was the average on the same measures from the previous year, averaged across grades and subjects.

A path analysis was conducted in order to model the hypothesized relationships described by Ross and Gray (2006). Overall, the authors found that there were statistically significant relationship between leadership practices and student achievement. Ross and Gray (2006) determined that the strongest of these indirect effects on student achievement was through the principal's influence on a teacher's commitment to his/her school's mission.

The purpose of the study conducted by Leithwood and Jantzi (2006) was to examine the effects of transformational leadership practices on selected teacher characteristics (such as motivation), as well as their classroom practices, and how these characteristics impacted student achievement (N= 2,290 teachers, N=655 primary schools). The transformational leadership construct was measured using items which addressed implementation of literacy and numeracy strategies within their school. Student achievement was represented by scores on England's Key Stage 2 tests in numeracy (measured over two years) and literacy (measured over three years).

Leithwood and Jantzi (2006) used path analysis to examine the relationships between the measures of interest. They concluded that gains in student achievement were not related to any of the measures in the schools where literacy was examined. However, they found that there was a weak relationship between leadership practices and student achievement on the numeracy assessments.

Leithwood, Jantzi and McElheron-Hopkins (2006) also used path analysis to examine the indirect relationship between school leadership practices and student achievement. This study was conducted in schools in Ontario, Canada (N=362

elementary schools), where the purpose was focused on a better understanding of school improvement processes (SIP). The leadership construct was measured using responses based on questions about the role of leadership in SIP. Scales were created and included in the model. Student achievement was measured using mean achievement levels taken from the provincial assessment—the EQAO—on mathematics and literacy tests in grades three and six. The authors concluded that while leadership practices were considered to be critical to the success of SIP, it was not found to have a statistically significant relationship with student achievement (Leithwood, et al., 2006).

Leithwood and Mascall (2008) were interested in examining whether collective/shared leadership practices impacted teacher measures and student achievement (N=2, 570 teachers, N=90 elementary and secondary schools). Path analysis was used to examine these relationships. The leadership construct was measured by teachers' perceptions on items related to the following; collective leadership, teacher capacity, teacher motivation, and teacher work settings and conditions. Student achievement was measured by the percentage of students meeting or exceeding proficiency on state mandated tests in the subjects of language and mathematics over three years. Leithwood and Mascall (2008) found that collective leadership practices have a “modest” but statistically significant indirect relationship with student learning, influencing student learning through both teacher motivation and work setting (p. 546).

Leithwood and Jantzi (2008) examined the relationship of district leadership practices to student achievement, considering the indirect influence of leader efficacy at the school level in elementary, middle and secondary schools (N= 2,764 teachers, N=96

principals). Out of the larger study, of interest to this literature review are the research questions addressing the impacts of efficacy on variability in student achievement, as well as the relationship between leaders' efficacy and student learning, when moderated by teacher/school characteristics. This study was also conducted in the United States, with the measure of student achievement the percentage of students in each school that meet or exceed the proficient score on state tests in language and math over three years. Leadership was measured using the results from two surveys: a principal survey regarding the district (such as district conditions and district leadership), as well as a teacher survey regarding the school level (school leadership practices, class and school conditions).

Regression analysis demonstrated that leader efficacy explained a statistically significant amount of variability in student achievement scores. In addition, the following measures were found to be significant in moderating the relationship between leadership efficacy and student achievement: district size, school size, school level, and number of principals in the school over the last 10 years (Leithwood & Jantzi, 2008). In addition, the authors produced a path analysis and found that district leadership practices and conditions influence leader efficacy at the school level, which was found to have a positive relationship with school conditions, and ultimately influenced student achievement.

Anderson (2008) –whose study was described in more detail in the previous section on direct models—was interested in looking at the indirect relationship of leadership practices and achievement considering the obstacles impacting student

learning, as well as the relationships between teachers and principals that impact on student learning. Again, the researcher utilized hierarchical linear modeling in order to address these questions. The following control variables were also used: student ability, socioeconomic status and student gender. Anderson (2008) found that in both subjects examined (language and mathematics), there was a relationship between the amount of time the principal reported spending on student evaluation and increased average test scores for that school, but the more time the principal spent on student discipline the lower the student achievement scores were. In addition, more time spent meeting with teachers was related to higher achievement in both language and math, while more time meeting with parents or meeting about discipline issues was related to lower student achievement. The number of hours that the principal spent talking to teachers was not a statistically significant predictor of student achievement, while the number of hours teachers spent talking to each other was a statistically significant predictor of mathematics achievement, and the two measures (principal talk with teachers, teachers talk with other teachers) were highly correlated. Anderson (2008) concluded that these measures therefore indirectly examined the relationship and trust among teachers and the principal.

Dumay (2009) also conducted a study utilizing an indirect relationship between school leadership practices and student achievement. Dumay was interested in examining whether teacher decision making and principal leadership practices were related to a school's culture, and subsequently how school culture was related to student achievement across 52 schools. Conducted in Belgium (French-speaking) the student achievement

measure was composed of sixth grade students' scores on two mathematics achievement tests (N=2,595). The leadership measures were constructed using teacher responses (N=817) to a survey asking about teachers' perceptions of the principal's leadership practices, their school's culture, and teacher collegiality.

Dumay (2009) used a three-level multi-level model, with students at level one, classrooms at level two and schools at level three. The measure of transformational leadership practices was statistically significantly related to two of the four measures of school culture that were examined. In addition, the more teachers perceived their principal to be transformational in their leadership style, the more likely teachers were to make pedagogic decisions collectively. Dumay (2009) ultimately concludes that leadership practices do indeed influence culture, which subsequently has a modest positive impact on student achievement.

Finally, Heck and Hallinger (2010) conducted a longitudinal study using a multilevel latent change analysis to examine the relationship between distributed leadership practices and student achievement over time. The leadership construct was developed using teachers' perceptions of different sources of leadership practices throughout their school. Three specific components of distributed leadership were examined; school improvement, school governance and resource management and development. To measure the construct of student achievement, the authors used student test scores on reading and math assessments that were created in accordance with state curricular goals, using items from the Stanford Achievement Test (Edition 9). These math and reading scores, from the cohort of students included in the study, were collected

during successive years while students were in grades three through five (Heck & Hallinger, 2010).

The researchers found that there was a small but significant indirect relationship between initial distributed leadership practices and initial reading and math scores. However, there was a larger statistically significant indirect relationship between changes in distributed leadership practices and changes in student achievement (Heck & Hallinger, 2010). Additionally, Heck and Hallinger (2010) found that the indirect effects model fit the data better than did a model that included both direct and indirect effects in examining the relationship between distributed leadership practices and student achievement over time.

Interpretations across studies. In contrast to the studies which examined direct models between leadership practices and achievement, the studies examining indirect models were more geographically diverse. While four of the studies were conducted in the United States (Heck & Hallinger, 2010; Griffith, 2004; Leithwood & Mascall, 2008; Leithwood & Jantzi, 2008), two were conducted in Canada (Ross & Gray, 2006; Leithwood, Jantzi, & McElheron-Hopkins, 2006), one in England (Leithwood & Jantzi, 2006), one in Belgium (Dumay, 2009) and one conducted in four countries in Latin America (Anderson, 2008).

Similar to the direct model studies however, there was also variability in leadership practices studied across the nine articles. While three of the studies focused on transformational leadership practices (Griffith, 2004; Ross & Gray, 2006; Leithwood & Jantzi, 2006), the other six studies examined a variety of different leadership roles and

characteristics. These included collective leadership practices (Leithwood & Mascal, 2008), the principal's role in school improvement processes (Leithwood, et al., 2006), school and district level information (Leithwood & Jantzi, 2008), teacher and principal interactions (Anderson, 2008), school culture and collegiality (Dumay, 2009) and distributed leadership practices (Heck & Hallinger, 2010). This further illustrates the breadth that exists in the definition of what constitutes indicators of school leadership practices.

As was seen in the articles examining direct models, the majority of indirect model studies used state, provincial or national assessments of student achievement (Griffith, 2004; Ross & Gray, 2006; Leithwood & Jantzi, 2006; Leithwood, et al., 2006; Leithwood & Mascal, 2008; Leithwood & Jantzi, 2008). The exceptions included Anderson (2008), Dumay (2009) and Heck and Hallinger (2010). While Anderson (2008) used an international measure of achievement by UNESCO, Dumay (2009) constructed his own measure of sixth grade mathematics achievement, as such a test does not currently exist for French-speaking Belgium students. Heck and Hallinger (2010) created their own assessments that aligned with state-curricular goals using items from the Stanford Achievement Test (Edition 9).

Across the nine studies using an indirect model to examine the relationship between leadership practices and achievement, six of the studies used path analysis (Heck & Hallinger, 2010; Griffith, 2004; Ross & Gray, 2006; Leithwood & Jantzi, 2006; Leithwood, et al., 2006; Leithwood & Mascal, 2008). However, Ross and Gray (2006) said they were constrained to a path analysis since they did not have school level data and

subsequently could not use multi-level models. Anderson (2008) and Dumay (2009) both used multi-level models to analyze their data. Leithwood & Jantzi (2008) used both a multi-level model and path analysis. Heck and Hallinger (2010) specifically used a latent change analysis, which involves latent growth curve modeling through the use of structural equation modeling.

Seven of the nine studies found a statistically significant, albeit indirect, relationship between leadership practices and achievement (Heck & Hallinger, 2010; Griffith, 2004; Ross & Gray, 2006; Leithwood & Mascal, 2008; Leithwood & Jantzi, 2008; Anderson, 2008; Dumay, 2009). The study conducted by Leithwood & Jantzi (2006) found both significant results in the subject of numeracy, but did not find significance in the relationship between leadership practices and literacy achievement. In their article examining leadership practices within a school improvement model, Leithwood, et al. (2006) did not find leadership practices to have a statistically significant relationship with student achievement. This is in direct contrast to Leithwood and colleagues' (2004) earlier finding that the impact of leadership practices on student achievement is second only to that of classroom instruction. As was found with the direct models, there did not appear to be a pattern between significance and level of schooling.

Implications for policy and research. Something distinctly notable about the studies on indirect models of leadership practices and student achievement from 2003 to 2010, is that much of the work done in this field has been conducted by the same researchers, i.e. Leithwood and Jantzi. Thus it appears that the same people are largely producing the work in the current field of indirect models of leadership practices and

student achievement. While this could be considered a strength, as the work is being done by researchers who know the field well, it might also be argued that much of the work being done is from the same points of view.

Limitations of previous literature. Based on the review of the literature from the years 2003 to 2010, a number of limitations have emerged. The first, and arguably most serious limitation, is the inconsistency of the results in terms of finding statistical significance. Previous research has found a publication bias exists in the social sciences, where studies are both more likely to be submitted for publication, as well as be accepted due to statistical significance, as well as size and direction of effects (Vevea & Hedges, 1995).

Bearing this in mind, out of the fourteen studies examined, twelve found statistical significance somewhere in their examination of the relationship between student achievement and the school leadership measure as they define it, while two of the studies did not find a significant relationship between these two measures (O'Donnell & White, 2005; Leithwood, et al., 2006). However, out of the twelve that found significance, five found significance in only some of the models of school leadership practices and student achievement, with lack of significance based on a number of differences between models, including model type (direct versus indirect), level of schooling, school subject tested, and characteristics of leadership examined (Griffith, 2004; Kaplan, et al., 2005; Miller & Rowan, 2006; Leithwood & Jantzi, 2006; Gordon & Seashore Louis, 2009).

Across these considerations of significance or lack thereof, there did not appear to be any consistent patterns based on the type of model used (direct versus indirect), grade level of students, or country examined. This is in contrast to the results of the meta-analysis conducted by Witziers, et al. (2003) who found that a significant relationship between school leadership practices and student achievement was less likely to occur outside of the United States, in secondary schools or within models that examined direct relationships.

These discrepancies indicate the need for future research, specifically in countries other than the United States, at a secondary level, and through direct models of examining leaders' influence on student achievement. While some have argued that the relationship between leadership practices and student achievement is best measured indirectly (Witziers, et al., 2003), others have argued that the direct relationship between school leaders and student achievement should be further examined (Nettles & Herrington, 2007).

The definition of leadership is another limitation of this field of research. It is hard to speak of school leadership practices as one unified and generic construct, when it is understood to be associated with other important outcomes such as student achievement. Indeed, different types of leadership have been found to differentially impact student learning (Robinson, Lloyd, & Rowe, 2008). In their meta-analysis of the differential effects of leadership types, Robinson and colleagues found that instructional leadership practices had a stronger relationship with student learning than did transformational leadership practices.

The researchers also conducted a second meta-analysis on five dimensions of leadership practices—establishing goals and expectations; resourcing strategically; planning, coordinating and evaluating teaching and curriculum; promoting and participating in teacher learning and development; ensuring an orderly and supportive environment—and found that the dimension that had the strongest relationship with student achievement was promoting and participating in teacher learning and development, while establishing goals and expectations and planning, coordinating, and evaluating teaching and the curriculum were found to have moderate relationships with student achievement (Robinson, et al.,2008).

Robinson and colleagues' (2008) results appear to diverge from the results of this literature review. However, the Robinson et al. (2008) article categorized their studies as transformational or instructional leadership practices “according to the theoretical framework that informed the conceptualization and measurement of leadership” (p. 654). This classification approach was not taken in the present literature review, where there were clear differences in how different authors defined the same type of leadership. For example, in the Marks and Printy (2003) study, the measure of transformational leadership included the extent to which principals provided intellectual leadership, the extent to which they were supportive and encouraging to staff and interested in innovation and new ideas, if they had influence on school restructuring, and whether they shared power with teachers. Griffith (2004) however, used a measure of transformational leadership that specifically focused on three components: charisma or inspiration of the leader, a leader's ability to treat his/her followers as unique individuals, and a leader's

encouragement to consider solutions to traditional problems in non-traditional ways. In addition to differences in how transformational leadership was defined, there were also differences in significance across the studies with Marks and Printy (2003) finding statistical significance between school leadership practices and student achievement, and Griffith (2004) not finding a significant relationship. Consequently, the discrepancy between this literature review and Robinson et al. (2008) may be the more stringent regulation of the leadership category definitions.

Also, it is important to consider that while the present literature review only included studies that used direct measures of student achievement, Robinson et al. (2008) also included studies that used affective student outcomes, such as measures of self-concept, attitudes and student engagement. Thus, these discrepancies between the present literature review and the results of Robinson et al. (2008) may at least in part be attributed to differences in our approaches.

This variability that exists in the definitions of school leadership across studies, as well as the differential magnitudes in the relationships between leadership practices and student achievement based on leadership type, makes it difficult to compare results about school leadership practices across the field generally. This also indicates the importance of taking leadership type under consideration when examining prior research and planning future research.

The third limitation, the lack of examination of school leadership practices and student achievement in an international context, is reinforced by the fact that only one of the fourteen studies examined the relationship between leadership practices and

achievement in more than one country in a single study (Anderson, 2008). In addition, within this one study, the countries included were all from the same region of the world. Since policymakers tend to learn from what is being implemented in other countries (Levin, 1998), it would be beneficial to further examine the relationship between school leadership practices and student achievement across multiple countries, as the common measures of student achievement and school leadership practices would lend itself to comparisons.

Conclusions from the school leadership and student achievement literature.

Internationally, there is high interest in student achievement results, as well as how students perform in relation to other countries (Fuchs & Wößmann, 2007). As Hargreaves and Shirley (2009) describe in *The Fourth Way*, the centerpiece of “building prosperous and competitive knowledge societies” are strong student outcomes (Hargreaves & Shirley, 2009, p.72). Creating and supporting learning environments that foster strong student outcomes are in part the responsibility of school leaders, whose job is “to get results” (Goleman, 2000, p. 78).

The examination of the relationship between school leadership practices and student learning is very complex, one that requires a great number of considerations on the part of the researcher. All of these considerations “could reasonably be called into question” (Pont, Nusche, & Moorman, 2008, p. 34). Thus, studies that examine the relationship between school leadership practices and student achievement have often been characterized as “conceptually and methodologically challenging” (Pont, Nusche & Moorman, 2008, p. 34).

However, despite these challenges, previous research has demonstrated a continued need to examine the relationship between leadership practices and achievement. Additionally, there has not yet been a large-scale study on the subject that policymakers have considered “nationally representative and generalizable” (Pont, Nusche, & Moorman, 2008, p. 34). This gap in the research must be addressed for both future research and future policy—to both better understand the relationship of interest, as well as to inform future policy decisions.

International Education Policy and Decentralization

In their examination of the indirect effects of school leadership practices on student achievement, Seashore Louis and colleagues (2010) presented a case study on the Danhill school district in the state of New Jersey, United States. Within this district, which has a state-wide reputation for academic accomplishments, educators receive strong support from the local residents. This community support was at least in part attributed to the fact that district has worked hard to maintain decentralized schools that are able to be responsive to the community that they serve (Seashore Louis et al., 2010).

With the ultimate objective of increasing student achievement, an important method of restructuring school leadership in an effort to meet this objective has been through decentralization of decision making authority to local levels (Witziers, Bosker, & Krüger, 2003). This decentralization of educational decision making, frequently coupled with increased autonomy and accountability at the school level, has become a policy priority in many countries and has sprung from growing concern for quality of education

and student achievement (Pont, Nusche, & Moorman, 2008). Indeed, decentralized decision making has been found to lead to better decisions being made at the school level, along with a sense of ownership in and responsibility for the outcomes of the decisions (Leithwood & Prestine, 2002; Seashore Louis et al., 2010).

A report produced by the World Bank asserted that “[E]ducation is intensely political because it affects the majority of citizens, involves all levels of government, is almost always the single largest component of public spending, and carries public subsidies that are biased in favor of the elite” (as quoted in Fiske, 1996, p. 5). Education systems allow policymakers to solidify a “political base” or conversely, can be used by political opponents to gain power (Fiske, 1996, p. 6). In addition the politicization of education is important since, above and beyond political posturing, when it comes to student achievement, education policies matter (Woessmann, 2001).

Since the 1980s, decentralization has been an important component of global educational policy (Wong, 2006). Internationally, there has been a shift towards governments embracing decentralization as a strategy, indicating what some have referred to as “a worldwide trend” (Karlsen, 2000, p. 525). This trend has been observed in both Western and developing countries (Karlsen, 2000).

While ‘decentralization’ does not have one single definition (Karlsen, 2000), some school systems are highly centralized, meaning that many decisions are not made at the school level; other school systems that are decentralized are characterized by decisions being made at the local level (Woessmann, 2001). As first presented by Bray (1984) and reiterated by Fiske (1996): decentralization is “the process in which

subordinate levels of a hierarchy are authorized by a higher body to take decisions about the use of the organization's resources" (p. 8). In addition to this "working definition" there are also the considerations as to what is decentralized –such as school resources, staffing decisions, curriculum—and at which levels this will take place—i.e., region, district, school (Fiske, 1996; Meyer, 2009).

Decentralization is considered to be "clearly political" as it is intended to "alter the political status quo by transferring authority from one level of government and one set of actors to others" (Fiske, 1996, p. 7). While some may question why a central political figure would cede power to others, Fiske (1996) argues that secure leaders might rationalize that decentralization could lead to better quality education, which in turn would reflect well upon themselves (Fiske, 1996). This is supported by evidence that decentralization of education has been found to assist schools with adapting to changes in their environment and conditions under which they operate (Meyer, 2009).

A central tenet of decentralization is the shift of decision-making authority to local levels (Meyer, 2009). Oftentimes, decentralization is decided upon because policymakers believe it will increase the local relevance of educational content by giving increased decision-making power to those at the school level (Wong, 2006). Since leadership practices are considered to be central to implementing large-scale school reforms, it has highlighted the need for the typical roles of superintendents in "devolving decision making from middle managers to school-level principals and teachers" (Bjork & Blase, 2009).

While there has been a broad move towards decentralization of decision making internationally over the last 25 years, recognition of this trend has been marred by a lack of consistency and coherence in understanding decentralization (Meyer, 2009). Indeed, Meyer (2009) describes the concept of decentralization as having a “perplexing kaleidoscope of meanings” since it is a multidimensional concept that can be misunderstood and misspecified (p. 459).

For example, the United States has been referred to as both highly centralized in that it is “controlled by a government monopoly” as well as highly decentralized in the “best tradition of Jeffersonian Democracy” (Meyer, 2009, p. 459; Franciosi, 2001; Shannon, 1994). However, Meyer (2009) argues that centralization and decentralization are “dialectical, not antagonistic” and that recent thinking has accordingly shifted from “either/or” to an integration of both centralization and decentralization (p. 459-460). This is supported by Weick and Sutcliffe (2001) who argue that there should not be centralization or decentralization, but rather, a “balance of centralization with decentralization” (p. 170; Meyer, 2009).

Meyer (2009) argues that it is not feasible to have decentralization without some counterbalancing recentralization, as they are each other’s prerequisites. As Meyer (2009) describes, “[W]hen we decentralize, we create new subcenters of decision making. Lest the downward shift of decision making lead to confusion or chaos, it must be balanced by a commensurate recentralization” (p. 461). Similarly, an OECD study of decentralization across 14 countries found that when “most decisions are made at the

highest levels (of governance) schools tend to enjoy considerable autonomy” (Meyer, 2009, p. 462; OECD, 1995).

A current example of a combination between centralization and decentralization would be Race to the Top (RTTT), an initiative in the United States. RTTT is a competitive grant program that is funded by the United States government for states that are “creating the conditions for education innovation and reform” (United States Department of Education, 2009, p. 2). Additionally, RTTT gives money to states that have demonstrated methods of increasing student achievement. While there are many different components to RTTT, one of these components is to encourage states to adopt common standards and common assessments, two areas that have historically been entirely left up to the individual states discretion. Another component of RTTT, in contrast, focuses on teacher and leader effectiveness, providing additional coaching, support and professional development, as well as allowing for “highly effective” teachers and principals to be given additional responsibilities (United States Department of Education, 2009, p. 9). Ultimately, as displayed in RTTT, centralization and decentralization do not have to be mutually exclusive concepts (Meyer, 2009). This also could at least in part, explain the fact that decentralization of educational decision making is frequently coupled with increased autonomy and accountability at the school level (Pont, Nusche, & Moorman, 2008). Thus, centralization and decentralization in education can coexist.

OECD case studies. A survey of the peer reviewed journals demonstrates that there has been little work published that examined decentralization and school leadership

practices, with much of the work in that sparse field published prior to or in the early stages of the international educational reform movement emphasizing high-stakes testing, accountability and market competition amongst schools, which began approximately 15 years ago (Hargreaves, Halasz, & Pont, 2008). However, a more recent examination of decentralization policies and school was published in 2009 by the OECD who put out a volume of case studies offering current examinations of decentralization policy and leadership practices in the field (Pont, Nusche, & Hopkins, 2008). The countries that were selected to participate in this study were chosen because they showcase “innovative practices that provide good examples of systemic approaches to school leadership” (Pont, Nusche, & Hopkins, 2008, p. 9). In addition, these case studies are particularly useful to the present study as they detail the policies of two of the countries which will be included in the analysis. A review of the five case studies featured in OECD’s volume on leadership is presented in this section. While these case studies are focused at the system level, inevitably, school level leaders and the impact of decentralization on those working within the schools is also included in the case studies.

Table 2. 3: Summary of OECD Case Studies

Country	Researchers	Findings
Finland	Hargreaves, Halasz & Pont	While Finland’s successes up to this point have been due in large part to; incorporation of education into a larger social mission, the development of highly-qualified educators, a focus on accountability that is both professional and community based and supporting local freedom and responsibility—sustainability, as well as continuity in face of adversity, has largely been addressed through redistributed leadership throughout the country’s municipalities and schools.
England	Huber, Moorman & Pont	England utilized a mix of comprehensive and complementary large scale reforms with a focus on leadership practices. Two major accomplishments included developing leadership standards and establishing a national college for school leaders. Outcomes of these reforms have been credited with a greater sense of professional culture among school leaders and increased opportunities for collaboration among teachers and leaders.
Belgium (Flemish)	Day, Moller, Nusche & Pont	The Flemish Belgium education system is centered around the concepts of choice and competition. However, inequities are a major problem within this system. The Flemish Ministry of Education created a program called “communities of schools,” which encouraged schools to collaborate with each other to collectively deal with issues surrounding school competition as well as resource allocation and budgeting. Within these school communities, principals are encouraged to work with other principals, as well as to embrace the role of leaders of schools that are “learning organizations” to improve their schools environment and ultimately to impact school quality.
Victoria, Australia	Matthews, Moorman & Nusche	The Victoria government implemented a new reform agenda, and later aligned a leadership development program to the new reforms. It was recognized that the inclusion of teachers and principals was central to this reform process. This led to the development of programs for leaders throughout Victoria that attempted to build leadership capacity both within schools and across the education system.
Austria	Stoll, Moorman & Rahm	Austria has faced a number of challenges and has addressed them by attempting innovative policies(such as, market-based choice and decentralization to local levels). Concerns regarding results on international tests have led to reforms which place greater accountability and pressure to perform on schools—such as adopting national standards and assessments. The role of the school head has evolved as a result, and in order to prepare them for these responsibilities the Leadership Academy was created.

Review of case studies. Hargreaves, Halasz and Pont (2008) conducted a case study which examined school leadership practices and school improvement in Finland. Finland has undergone extreme economic and educational transformations over the past several decades to become an extremely high performing country that has largely departed from the recent global trends towards standardization and emphasis of high stakes testing. In Finland, where the teacher profession is both highly competitive and highly respected, the professional culture is centered on a trinity of the following concepts: “trust, cooperation and responsibility” (Hargreaves, et al., 2008, p. 82). This translates to a feeling of community, where teachers are concerned with all students within their school, not just those within their own classrooms. In addition, Hargreaves and colleagues found that teachers and administrators were working together, both supporting each other in positions of leadership.

While Hargreaves, et al. (2008) maintain that there is no “silver bullet” to Finland’s success, a number of key components were identified (p. 76). Largely, these included the incorporation of education into a larger social mission, the development of highly-qualified educators, a focus on accountability that is both professional and community based and supporting local freedom and responsibility (Hargreaves, et al., 2008). While Finland has a number of challenges that it is currently facing, such as issues surrounding the country’s economy, workforce and demographics, Hargreaves et al. describe how Finland has begun to prepare for these challenges by redistributing leadership within schools. “Redistributing leadership within the municipality, between municipal authorities and schools, between schools and within schools, all at the same

time, significantly changes the way leadership functions throughout the local system” (Hargreaves, et al., 2008, p. 96). Ultimately, according to Hargreaves and colleagues, this builds leadership capacity in a way that also leads to greater stability.

In England, the education system has evolved over the past twenty years towards more autonomy—specifically financial and managerial—at the school level (Huber, Moorman, & Pont, 2008). The changes put in place in England involve market competition and increased competition among schools, thus standing in stark contrast to those previously described in Finland. There has been a variety of leadership policies in England over the last fifteen years, including the development of leadership standards and a national college specifically for leadership, featuring training and development programs for leaders.

With leadership “at the core of reform” in England, Huber and colleagues identified a number of strengths observed within the country’s education system (Huber, et al., 2008, p. 139). England used a host of different large-scale reforms, which were characterized by the authors as a “comprehensive policy framework grounded on state-of-the-art research” (Huber, et al., 2008, p. 139). Their system leadership, which was considered an example of best practice, was found to be related to a number of positive outcomes including student achievement and ease of leadership succession. In addition, the reforms were found to create system leadership, described as a type of distributed leadership at the system level, with both formal and informal leadership roles allocated to members of the school community (Huber, Moorman, & Pont, 2008). Lastly, leadership policies within England have led to a “new logic of school effectiveness and social

innovation” supported by distributed leadership practices within schools and driven by system leadership (Huber, et al., 2008, p. 143). Ultimately these leadership policies have generally led to a greater sense of professional culture among school leaders, as well as more opportunities for collaboration among school staff (Huber, et al., 2008).

Day, Moller, Nusche, and Pont (2008) examined leadership practices within schools in the Flemish community in Belgium. Education within the Flemish community is based on the concept of school choice, where parents are “treated as clients who choose the best quality school” (p. 156). There are three main sectors of education within the Flemish Belgium education system—private (predominately Catholic), public (provincial) and community (formerly state) schools—all publicly funded and autonomous (Day, et al., 2008). The ability to choose a school does not guarantee that a student will be able to be enrolled in their school of choice due to demands for some schools exceeding the capacity. Like Finland, Flanders does not have any standardized tests at the primary or secondary levels. To summarize, Day and colleagues (2008) describe the Flemish Belgium education system using three terms: “choice, competition and identity” (p. 157). It is important to note that across the entire country of Belgium, inclusive of the Flemish community, there is the largest variation in student performance of all of the countries participating in the PISA assessment, primarily stemming from both differences in socio-economic status and the language spoken at home (Day et al., 2008).

The Flemish Ministry of Education created a program called “communities of schools,” first in secondary and then later in elementary schools (Day, et al., 2008, p.

157). These volunteer collaborative communities allow schools to share resources, courses, and ultimately attempt to contain costs across the participating schools (Day, et al., 2008). The purpose of these communities of schools concerned both school competition as well as resource allocation and budgeting. Day, et al. (2008) note that the formation of these communities affected decision making “at the margins” and ultimately principal autonomy has not been affected by them (p. 168). Thus, according to Day and colleagues (2008) the “theoretical construct” driving the communities of schools is that “principals will work together across schools and act as leaders of schools as learning organizations which can contribute to positive learning environments and communities” (p. 170). However, as Day et al. discovered through conducting their case study, the Flemish government did not provide sufficient leadership, vision, or training within the initiative, which has left some areas in need of further support in continuing to build and sustain these school communities.

According to Stoll, Moorman and Rahm (2008), Austria like many other European countries has faced a number of challenges, such as economic issues and changing demographics, which they have addressed by attempting more innovative policies, including market-based choice and decentralization to local levels. Within the education system, decision making is split between the federal and provincial levels, and between different levels of schooling (Stoll, et al., 2008). Community members—such as parents, teachers and students—are also considered important in the school decision making process. However, Stoll and colleagues describe the current educational bureaucratic system as “cumbersome” (2008, p. 218). In addition, disappointing results

on international tests have raised concerns over quality of the school systems and student achievement.

These concerns have led to reforms which place greater accountability and pressure to perform on schools, and ultimately as Stoll, et al. (2008) describe, this “devolution has increased local autonomy – and conflict” (p. 219). Specific initiatives include adopting national standards and assessments, limiting class sizes, and authorizing extended supervision for students. In addition, the role of school heads expanded from the “traditional administrative and fiscal responsibilities” to include “broader pedagogical leadership duties” (Stoll, et al., 2008, p. 220). Despite these expansions of responsibilities, school heads in Austria still were not permitted to make staffing decisions (i.e., hiring and firing of teachers). A national Leadership Academy was created for the purpose of developing and supporting school heads in implementing the country’s education reforms. Stoll and colleagues identified the Leadership Academy as a “visionary and innovate initiative” that both addressed Austria’s need for leadership, as well as their recognition of leadership practices as instrumental to carrying out their national reforms (2008, p. 238).

Matthews, Moorman and Nusche (2008) conducted their case study in Victoria, the geographically smallest of the six states in Australia, but with the largest population. According to the authors, the state’s schools have a high degree of autonomy—with more decentralization than is the case in other states in Australia—however, the schools’ effectiveness varies across Victoria. Within the government schools, principals are required to work with school staff and community members in developing school

improvement strategies (Matthews, et al., 2008). Therefore, while principals are the main authority on their schools' operations, leadership practices within the school are distributed amongst staff (Matthews, et al., 2008).

In 2003, the Victoria government implemented a new reform agenda, and later aligned a leadership development program to the new reforms. Due to an anticipated change in school cultures as a result of the reforms, the need to “reprofessionalize” principals and assistant principals became an important component of the state’s school improvement plans (Matthews, et al., 2008, p. 185). In addition, it was recognized that the inclusion of teachers and principals in school improvement plans was central to the process. This led to the development of programs for leaders throughout Victoria that attempted to build leadership capacity within schools. These programs were characterized by Matthews and colleagues (2008) as “well designed and comprehensive” (p. 204) featuring a model of leadership development that is “at the cutting edge” and within a reform process that the researchers considered “coherent” (p. 205). While the initiatives put in place in Victoria still have challenges to deal with such as addressing achievement gaps, Matthews and colleagues expressed the belief that the state’s reforms and leadership development programs have “momentum” and at their current juncture, concentrating on sustainability is a critical next step (2008, p. 207).

Interpretations across case studies. Throughout the case studies that were included in the OECD volume on school leadership, the researchers portrayed a sense of clarity in their visions for school reforms that the countries and regions were implementing. In Victoria, Australia for example, Matthews, et al. (2008) identified the

coherence of the state's reform process as one of the most notable strengths of the state's leadership development strategy. The importance of clarity in education policy implementation is supported by Cohen, Moffitt and Goldin (2007) who found that the "difficulty of implementing ambitious policies is eased or compounded by their relative clarity or ambiguity" (p. 528).

Characteristics of distributed leadership practices were observed in the case studies. Hargreaves, et al. (2008) in their examination of Finland describe how Finland reconceptualized leadership practices within the country, including a distribution of leadership practices as a means to address the education challenges that the country was facing. Distributed leadership, showcased as an important component of both sustainable leadership (Hargreaves & Fink, 2006) as well as part of the theory-in-action known as the Fourth Way (Hargreaves & Shirley, 2009), has been characterized as an effective school change mechanism as it draws change *from* the everyday knowledge and capacities of staff rather than driving reforms *through* them" (Hargreaves & Shirley, 2009, p. 96).

All of the countries involved in the aforementioned case studies were facing challenges in determining and executing better ways to educate their populations. As a result, all of the five countries and regions examined have included school leadership as a centerpiece in their school reform movements. Though the methods with which they built leadership capacity differed, using leadership as a vehicle for school improvement was very much the same.

This commonality across the examined countries of embedding leadership policies in the context of school reform is reminiscent of the analogy presented by Levin

(1998); that of education policy transfer being like the spread of diseases. In the field of epidemiology, it “is very difficult to predict just who will catch what and with what degree of severity” which Levin argues is similar to education policy that is “taken up in many settings, the actual commitment to and impact of the changes varies widely” (Levin, 1998, p. 138). While Levin is critical that the result of this is often reforms that are transferred without consideration of context, this does not appear to be the case with the present case studies described, though as will be discussed later, these cases are considered to be exemplars and their successful use of decentralization may not accurately reflect how decentralization and changes in leadership policy have been executed in other countries.

Implications for policy and research. Student achievement was a central concern in each of the countries’ case studies. However, within these particular studies there were not any explicit connections examining the relationship between leadership practices and decentralization made. If improving school equity and student achievement really is “essential and urgent across countries” (Hargreaves, et al., 2008, p. 101), then considering the relationship that student achievement has with an increasingly utilized policy approach is important to consider in future research. Another important consideration is that the countries involved in the case studies were not randomly selected. Instead, these countries were purposefully chosen because they are considered “innovative” approaches to systemic leadership (Pont, Nusche, & Hopkins, 2008, p. 9). While in these examples, decentralization and corresponding leadership policies have been portrayed in an almost exclusively positive light, the increase in decentralization of

school policies in many countries has coupled increased autonomy with increased accountability at the school level (Pont, Nusche, & Hopkins, 2008).

As Evans (1996) wrote, “[I]nnovation is at best a two-edged sword... ‘It can worsen the conditions of teaching, however unintentionally, or it can provide the support, stimulation, and pressure to improve’” (p. 113). In terms of decentralization, this aligns with Hudson’s (2007) assertion that due to the importance of education in defining a nation’s identity, as well as the economic implications of a quality education system, it would be unlikely for a country to “willingly abdicate its role” in education (p. 266). Instead, Hudson argues that despite the impressions given off through new governance structures in education, national governments have found other ways of controlling education, such as through the use of standardized testing. An example of this from the OECD case studies involves the English system. While Huber, et al. (2008) described several decentralization policies, including further reliance on the “head teachers,” the researchers described some “support mechanisms” put in place to support the country’s education policies, including “national standards, national testing, school inspection, and accountability measures” (p. 115). The result for head teachers in the country was that their job became considerably more “demanding and challenging” (Huber, et al., 2008, p. 114), thereby reinforcing Evans’ conceptualized double-edged sword. Decentralization coupled with greater government accountability may stand in direct contrast to what Hargreaves and Shirley (2009) describe in *The Fourth Way*, where the authors envision releasing “teachers from the tightened grip of government control” and instead reducing

their autonomy from other “bottom-up” level stakeholders, such as parents and the community (p. 71).

Conclusions on international education policy and decentralization. In an increasingly interconnected world, it is vital that we are able to learn and depend on each other—this is the call of the Fourth Way (Hargreaves & Shirley, 2009). This is coupled with the idea that, if globalization of educational reforms really is, as Astiz, Wiseman and Baker (2002) describe, a “potent force acting on how national school systems develop and operate” (p. 66), that it is important to examine decentralization and leadership policy further. Within future research, this should be done not just in countries where it has been found to work the best, but also must include examinations to better understand how decentralization and leadership policies function everywhere else.

Summary of the Literature Review

The “notoriously perplexing and enigmatic phenomenon” that is leadership (Allix & Gronn, 2005, p. 181), has become embedded in policy discussions of school improvement (York-Barr & Duke, 2004). School leadership practices are now seen as a vital component of school reform. In addition, internationally, school leadership has become a policy priority in many countries, and has led to a decentralization of educational decision making (Pont, Nusche, & Moorman, 2008). This has sprung from growing concern for quality of education and student achievement (Pont, Nusche, & Moorman, 2008), indicating a belief that decentralization is part of the solution. However, empirical studies that examine leadership practices, and especially leadership

practices and the relationship with student achievement, have been characterized as “conceptually and methodologically challenging” (Pont, Nusche, & Moorman, 2008, p. 34).

In their book, *The Fourth Way*, Hargreaves and Shirley (2009) highlight the importance of leadership in educational reform:

Leadership is always important. At great social turning points, it is more important than ever. At times like these, the leadership we need is not leadership that turns us against others or holds us back in awe. It is leadership that lifts us up and turns us around together in pursuit of a common cause that expresses and advances our humanity (p. 98).

Considering the importance of leadership practices in modern educational improvement efforts, as well as what can be learned from the previous literature on effective leadership, student achievement and decentralization, this study hopes to build upon prior research to provide insights for educators, researchers and policymakers alike.

It addresses limitations in the leadership and student achievement literature by taking an international approach, examining the relationship between school leadership characteristics and student achievement at a secondary level in both reading and mathematics, using a direct model. While the relationship between school leadership practices and achievement has been examined in different countries, the current literature has yet to include an examination of leadership practices and achievement in a comparative international context. This is particularly important since, while within their meta-analysis Witziers and colleagues (2003) found that the relationship between school leadership practices and student achievement is stronger in the United States than in other countries, multiple countries have not been compared within the same study. In addition,

variations by grade level have been found in the relationship between leadership practices and achievement, with Witziers, et al., (2003) concluding that there is not a relationship between school leadership practices and student achievement at the secondary level. On the other hand, Miller and Rowan (2006) found a statistically significant positive relationship between teacher control and achievement in both mathematics and reading at the secondary level. Both math and reading are examined in this study, the relationship between school leadership practices and both of these subjects have been found to be statistically significant and non-significant (for example see: Leithwood & Jantzi, 2006; Leithwood, et al., 2006; Miller & Rowan, 2006). This study utilizes a direct model of examining the relationship between student achievement and school leadership characteristics. While Witziers, et al. (2003) recommended indirect models over direct models based on the results of their meta-analysis, studies conducted since have found a relationship between these two constructs using direct models (for example, Miller & Rowan, 2006; Gordon & Seashore Louis, 2009). In addition, Nettles and Herrington (2007) suggested that in view of the evolution of the role of school principal in recent years, revisiting the relationship between school-level leadership practices and student achievement using direct models is justified.

While variations in the types of leadership discussed in the literature is not a limitation that is specifically addressed in this dissertation, the type of leadership examined, decision making at the school-level, has not been widely explored in the examined studies. Though some of the studies did include decision-making in their indicators of leadership, the results of those studies—like the rest of the studies

examined—were mixed as to whether they found a statistically significant relationship (for example, see Gordon & Louis, 2009; Miller & Rowan, 2006). The present study uses methods from previous literature to inform the current design, with the goal of providing additional insights to the school leadership field.

The present study addresses limitations in the decentralization and school leadership literature by examining the relevant policies not only for high-performing countries such as Finland, but also countries that have not been considered innovative and successful. To the extent that the OECD leadership policy reports allow, leadership practices are not considered in a vacuum, but also in light of other policies taking place in the country, particularly student testing and accountability requirements. In addition, unlike the OECD case studies, in the present study, student achievement is not just a peripheral component, but rather decentralization and leadership policies are explicitly considered alongside the relationship between school leaders and student achievement.

This chapter provided an introduction to the school leadership literature, as well as the literature related to leadership, student achievement and decentralization policies internationally. These topics are extremely timely considering that in an attempt to meet the evolving needs of modern society, many countries are adapting their education systems, resulting in new and ever-changing roles for their school leaders (Pont, Nusche, & Moorman, 2008).

The present study provides an important contribution to the field, because while school leadership has been found to have the potential to affect a number of facets of education (Pont, Nusche, & Moorman, 2008), the current reality reflects that leadership is

often an afterthought (Hargreaves, 2009). Additionally, previous research has demonstrated a continued need to examine the relationship between leadership practices and achievement, as there has not yet been a large-scale study on the subject of school leadership and student achievement that policymakers feel is appropriate to use in informing educational policy and practice (Pont, Nusche, & Moorman, 2008). Therefore, a better understanding of the relationship between student achievement and policies could prove to be an important asset to policymakers. The methodology used in addressing the goals of this study is presented in detail in the following Chapter Three.

Chapter Three

The overarching purpose of this study is to achieve a clearer picture of the relationship between policies regarding school leadership at the country level and student achievement. In this chapter, the methodology used in addressing the following research questions is discussed:

Research Question #1: To what extent do the educational policies across the different countries allow for school personnel to take on leadership roles?

Research Question #2: Within each country, what is the relationship between school-level control of decision making and student mathematics and reading literacy achievement on the 2006 PISA assessment?

Research Question #3: What are the patterns that exist between a country's policies towards school-level decentralization on the one hand and the association between school-level decision making and student achievement on the other?

The discussion of the methodology used to address these questions is divided into four sections. The first includes a summary of the data that is analyzed, the 2006 PISA International Database. Second, a rationale for using mixed-methods research is presented. Thirdly, there is a description of the qualitative and quantitative data analysis procedures that are used. Finally, the fourth section details the limitations of the study.

2006 PISA International Database

Target population. The purpose of the PISA study, which is considered part of a “collaborative effort” among OECD countries, is to provide member countries with

information about the outcomes of their education systems based on common policy interests (Organization for Economic Cooperation and Development, 2006b, p. 3).

Bearing in mind the international context and differences in education systems among participating countries, the PISA study is “forward looking” in that it is not meant to assess students’ mastery of a particular curriculum, but rather, the study examines how prepared students are to “meet real-life challenges” (Organization for Economic Cooperation and Development, 2009b, p. 20).

The target student population for PISA is age-based, specifically 15 year olds.

PISA defines its target population as the following:

The desired base PISA target population in each country consisted of 15-year-old students attending educational institutions located within the country, in grades 7 and higher. This meant that countries were to include (i) 15-year-olds enrolled full-time in educational institutions, (ii) 15-year-olds enrolled in educational institutions who attended on only a part-time basis, (iii) students in vocational training types of programs, or any other related type of educational programs, and (iv) students attending foreign schools within the country (as well as students from other countries attending any of the programs in the first three categories). It was recognized that no testing of persons schooled in the home, workplace or out of the country would occur and therefore these students were not included in the international target population (Organization for Economic Cooperation and Development, 2009b, p. 64).

As the goal of PISA is to examine students to assess the extent that they have acquired knowledge and skills considered to be essential for full participation in society, the PISA assessment is offered to 15 year olds in particular because they are close to the end of their compulsory school years (Program for International Student Assessment, 2007).

According to the OECD, school enrollment at the level assessed is “close to universal” in

most of the participating OECD countries (Organization for Economic Cooperation and Development, 2009b, p. 20).

Sample design. PISA uses a two-stage stratified sampling design in which students who are selected through a two-step sampling process. The first step involves the selection of schools. A nationally representative list of all eligible schools containing 15 year olds is produced for each individual country. To improve precision, prior to sampling, schools are grouped by explicit strata, which are mutually exclusive groups used to improve the precision of sampling-estimates (Organization for Economic Cooperation and Development, 2009b). Explicit stratification variables differ based on country. After the schools have been grouped in to explicit strata, these schools are randomly sampled with probability proportional to size (Turner, 2006). This means that the probability of being selected is a proportional to a measure of size—in this case the number of eligible 15 year old students that are enrolled in the school (Organization for Economic Cooperation and Development, 2009b).

The second step in the PISA sampling process is the selection of students. Within each sampled school, a list is produced of all 15 year old students. Each country determines a target cluster size, which is typically set at thirty five students. If the list of 15 year old students in a particular school is greater than the target cluster size, then students are selected with equal probability, while if the list is smaller than the target cluster size, all 15 year old students within the school are selected to participate (Organization for Economic Cooperation and Development, 2009b).

Ultimately, this two-stage sampling method produces a sample that is representative of the PISA International Target population (Adams & Wu, 2002). However, to ensure valid sampling estimates, PISA has standards regarding coverage of the PISA international target population, accuracy and precision of sampling, and school response rates (Organization for Economic Cooperation and Development, 2009b). In terms of coverage of the PISA international population, there are limitations set on exclusion rates--which can occur both at the school level or the individual level. Acceptable within-school level exclusions include intellectually disabled students (mental or emotional disability), functionally disabled students (physically disabled and unable to take assessments as a result), students with limited abilities to speak the language of the assessment, or other nationally-defined within-school exclusions (Organization for Economic Cooperation and Development, 2009b). A school-level exclusion would take place if the school enrolls students who meet the aforementioned within-school exclusions (Organization for Economic Cooperation and Development, 2009b). Overall, PISA determined that the within-country exclusion rate has to be below 5% for any participating country.

In order to achieve desired levels of accuracy and precision in their sample estimates, PISA set a minimum number of schools and students to be selected within participating countries. For the 2006 administration, a minimum of 150 schools was sampled in each country. If a particular country did not have more than 150 schools, then all of their schools were selected to participate (Organization for Economic Cooperation and Development, 2009b). Additionally, the OECD required a minimum of 4,500 total

students assessed within each country. Thus, if the target cluster size in any participating country was set to be lower than the typical 35 students, then more schools were required to participate. Further, the target cluster size for any participating country could not be smaller than 20 students, in consideration of the accuracy required in computing between- and within-school variance estimates (Organization for Economic Cooperation and Development, 2009b).

Lastly, response rates are an important consideration in the PISA sampling process. In the initially-selected schools, a participation rate of 85% is required (Organization for Economic Cooperation and Development, 2009b). Schools' response rates are weighted by the number of students in the country's population that are represented by the students sampled from within that selected school (Organization for Economic Cooperation and Development, 2009b). If the response rate for the initially selected schools falls between 65 and 85%, then replacement schools are used to achieve an "acceptable" school response rate (Organization for Economic Cooperation and Development, 2009b, p. 66). Schools with 25-50% student response rates are not included in the calculation of the country's school response rate. Further, a minimum student response rate within selected schools is set at 80%. Student response rates are determined using weights, where each student is weighted by the reciprocal of the probability of their being selected to participate (Organization for Economic Cooperation and Development, 2009b).

Conceptual model. The conceptual framework of the PISA database reflects the complexity that exists when examining the measures and relationships that can

potentially influence student achievement (Organization for Economic Cooperation and Development, 2009b). In place of developing a “new single, encompassing” educational model, the main impetus behind the conceptual framework used in the development of the PISA questionnaire include the vital components of existing models, so as not to overlook what are considered essential dimensions in the field during PISA data collection (Organization for Economic Cooperation and Development, 2009b, p. 3). The inclusion of these components also has to be tempered by the constraints of the PISA design, including considerations of the purpose of the assessment, the way students are sampled, the age-based target population and the fact that the design of PISA does not allow for the direct analysis of school-effects longitudinally (Organization for Economic Cooperation and Development, 2009b). The schematic representation of the developed conceptual framework for the PISA assessment database is featured in Figure 3.1.

Antecedents	Processes	Outcomes
Level of the education system		
Macro-economic, social, cultural and political context	Policies and organization of education	Outcomes at the system level
Characteristics of educational institutions	Institutional policies and practice	Outcomes at the institutional level
Level of instructional units		
Characteristics of instructional units	Learning environment	Outcomes at the level of instructional units
Level of individual learners		
Student background and characteristics	Learning at the individual level	Individual learning outcomes

Figure 3. 1: PISA’s “Conceptual Grid of Variable Types”

Source: Organization for Economic Cooperation and Development, 2009b, p. 52.

The first component of the conceptual framework takes into account the multi-layered structure that is the reality of national education systems (Organization for Economic Cooperation and Development, 2009b). Specifically PISA identifies four levels: (a) “the education system as a whole” (b) “the educational institutions” (such as schools); (c) “the instructional setting and the learning environment within the institutions” (such as the classrooms and courses students take); and (d) “the individual participants in learning activities” (the students) (Organization for Economic Cooperation and Development, 2009b, p. 51).

The second component of the conceptual framework groups the four levels of the education system (whole systems, institutions, classrooms and students) into three groups. The first, antecedents, are “those factors that affect policies and the way instruction is organized, delivered and received” (Organization for Economic Cooperation and Development, 2009b, p. 52). The second, process, are the policies or processes that shape outcomes, which are reflected in the third grouping, indicators (Organization for Economic Cooperation and Development, 2009b).

As displayed in Figure 3.1, at the level of the education system, countries’ policies are constrained by the context in which they exist (economic, cultural, social, political), and results at this level, according to the OECD are “not only aggregated learning outcomes but also equity-related outcomes” (Organization for Economic Cooperation and Development, 2009b, p. 52). At the level of the educational institution, the antecedents are the characteristics of the educational provider, while the outcomes are aggregated at the level of the institution and can be used to examine differences based on

subgroups within the institution (Organization for Economic Cooperation and Development, 2009b). At the level of instructional units, the antecedents are the characteristics of classrooms/courses and the outcomes are also aggregated. At the lowest level, that of the individual learner, personal characteristics (i.e., gender) and home background characteristics (i.e., parental education level) are the antecedents for individual students' cognitive and affective learning outcomes (Organization for Economic Cooperation and Development, 2009b).

Assessment instruments. The following passage from the *PISA 2006 Technical Report*, presents a general description of the material evaluated by the PISA assessment:

The PISA assessments take a literacy perspective, which focuses on the extent to which students can apply the knowledge and skills they have learned and practiced at school when confronted with situations and challenges for which that knowledge may be relevant. That is, PISA assesses the extent to which students can use their reading skills to understand and interpret the various kinds of written material that they are likely to meet as they negotiate their daily lives; the extent to which students can use their mathematical knowledge and skills to solve various kinds of numerical and spatial challenges and problems; and the extent to which students can use their scientific knowledge and skills to understand, interpret and resolve various kinds of scientific situations and challenges (Organization for Economic Cooperation and Development, 2009b, p. 20).

Therefore, the purpose of the PISA assessments is not to assess students' mastery of a particular curriculum, but rather, the study examines students' ability to apply what they have learned in school (Organization for Economic Cooperation and Development, 2009b). Here, the term "literacy" is used to "encapsulate this broader concept of

knowledge and skills” (Organization for Economic Cooperation and Development, 2006a, p. 7).

The PISA assessments are given to students in participating countries on a three year cycle. Each cycle focuses on students’ literacy competencies in one of three domains: reading mathematics, and science. During the 2006 administration, the focus was on science literacy, considered the major domain. However mathematics and reading literacy, the minor domains, were also assessed that year (Organization for Economic Cooperation and Development, 2009b).

Testing booklets. It is important to note that no student participating in a PISA assessment takes all of the items that are administered during that administration. Rather, in 2006, while there was approximately 390 minutes worth of test items, each individual student was only responsible for taking approximately two hours worth of material (Organization for Economic Cooperation and Development, 2006a). This was accomplished through the use of a set of specially constructed test booklets. During the 2006 administration, the assessed items were distributed across 13 booklets. These booklets were composed of clusters of items. In 2006, there were also 13 clusters—seven science, two reading, and four mathematics. Each cluster constituted 30 minutes worth of student testing time (Organization for Economic Cooperation and Development, 2009b). Each booklet was composed of four clusters in order to achieve the two hours’ worth of student testing time. Not all booklets contained a reading and a mathematics cluster. Accordingly, in cases where students did not receive a mathematics or reading block in

their booklet, mathematics and reading ability estimates were still imputed for these students.

To ensure representative coverage of all items across all types of test takers, PISA uses a balanced incomplete block (BIB) design to rotate their test booklets. This is considered a “fully linked design” (Organization for Economic Cooperation and Development, 2009b, p. 29). Within the BIB design, in the 2006 administration each of the clusters appeared in each of the four possible positions within a booklet once, which guaranteed that each test item appeared in four of the test booklets (Organization for Economic Cooperation and Development, 2009b). Each of the 13 booklets must be taken by a sufficient number of students in order for estimates to be made of the achievement levels on all items by students in each country, as well as for relevant sub-groups within each country (Organization for Economic Cooperation and Development, 2006a).

Definitions of content domains. Despite the fact that they were considered the minor domains in the 2006 administration, this dissertation will be using students’ scores on the mathematics and reading literacy portions of that year’s PISA assessment in the quantitative analysis. These two subjects were chosen in particular because literacy and numeracy have been identified by numerous international governments as education policy priorities, and as Hargreaves and Shirley (2009) critique, in many societies the “locus of change is very often only tested literacy and numeracy” (p. 77). Additionally, previous research has found that mathematics achievement is more heavily influenced by teacher and school characteristics than reading achievement, thus it would be interesting

to see if these differences are also preset when examining a relationship with leadership practices (for example, see Nye, Konstantopoulos, & Hedges, 2004).

The PISA reading literacy domain is defined by the following statement:

“*Reading literacy* is understanding, using and reflecting on written texts, in order to achieve one’s goals, to develop one’s knowledge and potential and to participate in society” (Organization for Economic Cooperation and Development, 2006a, p. 46).

According to the OECD, this definition goes beyond just decoding, and also encompasses “understanding, using and reflecting on written information for a variety of purposes” (Organization for Economic Cooperation and Development, 2006a, p. 46). Both continuous (such as narrative, and expository texts) and non-continuous (such as graphs, diagrams, and maps) texts were included on the 2006 assessment. Regardless of text type, students were expected to demonstrate their proficiency to carry out each of the following five reading processes:

- Retrieve information
- Form a broad general understanding
- Develop an interpretation
- Reflect on and evaluating the content of a text
- Reflect on and evaluating the form of a text (Organization for Economic Cooperation and Development, 2006a, p. 49)

Three subscales were derived from these five reading processes. The first, “Interpreting texts” accounted for 50% of the PISA reading literacy assessment questions. The second largest category, “Retrieving information” accounted for 29% of the

questions. Finally, the subscale of “Reflection and evaluation” accounted for 21% of the reading literacy assessment questions. Additionally, the content underlying the three process subscales were further broken down by item type (multiple choice, complex multiple-choice, open-constructed response, closed-constructed response). This is presented in Table 3.1. During the 2006 administration, a total of 31 reading items were included on the assessment.

Table 3. 1: *Distribution of reading literacy tasks by reading process and item type*

Process	Percentage of multiple choice items	Percentage of complex multiple choice items	Percentage of closed-constructed response items	Percentage of open-constructed response items	Total
Retrieving information	—	4	14	11	29
Interpreting texts	29	4	7	11	50
Reflection and evaluation	—	—	—	21	21
Total ¹	29	7	21	43	100

¹May not always add up to total due to rounding.

Source: Organization for Economic Cooperation and Development, 2006a, p. 53.

As presented in the table, the largest item type percentage was that of open-constructed response (43%) followed by multiple choice (29%), closed-constructed response (21%) and complex multiple choice (7%). A greater percentage of the multiple choice items were used to assess the process of interpreting texts (29%), while there were more constructed response items associated with the retrieving information (25%) and reflection and evaluation processes (21%).

The other content area examined on the 2006 PISA assessment that will be included in the quantitative analysis portion of this dissertation is that of mathematics literacy. PISA defines the domain of mathematics literacy as the following:

An individual's capacity to identify and understand the role that mathematics plays in the world, to make well-founded judgments and to use and engage with mathematics in ways that meet the needs of that individual's life as a constructive, concerned and reflective citizen (Organization for Economic Cooperation and Development, 2006a, p. 12).

Thus, this definition reflects an interest in how well students are able to use the mathematics knowledge they have learned in school to solve tasks similar to those which they would encounter in real-life situations. However, due to the complexities associated with evaluating higher-order thinking skills, this domain is particularly difficult to assess, especially in a standardized, timed setting (Organization for Economic Cooperation and Development, 2006a).

In 2006, PISA's mathematics literacy domain was separated into three components: context, content, and competencies. In terms of context, mathematics is appropriate in a number of different situations. Specifically, the PISA framework identified four situation types that were evaluated on the mathematics literacy portion of the exam: personal, educational/occupational, public and scientific (Organization for Economic Cooperation and Development, 2006a, p. 81). Therefore, context takes into account the setting of an item within a certain situation (Organization for Economic Cooperation and Development, 2006a).

The content component aimed to reflect what students are typically taught within school curricula (Organization for Economic Cooperation and Development, 2006a). There were four strands within the content component, including: “space and shape,” “change and relationships,” “quantity” and “uncertainty” (Organization for Economic Cooperation and Development, 2006a, p. 82). Four divisions were created in order to both make sure that there was sufficient coverage across content domains, while not detracting from the focus of real-world scenarios (Organization for Economic Cooperation and Development, 2006a).

The third component of the mathematics literacy domain was that of competencies. In addition to being able to perform mathematics across a number of content areas and in multiple contexts, the PISA framework maintained that competencies were also necessary, regardless of level of mastery of the material (Organization for Economic Cooperation and Development, 2006a). These competencies are defined as: “thinking and reasoning,” “argumentation,” “communication,” “modeling,” “problem posing and solving,” “representation,” “using symbolic, formal and technical language and operations,” and “use of aids and tools” (Organization for Economic Cooperation and Development, 2006a, p. 97).

While PISA did not formally test these competencies individually, as there is significant overlap among them, they instead assessed three clusters of competencies (Organization for Economic Cooperation and Development, 2006a). The first is the “reproduction” cluster, which involved reproducing memorized mathematical knowledge (Organization for Economic Cooperation and Development, 2006a, p. 98). The second is

the “connections” cluster, which moved beyond the reproduction cluster by taking familiar settings, but introducing problem solving that was not typically routine for the student to be conducting (Organization for Economic Cooperation and Development, 2006a, p. 101). The third cluster, “reflection,” built further on the connections cluster by providing situations that were even less familiar to students and thus requiring further “reflection in order to solve the problems (Organization for Economic Cooperation and Development, 2006a, p. 103).

As with the PISA reading literacy assessment, mathematical literacy was also assessed using a combination of items with open-constructed response, closed-constructed response and multiple-choice items. However, in contrast to reading literacy, in the mathematics literacy portion there were approximately equal numbers of each of the item types used (Organization for Economic Cooperation and Development, 2006a). Additionally, mathematics testing time was uniformly distributed across the four content areas (space and shape, change and relationships, quantity and uncertainty), and the four situations described in the framework (personal, educational/occupational, public and scientific). Also, the proportion of items representing the three competency clusters (reproduction, connections and reflection) was approximately 1:2:1 (Organization for Economic Cooperation and Development, 2006a, p. 114). According to the *2006 PISA Framework*, previous administrations have demonstrated that the multiple-choice type is generally most appropriate for items measuring the reproduction and connections competency clusters (Organization for Economic Cooperation and Development, 2006a).

During the 2006 administration, a total of 48 mathematics items were included on the assessment.

Across both mathematics literacy and reading literacy, the items were marked differently based on item type. For the multiple choice items, PISA used dichotomous scoring. For all of the other item types, PISA used partial credit models to take into account partially correct responses (Organization for Economic Cooperation and Development, 2006a).

Scaling. To derive individual scores for students who took the PISA assessments, the item response theory (IRT), in the form of the Rasch model, was used. According to the PISA Technical Report for the 2006 administration, variations of this model were used in three steps: national calibrations, international scaling, and student score generation (Organization for Economic Cooperation and Development, 2009b, p. 146). According to the *2006 PISA Framework*, the national calibrations were completed for each individual country using unweighted data, the results of which used to determine item quality (Organization for Economic Cooperation and Development, 2006a). International scaling involved setting international item parameters using IRT. This was done using a subsample of students, called the “international calibration sample,” which in 2006, consisted of 15,000 students, made up of 500 students that were randomly selected from 30 participating OECD countries (Organization for Economic Cooperation and Development, 2009b, p. 152).

Plausible values. Since students did not take every item on the assessment due to time and testing constraints, in order to determine the individual student scores, “student

proficiencies (or measures) are not observed; they are missing data that must be inferred from the observed item response” (Organization for Economic Cooperation and Development, 2009b, p. 153). In order to address this, PISA used Plausible Values (PV). PV’s are used as estimates of student ability when items are sampled and thus, not all test takers receive the same items (Wu, 2005). Therefore, since students’ responses on items that they did not take are unknown, PISA uses the imputation methodology of PV’s which results in “a selection of likely proficiencies for students that attained each score” (Organization for Economic Cooperation and Development, 2009b, p. 153). Five plausible values were randomly drawn from the marginal posterior distribution (Organization for Economic Cooperation and Development, 2009b). In other words, one employs random draws from the estimated posterior distribution of a student’s ability parameter (θ). Ultimately, PV’s provide “not only information about a student’s *ability estimate*, but also the uncertainty associated with this estimate (Wu, 2005, p. 116). In the present study, student achievement is represented by the five plausible values for each subject. For each subject, the HLM software takes all five plausible values into account when estimating models with individual student achievement as the criterion (Bryk, Raudenbush & Congdon, 2008). HLM conducts a separate analysis for each plausible value, then the program calculates the average of the parameter estimates from the separate analyses and computes the standard errors (Bryk, Raudenbush & Congdon, 2008).

International benchmarks. In all tested subjects, proficiency levels were developed by content experts, and used to describe the proficiencies of students that fall

within each level. These proficiency levels were established so that it was “possible not only to rank students’ performance but also to describe what students can do” (Program for International Student Assessment, 2007, p. 285).

For reading literacy, the overall results were “summarized” on a single composite reading literacy scale, with a mean of 500 and a standard deviation of 100 (Organization for Economic Cooperation and Development, 2006a, p. 56). There were five proficiency levels developed in reading literacy. The cut-offs for these proficiency levels were the following: Level five, scores higher than 625.6 points; Level 4, scores higher than 552.9 but lower than or equal to 625.6 points; Level 3, scores higher than 480.2 but lower than or equal to 552.9 points; Level 2, scores higher than 407.5 but lower than or equal to 480.2 points; and Level 1, scores higher than 334.8 but lower than or equal to 407.5 points (Program for International Student Assessment, 2007). If a student scored below a 334.8, it is accepted they did not demonstrate proficiency in the content that PISA reading literacy purports to measure. Internationally, in 2006 7.4% of students who participated in the PISA assessment fell below Level 1 on the reading literacy portion. The distributions of student performance based on proficiency levels can be compared across countries (Program for International Student Assessment, 2007).

The mean performance of students on the PISA reading literacy section of the 2006 assessment can also be compared across countries. In 2006, the international average for reading literacy was 492 score points. The country with the highest mean achievement in reading literacy during the 2006 assessment was Korea, while the country

with the lowest mean achievement was Kyrgyzstan. Table 3.2 presents the average student achievement for the countries that are included in this dissertation.

Table 3. 2: Mean Reading Literacy Scores by Country

Country	M	S.E.
Korea	556	(3.8)
Finland	547	(2.1)
New Zealand	521	(3.0)
Ireland	517	(3.5)
Sweden	507	(3.4)
Netherlands	507	(2.9)
Denmark	494	(3.2)
Slovenia	494	(1.0)
Austria	490	(4.1)
Norway	484	(3.2)
Hungary	482	(3.3)
Portugal	472	(3.6)
Spain	461	(2.2)
Chile	442	(5.0)

Source. Program for International Student Assessment, 2007, p. 296.

Note. These are the reported means for all of the participating schools within the country.

As with reading literacy, the mean of the overall mathematics literacy scale was also set to 500. However, while reading literacy had five levels of proficiency, there were six levels of proficiency developed for student performance on the mathematics literacy portion. The cut-offs for these proficiency levels were the following: Level six, scores higher than 669.3 points; Level five, scores higher than 607.0 but lower than or equal to 669.3 points; Level 4, scores higher than 544.7 but lower than or equal to 607.0 points; Level 3, scores higher than 482.4 but lower than or equal to 544.7 points; Level 2, scores higher than 420.1 but lower than or equal to 482.4 points); and Level 1, scores higher

than 357.8 but lower than or equal to 420.1 points (Program for International Student Assessment, 2007). As was the case with reading, if a student scored below a 357.8, it is accepted they did not demonstrate proficiency in the content that PISA mathematics literacy purports to measure. Internationally, in 2006, 7.7% of students who participated in the PISA assessment fell below Level 1 on the mathematics literacy portion.

The mean performance of students on the PISA mathematics literacy section of the 2006 assessment can also be compared across countries. In 2006, the international average score for mathematics literacy was 498 points (0.6). The country with the highest mean achievement in mathematics literacy was Chinese Taipei, while the country with the lowest mean achievement was Kyrgyzstan. Table 3.3 presents the average student mathematics literacy achievement for the countries that will be included in this dissertation.

Table 3. 3: *Mean Mathematics Literacy Scores by Country*

Country	M	S.E.
Finland	548	(2.3)
Korea	547	(3.8)
Netherlands	531	(2.6)
New Zealand	522	(2.4)
Denmark	513	(2.6)
Austria	505	(3.7)
Slovenia	504	(1.0)
Sweden	502	(2.4)
Ireland	501	(2.8)
Hungary	491	(2.9)
Norway	490	(2.6)
Spain	480	(2.3)
Portugal	466	(3.1)
Chile	411	(4.6)

Source. Program for International Student Assessment, 2007, p. 316.

Note. These are the reported means for all of the participating schools within the country.

Student background questionnaire. In order to collect information on out-of-school measures, students who took the PISA assessment were also given background questionnaires. The student background questionnaire was written in consultation with experts, and pilot tested across all of the participating countries prior to being used in the 2006 PISA assessment. The student background questionnaire was given to all students after they had finished completing the cognitive assessment. This questionnaire consisted of 37 questions, and took students approximately 30 minutes to complete. Items included on the questionnaire examined the following areas of interest:

- Student characteristics such as grade, age, and gender.

- Family background characteristics such as parental education levels, number of books in the home and language spoken at home.
- Learning time, including students' time spent in class and in out-of-school lessons.
- View points on science and science learning, including enjoyment and confidence in science-related subjects, interest in science-related careers, and awareness of environmental issues (Organization for Economic Cooperation and Development, 2009b, p. 58).

School background questionnaires. To provide context, a school background questionnaire was administered to all schools selected to participate in the PISA assessment. Similar to the student background questionnaire, the school background questionnaire was developed by experts and pilot tested prior to use in the 2006 administration. This questionnaire, which consisted of 29 questions, was completed by school principals and was estimated to take approximately 20 minutes for principals to complete. The school questionnaire addressed the following components:

- School structure and organization such as enrollment, funding, grade levels in school.
- School staffing and management including the number of teachers and who bears primary responsibility for decision making within the school.
- School resources such as the number of computers in the school, and the principal's perceptions of quality of school resources.

- Accountability and admission processes including the school's admission policies and use of achievement data.
- Teaching of science within the school.
- Opportunities for career guidance at the school (Organization for Economic Cooperation and Development, 2009b, p. 59).

OECD leadership policy reports. During the same time period as the 2006 PISA administration, 22 countries participated in the OECD's country background reports. These reports were profiles on participating countries' leadership policies. The OECD activity on improving school leadership, which included the creation of these background reports, stemmed from a previous report from the OECD which found that quality leadership was necessary for addressing teacher quality issues (Organization for Economic Cooperation and Development, 2006b).

Each background report was completed according to common OECD guidelines. The OECD's specified structure for the reports included information on the national context of schooling within each country, features of a country's school system, and information about the country's school governance and leadership structures. Countries decided whether or not to participate by February 2006, with those who did elect to participate submitting a draft of their finished reports to the OECD by the end of 2006. Each report included the following sections:

- Chapter 1: National context of schooling;
- Chapter 2: Overall description of the school system;
- Chapter 3: School governance and leadership;

- Chapter 4: Enhancing learning and school leadership;
- Chapter 5: The attractiveness of school leaders' role;
- Chapter 6: Training and professional development of school leaders;
- Chapter 7: Conclusions (Organization for Economic Cooperation and Development, 2006b, p. 14).

The national authorities for each of the participating countries were responsible for preparing the individual country background reports (Organization for Economic Cooperation and Development, 2006b). It was up to the participating country to decide whether to write the report themselves or to commission a third party to write it for them (Organization for Economic Cooperation and Development, 2006b). The OECD was granted permission by each participating country to post the reports online for public consumption (Organization for Economic Cooperation and Development, 2009a).

Participating countries. Data from the 2006 PISA International database is used to address the research questions that guide this dissertation research. During the 2006 administration approximately 400,000 total students across 57 countries participated (Program for International Student Assessment, 2007). In addition, around the same time as the 2006 PISA administration, teams from 22 countries also produced leadership policy reports about their country for the OECD. These reports were international profiles on participating countries' leadership policies, and were prepared by organizations within each country, such as the Australian Council for Educational Research or the Swedish National Agency for School Improvement.

However, while 22 countries originally submitted reports, only 14 are included in this dissertation. This is due to the following reasons: first, while Israel is listed as a country that had submitted a report on the OECD's website, there is not currently a report available for public consumption. Secondly, while France participated in writing an OECD leadership policy report, principals in France did not answer the decision making questions in the school questionnaire to be used in the quantitative portion of the analysis. Thirdly, the PISA data file does not differentiate between different countries of the United Kingdom (England, Northern Ireland and Scotland; Wales did not submit an individual policy report). Fourth, while Belgium submitted two separate policy reports (for the Flanders and French Communities), the PISA data file does not allow for differentiation of Belgian students between those two sub-populations. Fifth, none of the Australian schools were differentiated as being public or private in the database.

In light of these restrictions, the remaining participating countries, along with the frequencies of the number of participating schools and students, are included in Table 3.4. This table displays the number of public schools and students that participated in the 2006 PISA assessment by country. For the purposes of this dissertation, private schools were removed from the data file. The percentage of schools that were identified as private differed across countries. These schools tend to be very autonomous, and are typically run as independent private schools as opposed to being part of "private education systems" (Organization for Economic Cooperation and Development, 1995). Therefore, since the purpose of this dissertation is to examine the extent to which the policies of a

country allow for school personnel to take on leadership roles at the school-level, only public schools will be included in the analyses.

As previously mentioned in the inclusion criteria, Table 3.4 consists of the countries which completed both a policy report and the decision-making questions asked on the 2006 PISA school questionnaire, and which were able to be clearly differentiated by country. The frequencies included in the table are the number of schools and students that were included in the quantitative analysis, after private schools and schools missing level-2 variables were excluded. In countries such as Chile and the Netherlands, after excluding private schools and losing schools due to missing data, the number of schools included in the country was greatly reduced. This could have implications for the representativeness of the sample.

Table 3. 4: *Public School and Student Frequencies by Country*

Country	Schools	Students
Austria	146	3767
Chile	46	1243
Denmark	113	2559
Finland	139	4282
Hungary	151	3494
Ireland	56	1465
Korea	83	2729
Netherlands	49	1283
New Zealand	135	3797
Norway	169	4035
Portugal	142	4180
Slovenia	343	6299
Spain	379	10855
Sweden	128	3038

Rationale for Mixed Methods Design

Mixed methods research is considered an important approach for the field of education as it “offers the potential for deeper understandings of some education research questions that policymakers need answered” (Viadero, 2005, para 14). Creswell and Plano Clarke (2007) define mixed methods research as the following:

Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone (p. 5).

From a methodological perspective, Greene, Benjamin and Goodyear (2001) cite Greene and Carcerelli (1997) in making the argument that “clearly, ‘different kinds of methods are best suited to learning about different kinds of phenomena’” (p. 27). According to Greene, et al. (2001) mixing methods must be done purposefully, both to reduce uncertainty and to increase understanding of the issue being examined. Greene and colleagues argue that if mixed methods research is done purposefully, it increases the validity and credibility of the inferences made, leads to more comprehensive findings and in depth understandings of the phenomena being studied, as well as increases perspectives being included in the research.

According to Creswell and Plano Clark (2007), there are four major types of mixed methods designs: the Triangulation Design, the Embedded Design, the

Explanatory Design and the Exploratory Design. This study will utilize the Triangulation Design, and more specifically, the convergence model with this type of design. A graphic representation of the Triangulation Design: Convergence Model is presented in Figure 3.2.

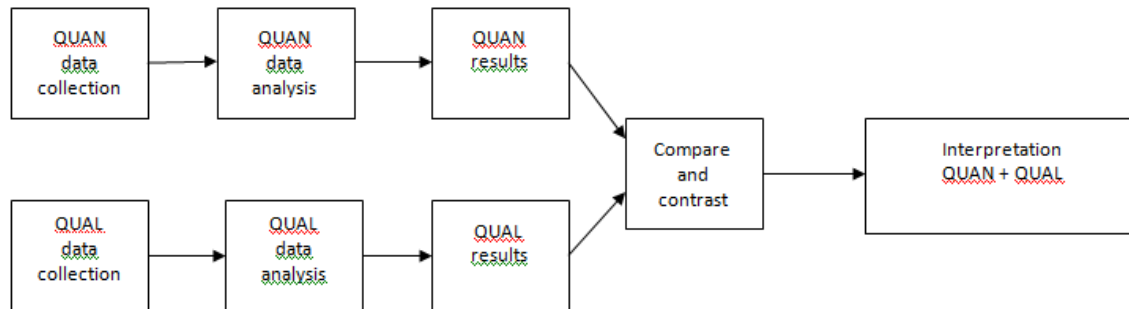


Figure 3. 2: Triangulation Design: The Convergence Model

Source. Creswell & Plano Clark, 2007, p. 63.

With the Triangulation Design, qualitative and quantitative methods are collected within a similar timeframe, and are given equal weight during analysis (Creswell & Plano Clark, 2007). Further, within the convergence model, the qualitative and quantitative data are collected and analyzed separately, then merged during the interpretation phase. The approach used in this study is also supported by Morse's (1991) concept of simultaneous triangulation, where both qualitative and quantitative data are collected with limited interaction between the two types of data, but the findings from each are used to complement one another during interpretation (Burke Johnson, Onwuegbuzie, & Turner, 2007). According to Creswell and Plano Clark (2007), the purpose of using triangulation

is to “end up with valid and well-substantiated conclusions about a single phenomenon” (p. 65).

Data Analysis Procedures

Research question 1: *To what extent do the educational policies across the different countries allow for school personnel to take on leadership roles?* To address the first research question, a qualitative analysis of the OECD country background reports was conducted.

Specifically, this study used a qualitative descriptive method, also referred to as *fundamental qualitative descriptive* to differentiate it from other descriptive approaches, such as grounded theory (Sandelowski, 2000). Qualitative descriptive is a method of naturalistic inquiry, distinguished by the fact that its interpretations are low inference with the twin goals of descriptive and interpretive validity (Sullivan-Bolyai, Bova, & Harper, 2005). According to Sullivan-Bolyai, and colleagues (2005), this means that those using this method seek precision in their accounts of the data, which in turn others, such as participants and researchers, would also find accurate.

As Sandelowski (2000) argues, “although no description is free of interpretation, basic or fundamental qualitative description, as opposed to, for example, phenomenological or grounded theory description, entails a kind of interpretation that is low-inference , or likely to result in easier consensus among researchers” (p. 335). While this qualitative descriptive method takes a surface approach of examining data, Sandelowski (2000) contends that it should not be considered superficial, as “there is

nothing trivial or easy about getting the facts, and the meanings participants give to those facts, right and then conveying them in a coherent and useful manner” (p. 336).

In order to analyze data using the qualitative descriptive method, a qualitative content analysis was used. This type of analysis relies on the use of coding systems which are developed to correspond with the data to be analyzed (Sullivan-Bolyai, Bova, & Harper, 2005). Qualitative content analysis involves examining language with the purpose of classifying text into categories (Hsieh & Shannon, 2005). Specifically, a directed content analysis was utilized. This particular type of content analysis is used when a guiding conceptual framework already exists, which can be used in determining the initial coding scheme (Hsieh & Shannon, 2005).

Directed content analysis is more structured than conventional content analysis, and involves the development of coding categories using previous research or theory, which is in turn used to develop operational definitions (Hsieh & Shannon, 2005). One strategy available to those using directed content analysis, is to immediately begin coding using the predetermined codes (Hsieh & Shannon, 2005). Any data that cannot be coded is later analyzed to determine if additional categories need to be developed. Specifically, as per Downe-Wamboldt (1992), the proceeding eight steps of content analysis will be followed:

1. Selecting the unit of analysis,
2. Creating and defining the categories,
3. Pretesting the category definitions and rules,
4. Assessing reliability and validity,

5. Revising the coding rules if necessary,
6. Pretesting the revised category scheme,
7. Coding all the data and,
8. Reassessing reliability and validity (Downe-Wamboldt, 1992, p. 315).

The qualitative content analysis approach to coding has been used in a number of fields, including psychology, sociology, political science and the health sciences, and it has also been used by researchers in the field of education (for example, see Saenz & Moses, 2010; Silova & Brehm, 2009).

Such qualitative descriptive methods, with corresponding content analysis, are appropriate for the present study because, while no method is entirely free from subjectivity, it is low-inference, and allows for a comprehensive summary of the data (Sandelowski, 2000). This approach allows for the use of data that is structured, as well as for the review of documents, as is the case for the OECD background reports that are analyzed in the qualitative analysis. Additionally, the outcomes of this type of qualitative analysis result in a “straight description of the data organized in a way that ‘fits’ the data” (Sullivan-Bolyai, Bova, & Harper, 2005, p. 128). This goal of objectivity has been demonstrated by previous researchers conducting policy analysis (for example, see Braun et al., 2006).

As previously described, the selected units of analysis are the OECD country background reports. The categories which were developed to code the OECD background reports are displayed in the sample coding form, which is presented in Table 3.5. The definitions for these categories follow.

Table 3. 5: Sample Coding Form

Category	Ranking		
	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels			
Empowered Actors			
Function and Mandate			
Rights and Responsibilities			
Monitoring/Accountability			

The first level of categories is based on the work of Meyer (2009). In his article, “Saying What We Mean, and Meaning What We Say-Unpacking the Contingencies of Decentralization,” Meyer (2009) used organizational theory to update the theory of decentralization. He demonstrates decentralization to be a multidimensional concept, which can vary with respect to both situation and function (Meyer, 2009). Due to these variations, Meyer argues that it is important to consider the situational and functional contingencies of decentralization. As Meyer states, “to move beyond the conceptual and practical ambiguities, practitioners, researchers, and policymakers must henceforth insist that a minimum number of contingencies are spelled out in devising decentralization reforms” (2009, p. 468). These contingencies, as described by Meyer (2009) were used as the first set of categories that will be examined in the OECD country background reports, and include the following: administrative levels, empowered actors, function and

mandate, rights and responsibilities, and monitoring/accountability. A presentation of these contingencies is provided in the following Figure 3.3.

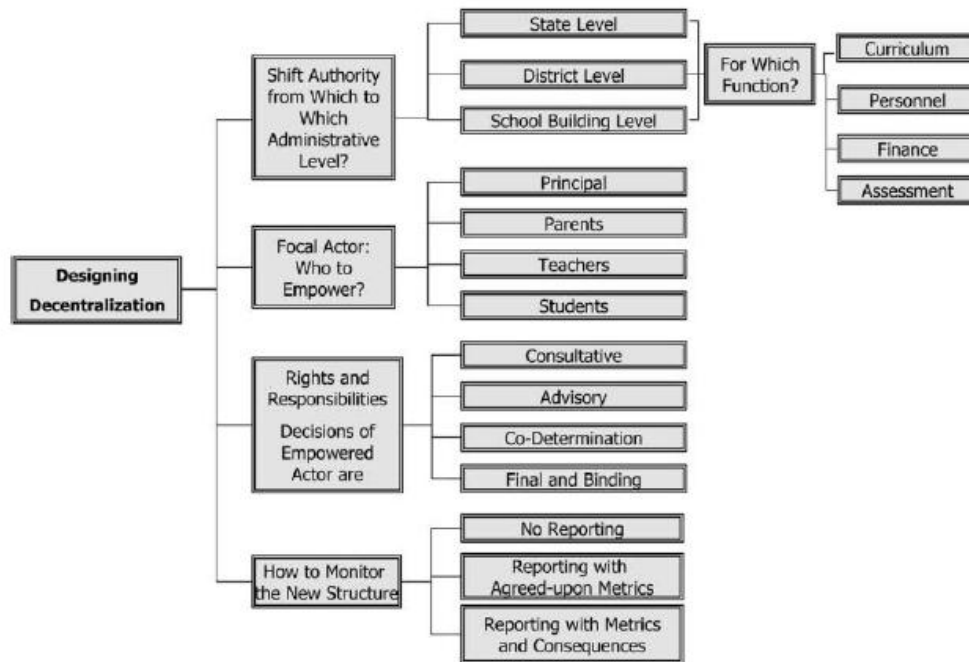


Figure 3. 3: Contingencies of Decentralization

Source. Meyer, 2009, p. 469.

The category of “Administrative levels” concerns where the shift of power will be occurring. Meyer (2009) makes the argument that there are differences in decentralization if the reforms involve a shift of power from the centralized national level to a provincial level, rather than, for example, a larger district to a smaller district. According to Meyer, “these changes trigger dynamics that differ greatly in how they affect the behavior of constituent groups and actors” (2009, p. 469), thus the administrative level of the reform must be considered.

The category of “Empowered actors” answers the question, “Which actor groups are to be empowered by the decentralization?” (Meyer, 2009, p. 469). According to Meyer, it is important to identify the groups that are granted decision-making authority through decentralization reform. These groups include principals, teachers, parents, students, community members, or a combination of these groups.

The “Function and mandate” category concerns the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment). As Meyer argues, “the proverbial ordering of the toilet paper is quite obviously less meaningful than the ability to decide how many discretionary dollars to allocate to alternative uses in professional development, curriculum, personnel or budget” (2009, p. 470). Meyer also maintains that differences in authority must be considered in tandem with differences in expertise for completing the specific functions.

The category of “Rights and responsibilities” addresses the types of decisions that actors are allowed to make, meaning whether the decisions are final and binding versus consultative or advisory (Meyer, 2009). In addition to these rights, Meyer argues that there must also be clearly stated responsibilities that come with the added influence. Meyer asserts that “leaving these issues undefined or vague can cause endless discussions on procedural issues rather than substance” (2009, p. 470), thus they should ideally be detailed in decentralization policies.

The last category, “Monitoring/Accountability” refers to monitoring and accountability rules accompanying decentralization reforms as a means of examining how the model is working (Meyer, 2009). According to Meyer, this is especially

important in functions such as the financial aspects of decentralization, where he argues that “strong transparency requirements are imperative” (2009, p. 470).

Using both previous research on decentralization and the work of Meyer as the basis, a paradigm was developed which was used in the coding of the qualitative policy documents. This conceptualization of decentralization, created in light of research in the field and reality of the qualitative data available is presented in Figure 3.4.

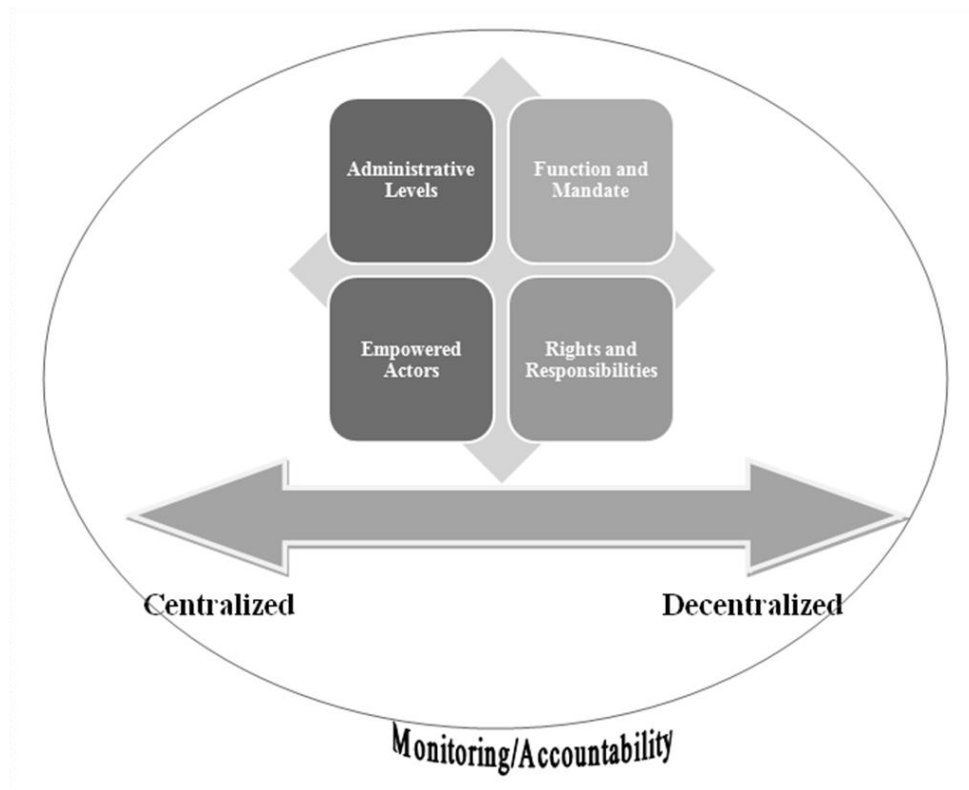


Figure 3. 4: A Paradigm of Decentralization

As shown in Figure 3.4, the components of Meyer’s (2009) contingencies of decentralization are all featured in this paradigm that was used in the qualitative analysis. However, in contrast to Figure 3.3 which featured Meyer’s visual conceptualization, in the present figure there is a continuum between centralization and decentralization, where

any of the components of decentralization may fall. Additionally, while Meyer connected his contingencies together, here the contingencies, shown in the squares in the middle of the diagram, are free standing, and may each fall at different places on the decentralization continuum. This is supported by previous research which found that centralization and decentralization coexist (Pont, Nusche, & Moorman, 2008). Recent literature has identified that conceptualizing decentralization has shifted from an “either/or” notion to an integration of both centralization and decentralization (Meyer, 2009, p. 459-460). Another important departure from the Meyer (2009) model of decentralization and the current paradigm is that within this paradigm, monitoring and accountability are happening around the decentralization process, as opposed to being a component within it. While this is in contrast to Meyer’s diagram in Figure 3.3, this is not a total departure from his model, as he describes that “decentralizing moves should routinely be accompanied by monitoring and accountability rules that help us to know if the new model works” (Meyer, 2009, p. 470). As this explanation implies, monitoring/accountability are not necessarily a component of the decentralization process itself, but rather an oversight of the process. Accordingly, while accountability/monitoring are considered within the qualitative analysis, they were not included in determining ranking, but rather used to provide further context to the individual countries policies.

The second set of codes within the qualitative analysis was used to assess the extent to which the individual countries have addressed Meyer’s contingencies of decentralization. These codes were adapted from the book, *Changing our Schools*, by

Stoll and Fink (1996). In their book, the authors present what they call an “effectiveness and improvement typology of schools” (p. 85). This typology was developed as a means for school personnel to both identify their school type, as well as to analyze the implications of their school type in regards to future school development (Stoll & Fink, 1996). Within this typology there are five categories: “moving,” “cruising,” “strolling,” “struggling,” and “sinking” (p. 85).

The “moving” school is effective, but also the staffs “know where they are going and have... ‘the will and skill’ to get there” (Stoll & Fink, 1996, p. 86). The “cruising” school is perceived to be effective by school staff, but is typically located in areas of high socio-economic status, and often fails to “raise the ceiling as well as the floor” (p. 86). The “strolling” school is “neither particularly effective nor ineffective” and typically requires some sort of outside stimulation, such as a new principal, in order to increase their rate of change (p. 86). Stoll and Fink describe the “struggling” school as both ineffective and aware of its ineffectiveness, but it is also characterized by a willingness to change with considerable effort spent on the change process. The “sinking” school is not only considered to be “failing” but the staff that works at this type of school is typically neither interested in nor prepared to change. Consequently, these schools are in need of “dramatic action and significant external support” (p. 86).

The framework that Stoll and Fink (1996) developed was used as the basis for establishing rankings for the five previously described levers. Within each lever, the countries were ranked using the following three categories, adapted from Stoll and Fink (1996): moving, strolling and sinking. The categories of cruising and struggling were

condensed into the moving and sinking categories respectively to facilitate comparison between countries' policies. Collapsing the five categories into three categories allows for greater differentiation and distinction between categories, which increases the reliability of the rankings. This often cited framework (for example see Day, 1999) while originally intended for classifying schools as opposed to policies, was selected due to its emphasis on the necessity of attuning to context when considering school change.

A country's school leadership policies were considered moving if they articulated clear goals and detailed a plan to achieve them, acknowledged the need to consider context, and took into account student achievement. Strolling leadership policies were characterized by a combination of the belief "if it ain't broke, don't fix it" and an unevenness in their approach (Fink, personal communication, March 20, 2009). In other words, strolling policies attempted to fix some things and not others, thus making them appear "neither particularly effective nor ineffective" (Fink, personal communication, March 20, 2009). A country's school leadership policies were considered sinking if they are outwardly ineffective and appeared to blame or fail to support the school staff in their school leadership reform efforts. Policies were also considered sinking if they failed to promote or further school leadership practices on a particular lever in any way.

Research question 2: *Within each country, what is the relationship between school-level control of decision making and student mathematics and reading literacy achievement on the 2006 PISA assessment?* The second research question was addressed using quantitative methods, specifically hierarchical linear models (HLM). Others have

found HLM to be an appropriate method of examining this type of research question in the school leadership and student achievement field (for example, see Anderson, 2008). Student achievement results on the PISA 2006 assessment in mathematics and reading literacy, as well as the school and student background questionnaires were the data sources for the quantitative analysis.

HLM is appropriate because of the nested nature of the data. Nesting occurs when units, such as students, are “grouped in identifiable contexts, such as classrooms, schools, and districts” (Bickel, 2007, p.8). Data with a hierarchical structure are common in educational research. The PISA survey design implies that students are nested within schools. If this nesting is not taken into account when selecting the type of statistical analyses to be used, the results obtained may be misleading due to correlated errors, which can result in a greater likelihood of finding significance and therefore committing a Type I error (Bickel, 2007). The impact of nesting will be quantified through the use of the unconditional Intraclass Correlation (ICC), which will be described in greater detail in subsequent sections.

A linear regression analysis explains the variability of one variable as the function of the variability of one or more independent variables. Within a linear regression model, the ordinary least squares (OLS) method of estimation can be used to estimate the unknown parameters (Pedhazur, 1997). In a linear regression analysis using OLS estimation, the goal is to find a solution where X will explain Y, committing minimal amount of error (Pedhazur, 1997).

Two of the assumptions underlying the desirable properties of OLS estimates are uncorrelated errors and homoscedasticity. First, data are assumed to be independent, and therefore, the “errors associated with one observation, Y_i , are not correlated with errors associated with any other observation, Y_j ” (Pedhazur, 1997, p. 33). Therefore, errors should vary from observation to observation but not be correlated with each other (Pedhazur, 1997). Secondly, there is the assumption that the “variance of errors at all values of X is constant, that is, the variance of errors is the same at all levels of X ” (Pedhazur, 1997). This is the definition of homoscedasticity. Here, the error is assumed to be independent and identically distributed. When testing for significance the additional assumption of normality must be met as well. If either of the above assumptions are violated then the estimators will be less efficient.

Students who share a context, such as a classroom or a school, tend to be more homogeneous than students who do not. With the PISA data, for example, students who attend the same school are more likely to share similar characteristics, such as socio-economic status, than would students who attend different schools. These contextual effects are considered a source of variability, and therefore must be modeled (Snijders & Bosker, 1999).

The regression equation as shown in Equation 3.1, contains a value of b that is fixed, and assumes a simple random sample from the population where the errors associated with individual observations are uncorrelated.

$$Y_i = a + bX_i + r_i \quad (\text{Eq. 3.1})$$

However, if students are clustered in groups or share a context, one can hypothesize that due to the potential differences between students of different schools, mean achievement varies from school to school. For example, in the PISA sample where students are nested within schools, variability in student achievement is present across schools. This variability in mean achievement across schools can be modeled as a function of group characteristics.

Multilevel models allow for the relationship between predictors and outcomes to vary randomly across upper level groups. Specifically, mean achievement and the relationship between the individual level predictors and the outcome measures can vary randomly across groups and can be modeled through the use of group-level predictors (Bickel, 2007). For example, while it is useful to know information about an individual student's gender, ethnicity and family income, "it is also useful to know the gender composition, ethnic composition and median family income of the schools that they attend" (Bickel, 2007, p. 3).

The variance-covariance components at each of the levels of data are partitioned and modeled using contextual variables at the student and school levels. Through the use of multilevel models, each level of the data has its own regression equation. These models improve the estimation of the effects by "borrowing strength from the entire ensemble of data" (Raudenbush & Bryk, 2002, p. 7)

HLM also allows for modeling the variability that exists at the group level. For example, in the PISA data, not only can one examine the relationships between

background characteristics and student achievement, we can also look at these relationships at the school level. This is an interesting approach if we expect there to be differences across schools. An instance of this would involve the socio-economic status (SES) measure, a variable of common interest in educational research (for example see Bradley, Corwyn, Pipes McAdoo & Garcia Coll, 2001; Rothstein 2004). While SES certainly can be examined an individual student level (L1), it can also be examined at the school level (L2). This means that one can examine the relationship between the aggregate SES of the school and individual student outcomes.

Concerning correlated errors, multilevel models examine how variables at one level impact variables at another level. This is in contrast to OLS regression which takes a “willy nilly” approach, assuming that group characteristics are irrelevant (Pedhazur, 1997, p. 692). While OLS solutions typically have underestimated standard errors when the data are nested, which can result in a greater probability of creating a Type I error, within multilevel models the complex error structure is modeled producing standard errors that are more accurate (Pedhazur, 1997). Unlike OLS regression models, multilevel models have more than one set of residuals (Bickel, 2007). Bickel (2007) provides the following examples of this concept. If an intercept is allowed to vary from one school to another (second level groups), the location of the regression line for each of these schools can also vary with respect to the average regression line (Bickel, 2007). Also, if the slopes are allowed to vary at the group level (for example, from school to school), this is another potential source of variability for each group’s regression line (Bickel, 2007).

Beyond the statistical aspects, multilevel models can yield a better understanding of research problems and how to go about examining them. As Bickel points out, “the possibility of individual level-effects *and* contextual effects in the same analysis is one compelling reason why multilevel modeling has become so conspicuous in the study of student achievement” (2007, p. 3). With regard to analyzing the PISA data using multilevel modeling, while the primary interest of the quantitative portion of this dissertation is in ultimately predicting student achievement while controlling for the effects of student background characteristics, school decision making—a school-level variable— and other school background characteristics, can also be included in the model as predictors.

School-level decision making independent variables. The measures of decision making, used as a proxy for school level leadership, were taken from the 12 items on the school background survey that are used to measure decision making. These items (see Table 3.6) were preceded by the following stem: “Regarding your school, who has a considerable responsibility for the following tasks?” For each of the 12 items, principals filling out the survey had to choose between four options for each task. These options included, “National educational authority,” “Regional or local education authority,” “School governing board,” and “Principals or teachers.”

Table 3. 6: *Decision-Making Survey Items*

Regarding your school, who has a considerable responsibility for the following tasks?
Selecting teachers for hire
Firing teachers
Establishing teachers' starting salaries
Determining teachers' salary increases
Formulating the school budget
Deciding on budget allocations within the school
Establishing student disciplinary policies
Establishing student assessment policies
Approving students for admission to the school
Choosing which textbooks are used
Determining course content
Deciding which courses are offered

According to Sarason (1996), those who are empowered to make decisions within a school, such as hiring teachers and budgeting resources—and the power relations that result—are important in shaping a school culture. The items in Table 3.6 are similar to the components that Barth (2001) describes as comprising teacher leadership that are “among the domains in which teacher leadership is most needed and least seen” including the following:

- choosing textbooks and instructional materials;
- shaping the curriculum;
- setting standards for student behavior;
- setting promotion and retention policies;
- deciding school budgets;
- evaluating teacher performance; and
- selecting new teachers (Barth, 2001, pg. 444)

In addition, Leithwood (2005) in his study of research on successful school principals found that measures involving staff participation in school-wide decision making were appropriate types of school leadership measures to use in examining the relationship between principals' leadership practices and student learning.

Previous researchers have used measures from international databases, including control over curriculum, textbooks, school budget, hiring decisions and teacher salaries to examine the impacts of decision-making (Woessmann, 2001). Additionally, the PISA variables “determining course content,” “establishing teachers’ starting salaries” and “choosing textbooks” have been used by previous researchers as a method of examining school autonomy (Fuchs & Woessmann, 2007).

Model building. The HLM model building process began with the unconditional model for each individual country. The ICC is the proportion of variability between groups, which in dealing with the PISA data was the proportion of variability that exists between schools within each of the 14 countries that will be examined. The ICC was calculated to determine the degree of nesting among students.

After the unconditional model was analyzed and the ICC examined for the presence of nesting, if sufficient variability (i.e., the ICC is non-zero) exists between schools within a particular country, model building progressed to the level-1 equation. At this level, individual student characteristics were entered into the model. These student-level characteristics were selected based on previous research. The school level predictors—both the school characteristics that were being controlled for and the school-level decision making measures—were added at level-2. These measures explain the

variability in the level-1 intercept (β_{0j}). Additionally, model fit was examined through reliabilities, and the total amount of variability that was explained by the predictors.

A graphic representation of the described model building process is presented in Table 3.7.

Table 3. 7: Model Building Process

Variables	Unconditional Model	Model 1: Covariates	Model 2: Covariates and School Decision Making Variables
Student Characteristics		X (Ex: gender, grade, number of books in the home)	X
School Characteristics		X (Ex: teacher/student ratio, school size)	X
School-level Decision Making			X (Ex: staffing decisions, budgetary decisions)

Models were analyzed separately for both mathematics literacy and reading literacy outcome scores in each of the 14 countries. Comparisons were made across countries based on the results of these models.

Research question 3: *What are the patterns that exist between a country's policies towards school-level decentralization on the one hand and the association between school-level decision making and student achievement on the other?* The third research question was addressed using coordination strategies, connecting the qualitative and quantitative sections. Thus, the final phase of the study involves interpreting the data using both the qualitative and quantitative data together.

When using a mixed-methods design, if the different methods are conducted separately from one another, and the “primary mixing of the methods happens at the end,” then it is referred to as a coordinated design (Greene, et al., 2001, p. 31). According to Greene, et al. (2001), “with this design, one set of findings characteristically illustrates, enhances, helps to explain or refines the other set of findings” (p.31). Since the qualitative and quantitative data analyzed in this dissertation were collected separately, and subsequently analyzed separately as well, it meets Greene and colleagues’ description of a coordinated design.

To analyze data using a coordinated design, the analysis strategy used followed what Greene, et al. (2001) refer to as “parallel tracks, where each data set is analyzed separately and comparisons and connections made at the stage of drawing conclusions and inferences” (p. 31). Within this dissertation the coordination of the qualitative and quantitative sections was done through considering the qualitative rankings and statistically significant decision making variables in light of the information provided in the OECD country background reports.

Using the methods presented in Braun, et al. (2006, 2010) as frameworks, relating the qualitative and quantitative rankings can be used to examine whether, the states who were found to be ‘Moving’ on the selected policy levers also had statistically significant school-level decision making variables. Due to the design of the study, causation was not the goal, nor could it be inferred. Rather, the comparisons made between existing policy and strength of relationship were more descriptive in nature.

Conclusions

As previously described, the overarching purpose of this dissertation is to aid in informing future policy regarding school leadership practices. Chapter Four presents a detailed presentation of the results from the analyses using the described methods.

Chapter Four

This chapter builds on what was discussed in Chapter Three and presents the results from three analyses conducted to answer this study's research questions. To address the first research question, results from the qualitative analysis are presented. These results were obtained through the qualitative descriptive method of analysis and a qualitative content analysis of OECD country background reports. Next, to address the second research question, the results from the quantitative analysis are presented. These results were obtained through multi-level regression modeling. Finally, to address the third research question, the combined results of the qualitative and quantitative methods will be presented. These results were obtained through a coordinated design. As described in Chapter Three, this type of design involves analyzing qualitative and quantitative results in separate tracks, with the amalgamation of these results at the end of the study.

Research Question One: Results from the Qualitative Analysis

The first research question asked, "To what extent do the educational policies across the different countries allow for school personnel to take on leadership roles?" In order to answer this question, a qualitative analysis was conducted on the OECD country background reports for 14 individual countries.

Analysis. A qualitative content analysis was conducted to code data from the OECD country reports. This process, which focuses on classifying text into categories,

began by reading and coding the OECD background reports using the predetermined codes to put information into categories, as per the strategies described by previous researchers (Hsieh & Shannon, 2005). Every country had a separate document, where the coded information for each category was identified as ‘Moving,’ ‘Strolling’ or ‘Sinking.’ After each background document had been coded using the predetermined codes, the remaining information in the document that had not been coded was reviewed to determine whether important information had been inadvertently excluded during the initial coding phase. Due to the length of the reports and the amount of extraneous information that they contain, it was concluded that the predetermined codes adequately captured the important leadership information necessary within each report.

After the initial coding was completed, the documents were reviewed for reliability purposes to ensure that information was not left out during the initial coding session, and validity was addressed by reviewing the information included in the documents to double check that the included content was relevant to the respective codes. Finally, when the coding had been completed for an individual country, the finished coding document was reviewed to determine if overall the policies for that country were ‘Moving,’ ‘Strolling’ or ‘Sinking,’ which was based on the predominant coding rankings across all of the codes. The final coding documents can be found in Appendix A.

Results. Table 4.1 lists each country and its corresponding overall ranking on the qualitative analysis. The criteria for determining the overall rankings of each country are described in detail in the following sections.

Table 4. 1: *Overall Ranking on the Qualitative Analysis by Country*

Country	Overall Ranking on the Qualitative Analysis
Austria	Strolling
Chile	Moving
Denmark	Strolling
Finland	Moving
Hungary	Strolling
Ireland	Strolling
Korea	Sinking
Netherlands	Moving
New Zealand	Moving
Norway	Strolling
Portugal	Sinking
Slovenia	Moving
Spain	Sinking
Sweden	Moving

Prior to presenting justifications for each country's ranking, it is important to note that this coding of leadership policies only applies to the schooling ages (i.e., the grade with the largest proportion of 15 year olds) assessed on PISA. Thus, leadership policies regarding post-secondary education were not coded or included in the ranking

determination process. Similarly, leadership policies regarding private schools were not coded or analyzed in the qualitative analyses. Additionally, since the country background reports were written in 2006, greater emphasis is placed on reforms that were identified as having been in place from 2003 or prior, as it allows the policies sufficient time to be implemented and impact student achievement (Braun, et al., 2010).

The qualitative analysis resulted in three overall ranking categories: ‘Sinking,’ ‘Strolling,’ and ‘Moving.’ The following sections will describe the rationale for placing countries within these categories.

‘Sinking’. Three of the 14 countries included in this study, Korea, Portugal, and Spain, have school leadership policies that received an overall ranking of ‘Sinking.’

Korea. Korea’s policies regarding school leadership received an overall ranking of ‘Sinking’ largely because the current educational administration system in Korea is very centralized (Kim, Kim, Kim, & Kim, 2007). While Korea has attempted to promote self-governance through school-based management systems, the “centralizing tendency still remains very strong” (Kim, et al., 2007)

School principals in Korea are responsible for goal-setting for the school, however school curriculum, finance, and personnel decisions are made at the provincial level or higher. Although, recent policies suggest there has been some movement towards granting more authority to school principals, the educational administration issues in Korea are still mainly dealt with “in a top-down manner, and the practical authority of the principals remain limited” (Kim, et al., 2007, p. 105).

In addition to its centralized school administration system, Korea does not have any formal accountability system in place. Currently, Korea does evaluate schools, but this process has been described as an “input- and process-centered accountability, not an outcome-centered one” (Kim, et al., 2007, p. 47). This suggests the value placed on student achievement as an accountability measure in school evaluations.

Portugal. In the early 2000s, Portugal passed legislation to encourage the development of schools as “autonomous centers of learning” with the intent for individual educational projects to interpret and implement national priorities (Portugese Ministry of Education, 2007, p. 13). The majority of this decentralization in the country appears to be at the administration level (from the school consortiums managing the projects), as opposed to the school level. While establishing these consortia initially appeared innovative, the bureaucracy reportedly involved in the process could slow advances (Portugese Ministry of Education, 2007). For example, in Portugal, the current chain of command in terms of decision making appears that central government grants powers to local authorities, who in turn grant power to the consortia, who pass decisions down to the schools. Within this system, there are a number of councils, such as the Pedagogical Councils, that are responsible for making decisions, reflecting the bureaucratic complexity of making decisions within the Portuguese education system.

Portugal’s current education system was established 30 years ago as part of the “political and social movement of the revolution” and appears to have changed little over time (Portugese Ministry of Education, 2007, p. 31). As stated in the OECD report, “The performance of school leadership functions in Portugal has reflected a lack of definition,

ambiguity and instability inherent in the consolidation of the democratic regime in Portugal” (Portugese Ministry of Education, 2007, p. 42). Within the current system, the principal of electability and head teachers are limited in their responsibilities, as the country has largely maintained a centralized administration (Portugese Ministry of Education, 2007). Where school-level autonomy does exist, it is in the internal organization of the school, maintenance of school property, and some school personnel management.

Spain. Spain’s structure of leadership is decentralized such that schools and school leaders have limited control over the curriculum taught in schools. However, this is the extent to which school decentralization exists in the country. Additionally, the task of school leadership is shared amongst multiple professionals, in contrast to having the head teacher solely responsible for all tasks across the school.

While the head teacher is still deemed legally responsible for the school, a leadership team—referred to as the executive body of governance in state schools—composed of the head teacher, the head of studies, the school administrator and other educational authorities also exists (Spanish Ministry of Education and Science, 2007). The head of studies, school administrator, and head teacher are responsible for academic processes, organization and disciplinary matters; the administrative and financial processes; and relationships within and outside of the school as well as on the coordination of the leadership team respectively (Spanish Ministry of Education and Science, 2007). However, the leadership team has responsibility over a limited number of tasks and the level of school autonomy in the country has been found to be one of the

lowest among the OECD countries. While Spain's school autonomy has progressed on issues regarding curriculum, the process is just beginning to expand to other areas, including organizational autonomy (Spanish Ministry of Education and Science, 2007). Additionally, the extent of autonomy over curriculum exists in developing individual school educational projects, but not to establish their own school curriculum.

Spain has no "traditional or practical experience in school accountability" (Spanish Ministry of Education and Science, 2007, p. 8). However, a school evaluation system exists in which schools produce an annual general plan which is evaluated by the school council. This school council is composed of the school's leadership team, teachers, parents, students, and a member of the community council. This board is also tasked with evaluating the management of the school and the school's student achievement levels (Spanish Ministry of Education and Science, 2007).

'Sinking' Conclusions. A lack of decentralization for decision-making at the school level is a common theme across the three countries that were assigned a ranking of 'Sinking.' For Korea and Spain, educational decision-making remains highly centralized in both countries. In the case of Korea, this conclusion supports previous findings that Asian countries tend to be more centralized than Western countries (Hallinger & Kantamara, 2000; Heck, 1996). For Portugal, the country's education policies have shifted away from a highly centralized system at the school level, but decentralization remains at the school consortiums level. Therefore, while there are certainly differences across policies of all three of these countries, a common thread is the lack of extensive decision-making at the school level.

‘Strolling’. Five of the 14 countries included in the study have school leadership policies that received an overall ranking of ‘Strolling.’ These countries include Austria, Denmark, Hungary, Ireland and Norway.

Austria. At the time the OECD background report was written, the Austrian education system was considered to be highly bureaucratic, resulting in little autonomy at the school level. However, where autonomy did exist, leadership was largely the responsibility of the school head. According to Schratz and Petzold (2007):

Another strength in current policy on school leadership lies in the situation that school leaders have—apart from the missing autonomous decision-making options mentioned—great freedom in leading their schools according to their own leadership expectations. Since there is little external control on the work of the individual school, the school leaders have the chance to operate their school along their leadership abilities (p. 75).

The responsibility of leading schools places great pressure on school leaders.

Within Austria, education has always been considered a “most sensitive area” that has been “heavily disputed among political decision-makers. This explains the caustic distribution of responsibilities between different bodies and entities. The existing legal framework therefore renders attempts at amending education laws very difficult” (p. 21). However, at the time of the OECD background report, policymakers in Austria appeared poised to make changes to the current leadership policies, including increased support of learning-centered leadership for both school heads and teachers and allowing school heads to participate in employment decisions regarding their teachers. Additionally, some decisions that were allowed at the school level were made by what was described as a democratic decision-making process. This process involves the

school head, selected teachers and parents, and at the academic secondary education level, selected students as well (Schatz & Petzold, 2007).

Currently, Austria does not have a national system of quality assurance for monitoring student achievement (i.e., standardized national tests or performance assessments), and further, discrepancies have been found to exist across individual classroom teacher-designed tests throughout the country. As a result of Austria's performance on international assessments, policymakers have "intensified discussions about a system-wide quality assurance system with different layers of accountability" and are in the process of increasing educational transparency through the introduction of national standards and potentially national tests (Schatz & Petzold, 2007, p. 46).

Denmark. Denmark's school leadership policies received an overall ranking of 'Strolling' as a result of two main factors. First, Denmark's education policy format strongly emphasizes decentralization. Within this system, the educational objectives, frameworks and curriculum are developed nationally, while the resources required to meet these objectives are given to both the governing board and headteachers. The headteachers themselves have responsibility for a large scope of tasks. The Ministry of Education and headteacher organizations developed school criteria for headteachers' responsibilities. The specific requirements for headteachers in this country spanned across five categories of leadership: overall, education policy, pedagogical and academic, administrative and financial, and personnel policy (Pluss Leadership A/S , 2007). However, another reason why Denmark's school leadership policies are ranked as 'Strolling' is due to the circumstance that while it appears that headteachers have

responsibility for a large scope of tasks, looking at current school leadership policies, decision-making at the school level actually varies depending on the relationship between the school head and their school's board of governors.

As described in Denmark's OECD background report, "the cooperation between the headteacher and the chairman of the board of governors is often very much dependent on the individuals concerned" (Pluss Leadership A/S , 2007, p. 48). This relationship (between headteacher and board of governors) potentially limits the actual capacity of the role of the headteacher. Additionally public pressure from perceptions of the poor quality of the education system in Denmark is another challenge. During the four years prior to the publication of the OECD background report, the number of applications for headteachers decreased. As recent survey of headteachers reported, 81% are "in need of a boost" (Pluss Leadership A/S , 2007, p. 35).

The level of accountability present in the Denmark education system is low. When the OECD background report was published, the country was developing accountability measures and seeking to extend the reach of systematic educational evaluations. However, useful measures of accountability of school leaders are not extensively implemented. A national test was developed as one measure of accountability, but only the overall results are shared with explicit instructions that "test results for individual schools and municipalities must not be published" (Pluss Leadership A/S , 2007, p. 64). Therefore, the national test results are not useful for holding schools, headteachers or board of governors accountable. Interestingly, Denmark's OECD background report also indicates that "headteachers are not normally

evaluated systematically”, furthering the difficulties in accountability (Pluss Leadership A/S , 2007, p. 74).

For the selected criteria above and additional information described in Appendix A, Denmark received a “Strolling” ranking. While Denmark’s policies appear to extensively support decentralization of decision-making, the extent to which headteachers are responsible for making decisions varies depending on headteachers’ relationships with boards of governors. Denmark’s inconsistent decentralization and poor accountability system limit teachers’ educational leadership.

Hungary. Hungary’s educational leadership policies indicate the presence of strong decentralization by giving schools independence. However, counter to this independence, school principals’ effectiveness is challenged by the educational climate. This system of education is characterized as highly decentralized, with broad responsibilities at the institutional level. Hungary’s OECD background report describes the vast amount of tasks principals in Hungarian schools are responsible for:

“The Act on Public Education defines what the responsibilities of a head of a public education institution are. The leader of such an institution is responsible for the efficient and legal functioning of the institution, for economical administration, he exercises employer rights, and he makes decisions regarding matters related to the institution, which are not assigned by law or collective contract (public employees regulation) to somebody else’s jurisdiction. He conciliates issues regarding employments, working conditions according to legal provisions. Further on the leader of an educational institution is also responsible for the work of teachers, for the proper functioning of the institution’s controlling, assessment, evaluation, and quality management programme, for taking measures for child and youth protection, for organizing activities, for providing health and safety conditions suitable for education, for preventing children’s accidents, for providing regular health check for the students” (Performance Management Research Centre, 2007, p. 24)

Although decentralization is an enabler of school leadership, the intense level of pressure on principals in Hungary may limit its strength. Since principals' responsibilities are cumbersome, the reality of meeting local and parental demands limits the latitude in their decision-making. Hungary's school leadership is heavy in administration, function, and mandates, yet, the actual empowerment of principals needs improvement. The OECD report suggests that school leaders are exposed to "cross fire" from a lack of hierarchical structure (Performance Management Research Centre, 2007, p. 29). For example, teachers are only obligated to teach their lessons and are not required to be present in the school for any other functions. Within this climate, "school leaders nowadays cannot instruct, they can only demand," leading to lack of motivation in principals (Performance Management Research Centre, 2007, p. 28). The OECD report states, "The personal conditions of leadership have to be improved, because nowadays a lot of work, lack of feedback and limited material interests, characterizes the conditions" (Performance Management Research Centre, 2007, p. 72).

In addition to the struggling climate of Hungary's school system, its national assessments have "no external consequences regarding the institution" (Performance Management Research Centre, 2007, p. 27). Although these assessments are given across multiple grades, the results are not used for accountability purposes but rather left up to the individual discretion of school leaders to determine their use. This wide autonomy challenges school leaders' ability to affect school change. And, when coupled with a lack of responsibility for student achievement results, an environment exists where "a lot depends on

the ability of the leader on how well [they] can convince the institute to developments that lead to result improvement and changes” (Performance Management Research Centre, 2007, p. 33).

Ireland. Compared to other OECD countries, Ireland’s educational system has “traditionally been highly centralized” (Leadership Development for Schools, 2007, p. 33). Educational policy development and decision-making are considered to be centralized, however recent changes in school responsibilities indicate a potential shift towards decentralization. For example, the role of the principal has expanded even though the principals’ responsibilities still vary and are ultimately contingent on the school board. However, the school management system is evaluated, providing Ireland with some accountability information even though student achievement results are not compared nationally.

In Ireland, recent educational policies have established a decentralization of school decision-making, shifting these responsibilities from the central level (i.e., Department of Education and Science) to local levels (i.e., schools and Boards of Management) (Leadership Development for Schools, 2007). For example, the term for principal in Irish is *Príomhoide* which means “Principal Teacher”. This title “embodies the concept of *primus/a inter pares* (first among equals) and implies a collegial interpretation and a ‘flat’ management structure” (p. 18). Although the title suggests the responsibilities of a teacher among teachers, the role of principal in Ireland has expanded in recent years to encompass more of a leadership component. Further, at the post-primary level, the role of deputy principal has also expanded. Ultimately, it is the school

board's responsibility to manage the school, and the principal's role is to report to and carry out the functions requested by the board.

There are variations in the amount of responsibility afforded principals across the country. These variations are often dependent on environmental factors, such as school size and structure of the school board. In addition, variations in responsibility are at least partially the result of lack of clarity in the definition of the role of principal. Another challenge for both principals' and school boards is that while responsibilities were decentralized, there has not been devolution of resources, thus,

“The issue of resources, expertise and structures to enable schools to comply fully with recent legislation will have to be addressed as will the need to provide training, support and legal advice for Boards of Management, principals and others responsible for ensuring compliance with recent legislation” (Leadership Development for Schools, 2007, p. 28).

Approximately three quarters of principals in Ireland also have teaching responsibilities, which makes their job extremely demanding (Leadership Development for Schools, 2007). This dual role combines and increases responsibilities, which has significantly increased their workload. Some provisions allow principals release time to address their leadership responsibilities, however, workload and time management remain a concern. Principals report that balancing their desire to address issues related to teaching and learning and the volume of managerial tasks they had to address was difficult.

In terms of accountability, there are national tests at the post-primary level and primary schools are responsible for student assessment and reporting results to parents locally. Recently the Whole School Evaluation was introduced to Ireland's schools.

During this evaluation process, Department of Education and Sciences inspectors visit schools and evaluate the qualities of: school management, school planning, curriculum provision, learning and teaching in subjects, and support for students (Leadership Development for Schools, 2007). Schools are required to participate in school planning, therefore principals and stakeholders are responsible for determining objectives and developing a system to monitor student performance (Leadership Development for Schools, 2007).

Norway. Over the past decade, Norway has developed an educational accountability system, yet there is little autonomy to monitor at the school level. Norwegian principals' responsibilities are largely managerial instead of decision-making based. A shift in power from the national level to municipalities has occurred in Norway, yet this decentralization has not reached the individual schools. The current legislation allows for some school autonomy, but this is decided on an individual basis at the local level.

In Norway, the Ministry of Education and Research is responsible for the overall education system, yet educational authority is delegated to counties and municipalities (Norwegian Directorate for Education and Training, 2007). Each municipality then decides which responsibilities are delegated to the schools. This open delegation system affects "both the content and the empowerment of the school leader role" (Norwegian Directorate for Education and Training, 2007, p. 16). Thus, the actual responsibilities of principals vary across schools as "the scope and content for the tasks for all school leader positions are decided on a local basis" (Norwegian Directorate for Education and

Training, 2007, p. 20). For example, principals in some municipalities have signed leadership agreements with the municipality which expands and defines their responsibilities.

Norway's accountability system includes national assessments. The results of these assessments are publicly reported at both the school and municipal levels. Norway is considered to have "good information about their school leaders," but it is difficult to ascertain whether school leaders in Norway are "good" because of wide variation of options offered to school leaders in running their schools (Norwegian Directorate for Education and Training, 2007, p. 64).

'Strolling' Conclusions. Decentralization of decision-making is a theme across three of the 'Strolling' countries. However, it exists in varying degrees and the extent of actual decision-making at the school level is contingent on outside forces. In Denmark and Ireland, decision-making capacities at the school level are a function of the school boards that oversee the schools. Similarly, in Norway, laws indicate that a shift in decentralization policies has occurred from the national level to the municipality level. Now, the challenge is for these municipalities to shift responsibilities to the school level, which has mostly only been done in the form of managerial responsibilities.

A second theme across "Strolling" countries is the phenomenon of school-level decentralization coupled with lack of empowerment for school leaders. This coupling was reported to some extent in both Austria and Hungary. In Austria, while policies are characterized as highly bureaucratic, there is little outside control at the individual school level, leaving school heads to lead as they see fit. This autonomy increases pressure on

the school head, since leadership responsibilities are their primary responsibility. This is demonstrated to an even larger extent in Hungary where decision-making is considered highly decentralized and the role of principal encompasses many responsibilities.

Hungarian school leaders' responsibilities have been coupled with intense pressures and these demands limit the decisions they are able to make.

Ultimately, across these five countries, decentralization of decision-making at the school level is present, but impeded in some way. These impediments are the result of external forces' varying involvement at levels higher than the school, and external pressures. Thus, while school level decision-making varies across all five countries, the barriers present indicate room for improvement.

'Moving'. Six of the 14 countries included in the study, were ranked as 'Moving.' These include Chile, Finland, the Netherlands, New Zealand, Slovenia and Sweden.

Chile. Chile's educational administration system has been decentralized since the 1980s. In this system, public schools report to municipalities. Although teachers lost public employment rights during this period, many teacher rights were regained in the 1990s. In addition to accountability, the function and mandate of Chilean educational leaders involves three spheres: pedagogical, administrative and financial. The pedagogical sphere is the responsibility of the Head Teacher, where the latter two spheres "may be delegated to dependent staff" (Diaz, 2007, p. 34). Leadership is considered an important way to improve both the "quality and equity of education in Chile," however school leadership only became a public policy concern after the year 2000 (Diaz, 2007, p. 76). New school leadership policies are described in the "Good School Leadership

Framework,” which sets hiring criteria for and defines the roles of head teachers. This framework also significantly increases accountability for school leaders.

Chile’s more recent leadership policies have included increased accountability measures. Accountability in the education system is grounded in the country’s use of school choice, whereby parents are able to select their children’s school using a voucher system. The “Good Leadership Framework” details the activities of the leadership team to address the accountability of leadership. This framework centers on four “spheres” of curricular competence: leadership, curricular management, resource management, and management of the school atmosphere and coexistence. These spheres contain competencies regarding effective learning as well as ways for the head teacher and leadership team to address school culture, educational projects, professional development, practices for leaders to maximize school resources, and practices that promote atmospheres conducive to learning (Diaz, 2007). The framework is an instrument that provides Chilean schools a common benchmark used in “implementing performance assessment of head teachers, leadership and technical-pedagogical teachers, aiming at increasing professionalization processes and thereby have an impact on the quality of institutional management and learning for all students” (Diaz, 2007, p. 52).

Public school head teachers are assessed on an annual basis. Each head teacher selects two sets of institutional targets and corresponding indicators: one aimed at improving school practices and outcomes and another addressing professional development needs (Diaz, 2007). Both sets of targets are equally weighted in the overall assessment of the head teacher. Head teachers write reports describing how the indicators

were accomplished, which are sent to their schools' municipality at the end of every school year. If the head teacher meets less than 50% of his or her targets, the targets are reset for the following school year. If targets are not met for two consecutive years, the head teacher may lose his or her position. While head teachers are appointed to their position for 5 years, their annual performance assessment is ultimately what determines the "duration of their stay in the position" (Diaz, 2007, p. 59).

Finland. Finland's OECD background report states that, "An interactive and transparent decision-making system has facilitated the implementation of basic reforms and commitment to them" (Ministry of Education, 2007, p. 50). Finland relies heavily on a decentralized system of leadership. Similar to Denmark, Finland lacks an accountability system for school leaders. However, unlike Denmark, the role of the principal is more consistent in Finland's current educational leadership policies. While it is true that there is some variation in the delegation of tasks, these variations are characterized as "minor differences" (Ministry of Education, 2007, p. 26).

Finland's leadership policies have transferred a great deal of decision-making power to local levels. Because of this, school principals are responsible for a wide range of activities dealing with school development, such as student assessment, curriculum, and selection of school personnel. Additionally, the current system encourages leadership to be distributed across the school, and promotes parental involvement. As stated in the OECD report, "Leadership is becoming more and more delegated so that more attention will be paid to the expertise of different people in a school and their opportunities for inclusion" (Ministry of Education, 2007, p. 27).

Currently, Finland does not have a national evaluation system for student achievements or leadership practices. According to the OECD report, “In Finland, neither principals nor teachers are evaluated quantitatively” (Ministry of Education, 2007, p. 35). Evaluating Finland’s school principals is the responsibility of the individual municipalities. This lack of an official evaluation system is in part due to the high level of trust placed on those working in the education system within the country.

Netherlands. Decentralization has been characterized as an important component of the Netherland’s educational policies. Within the Dutch system, schools and boards are responsible for decision-making while the government determines accountability practices for student achievement results. According to the OECD background report, “A distinctive feature of the Dutch educational system is that it combines a central educational policy with the decentralized administration and management of the institutions” (Bal & de Jong, 2007, p. 22). While the Netherland’s central government is responsible for legislation and monitoring school quality, much authority has been transferred to the school boards allowing them to utilize resources autonomously (Bal & de Jong, 2007). In order to build the capacity for decision-making at the school level, legislation such as *The Vocational Education Act*, which “stipulated the quality of teaching staff,” was passed to support autonomy and authority in the school culture (Bal & de Jong, 2007, p. 29). These legislative acts are considered to be “the foundation on which the new system is built,” granting schools greater freedom to achieve their own objectives, while still being accountable to the Ministry (Bal & de Jong, 2007, p. 29). Dutch schools determine the content and delivery of information, and are required to

develop a self-evaluation system to demonstrate compliance with nationally determined school quality criteria. These self-evaluations that must be reported to the government create an accountability process within Dutch schools.

In addition to submitting self-evaluations, schools are held accountable by way of school inspections. These inspections result in school reports that are produced publicly on the Inspectorates' website. Thus, the country's policies reflect its belief that "increase of autonomy, transparency and accountability belong together" (Bal & de Jong, 2007, p. 37).

While the Netherland's educational leadership policies overall rank as "Moving," it is important to note that accountability does not take into account leadership quality. Rather, it assumes that if a school is successful, its leadership must be contributing to that success, when in reality that may not be true.

New Zealand. Compared with other countries, New Zealand schools "have substantial autonomy and school leaders have a high degree of control over many aspects of the school and its programs" (New Zealand Ministry of Education, 2007, p. 29). The concept of "self-managing" schools was introduced in New Zealand in 1989 when sweeping legislation led to greater autonomy of the country's schools. In New Zealand the principal is the chief executive of the school board, ensuring extensive participation in decision-making at both the board and school levels. Thus, principals have been characterized as the "foremost school leader in every New Zealand school" (New Zealand Ministry of Education, 2007, p. 20). They are considered 'professional leaders' of the school, and are generally responsible for three main functions: executive

(implementing board policies), instructional (leads the school in curriculum and instruction), and reporting (reporting student achievement for the school) (New Zealand Ministry of Education, 2007).

The decentralization in New Zealand's educational system is accompanied by a public accountability system, established to monitor these autonomous schools. This accountability system, while retaining the rights of schools, allows the government to implement annual reporting targets for student achievement and national initiatives for schools, and to intervene in the instances of failing schools (New Zealand Ministry of Education, 2007). Currently, New Zealand does not have any nationwide assessment for students prior to grade 11. However, the government does provide schools with assessments that they are encouraged to use. All schools are accountable to a central agency, required to report results on students annually, as well as participate in a three year review process. The Educational Review Office is tasked with evaluating schools and publicly reporting results. In addition, there are nationally developed professional standards for school principals which become part of the performance management systems which schools are accountable for developing and maintaining (New Zealand Ministry of Education, 2007).

Slovenia. In Slovenia, head teachers are “fully responsible for the leadership of a school,” and while school councils also play a big role, the head teacher is responsible for implementing all decisions (Koren, 2007, p. 28). Head teachers are responsible for a vast number of tasks, including hiring staff, allocating resources, and making decisions over the elective portions of the school curriculum. In the OECD background report, the

current governance system in Slovenia is described as being “overly centralized, especially if we take into consideration the fact that head teachers have all power concentrated in their position” (Koren, 2007, p. 58). The report suggests there may actually be too much responsibility granted to head teachers, and that the current system could be improved by delegating some tasks to other teachers in the school.

Generally, there is a balance between head teachers’ autonomy and transparency and their accountability in Slovenian education (Koren, 2007). In terms of accountability, there are external exams given to students at the end of elementary and secondary general schools. In addition, head teachers are held accountable to their school council for different accountability measures determined by their school council. While head teachers’ performance is assessed, it is important to note that there does not appear to be a connection between students’ achievement results and head teachers’ performance.

Sweden. Sweden has a largely decentralized system, which involves a number of different stakeholders in the decision-making process. The OECD background report explains, “The responsibility of the school leaders is a crucial basis of the Swedish school system” (Swedish National Agency for School Improvement, 2007, p. 25). School leaders in Sweden play a vital role in school improvement. Although the responsibility for curriculum content is at the national level, most other responsibilities in running schools are managed by the municipalities and the schools themselves. The principal of a Swedish school is granted responsibility of a variety of tasks such as finances, personnel, organization, and improvement practices. Additionally, Swedish policies attempt to bring other stakeholders into the decision-making process, including teachers, parents,

community members, and even students. According to Swedish law, students attending compulsory schooling are “guaranteed influence in the school” (Swedish National Agency for School Improvement, 2007, p. 19).

In terms of accountability in Swedish schools, some municipalities conduct evaluations of their schools. These local evaluations are not standardized in any way, but rather allow use of different methods (such as student or parent questionnaires and teacher interviews), to gather evaluation data. While some schools choose to disseminate results of the evaluations, other schools choose to keep the results restricted to internal use. Achievement tests are given to students in Sweden in grades 5 and 9; with the year 5 test being optional while the year 9 test is compulsory.

‘Moving’ conclusions. The majority of the countries ranked as ‘Moving’ had two defining features to their policies. First, a strong emphasis is placed on the role of the principal (or the respective title for principal in each country) as the leader in the school. Across these countries, principals are given extensive responsibilities and are the primary source of leadership, with little distribution of responsibilities to other staff members within the schools.

Second, these countries have largely adopted strong accountability systems. This aligns with Meyer’s (2009) assertion that decentralization policies should be accompanied by monitoring and accountability. It also reflects Pont and colleagues’ (2008) finding that internationally there has been an increase in policies regarding decentralization of educational decision-making, which frequently couple increased autonomy with accountability at the school level (Pont, Nusche, & Moorman, 2008).

Of the six 'Moving' countries, there are two exceptions to the above themes. First, in Sweden, while the principal is the central decision maker within the country's schools, there are no national accountability policies in place. Second, in Finland, a more distributed view of leadership - with school staff and parents encouraged to participate - is embraced. Additionally, Finland also does not have a national accountability system in use to evaluate principals or teachers.

Policy conclusions. Across the 14 countries, three were identified as 'Sinking,' five as 'Strolling' and six as 'Moving.' It may seem surprising that most countries ended up in the 'Moving' (the highest category), while relatively few were ranked as 'Sinking' (the lowest category), however it is important to remember that this is a self-selected sample since countries opted to submit reports. Thus, countries that were more likely to have confidence in their education policies regarding decentralized decision-making may also have been more likely to submit an OECD country background report. Therefore, the distribution of the countries across categories should be considered in light of the fact that countries chose to participate in the study, and not a general indication that many countries have strong decentralized decision-making at the school level. Additionally, it is important to note that while the qualitative descriptive method is considered to be low inference in comparison to other qualitative approaches, such as grounded theory (Sandelowski, 2000), that there is still researcher subjectivity present in the coding process. This subjectivity could also have impacted the countries respective rankings.

Comparing the countries across the three rankings, it appears that generally the leadership policies in the 'Sinking' countries were marred by a lack of decentralization

for decision making at the school level. Across the leadership polices in the ‘Strolling’ countries, decentralization of decision-making at the school level was present, but impeded in some way. In contrast, the leadership polices in the ‘Moving’ countries included a strong emphasis placed on the role of the principal (or the respective title for principal in each country) as the leader in the school, with these leaders given extensive responsibilities, acting as the primary source of leadership within their schools.

Research Question Two: Results from the Quantitative Analysis

The second research question asked, “Within each country, what is the relationship between school-level control of decision making and student mathematics and reading literacy achievement on the 2006 PISA assessment?” In order to answer this question, the quantitative analysis was conducted using 2006 PISA assessment data. Specifically, multi-level regression models were built and analyzed to examine the association between school-level decision making variables and student achievement. The results of the quantitative analyses for each country are presented in the following sections.

Description of the multi-level models. To examine the relationship between decision making at the school-level and student achievement, two-level models were run for each country, one predicting mathematics literacy achievement and the other predicting reading literacy achievement. In these models, student outcomes were modeled at level-one and school membership at level-two. These models were constructed using the HLM software (Bryk, Raudenbush & Congdon, 2008).

The model building process began with the unconditional model. The unconditional model includes only a random school effect. Next, two conditional models were constructed for each country. Model 1 included all the student and school background variables. In addressing the second research question, the student and school background variables were considered covariates as they were not central to the research question. Model 2 also comprised the student and school covariates, but included the school decision making variables at level-2. Model 2 allowed the relationship between school-level control of decision making and student mathematics and reading literacy achievement on the 2006 PISA assessment to be examined.

Across all of the analyses, weights were applied. These weights included school-level weights to calculate the frequencies of school decision making (see Table 4.5) and student-level weights for the HLM analyses. Weights were used because the PISA data was not collected using simple random sampling techniques, and accordingly, the differential probability of some schools and students being selected to participate in the assessment must be dealt with to obtain accurate statistical results (Program for International Student Assessment, 2009).

Both models were built using standard model building procedures. Additionally, the reliabilities of the intercept, as well as the percent of variance explained by each model, were examined. These analyses were done for each of the 14 individual countries, once using the reading literacy scores and once using the mathematics literacy scores. Following a description of the variables used in the analyses, the two models and their results are presented in greater detail.

Model Variables. Two main sets of variables were included in the models. These included student and school background characteristics, and school-level decision making measures. The outcome variables for these models were students' plausible value scores from the 2006 PISA mathematics and reading literacy portions of the assessment.

Dichotomous predictor variables and factor scores created from multiple individual items using Principal Components Analysis (PCA) were entered into the models uncentered. Continuous predictor variables were standardized to have a mean of zero and a standard deviation of one to aid in making comparisons. Additionally, the mathematics and reading literacy student achievement outcomes were also standardized to have a mean of zero and a standard deviation of one prior to being entered into the models. Under this approach, the intercept in the models was the predicted value of the dependent variable when the dichotomous variables were zero and when the remaining variables in the model were at the mean for the entire sample.

Student-level covariates. There is extensive research in the field of education that examines the effects of student background characteristics on student achievement. Starting with the Coleman Report (1966) over forty years ago, the idea that influences outside of the school environment could have an impact on students academic performance became an important topic in educational research. The selection of the student-level background variables to be included in the models was based on two criteria; previous research of school leadership and achievement, and availability in the PISA database. These variables included both individual characteristics and family background. The following individual characteristics were included in the models: gender

(Anderson, 2008), grade (Fuchs & Woessmann, 2007), age (Fuchs & Woessmann, 2007) and whether the student was born in the country (Fuchs & Woessmann, 2007). The family background variables included the following: parental education (Woessmann, 2001), a measure of socio-economic status, (Leithwood & Mascall, 2008), number of books in the home (Woessmann L. , 2001) and parents' job type (Fuchs & Woessmann, 2007). A description of these variables is presented in Table 4.2. Due to issues with multicollinearity, some of the above variables were combined into factor scores using PCA prior to being entered into the model. These data reduction procedures are described where appropriate in the table.

School –level covariates. In addition to student background characteristics, institutional factors have also been found to influence student achievement (Woessmann, 2001). As with the student background variables, the school-level contextual variables included in the model were selected based on two factors; their inclusion in previous research in the field as well as availability in the PISA 2006 database. Specifically, four variables that measure school characteristics were included: Quality of instructional materials (Woessmann, 2001), total school enrollment (Miller & Rowan, 2006), proportion of certified teachers (Goldhaber & Brewer, 2000) and student-teacher ratio (Fuchs & Woessmann, 2007). All four of these variables were collected using the school background questionnaire. A description of these variables can be found in Table 4.3.

Table 4. 2: *Student Background Covariates*

Type	Variable	Description
Individual Characteristics	Gender	Coded 1=Male and 0=Female
	Maturity	This variable was a measured using the principal components score of two variables that loaded highly on the same factor (Accounted for 63% of the total variance, principal component loadings of .80 each; similar factor structures were observed in the individual countries). Principal component scores have a mean of zero and a standard deviation of one: -Grade: A numerical value ranging from 7 to 12 to represent the grade the student was enrolled in at the time of the assessment. -Age: Exact age of students, including year, month and day. Example, 15.42
	Born	Whether or not the student was born in the country of the assessment. Coded 0=Country of the Test and 1=Other Country
Family Background	Parental Career Status	This variable was a measured using the principal components score of two variables that loaded highly on the same factor (Accounted for 76% of the total variance, principal component loadings of .87 each; similar factor structures were observed in the individual countries). Principal component scores have a mean of zero and a standard deviation of one: -Highest parental education in years. Across countries this ranges from 3 to 17 -Highest parental occupational status. The values of this variable range from 16 through 90.
	Family SES	This variable was a measured using the principal components score of two variables that loaded highly on the same factor (Accounted for 62% of the total variance, principal component loadings of .79 each; similar factor structures were observed in the individual countries). Principal component scores have a mean of zero and a standard deviation of one: -Wealth: A measure of socio-economic status made from a scale created by the OECD using the individual questions regarding individual possessions in the home: A room of my own, a link to the internet, a dishwasher, a DVD/VCR, cell phones, televisions, computers, cars, and three country specific items. -Number of books in the home: The values include 1=1-10, 2=11-25, 3=26-100, 4=101-200, 5=200-500 and 5=More than 500

Table 4. 3: *Descriptions of School Background Characteristics*

Variable	Description
Resources	A measure of principal's perceptions of the quality of instructional materials in the school. This variable was created by the OECD using items regarding instructional resources including the following: Shortage or inadequacy of science laboratory equipment, shortage or inadequacy of instructional materials (e.g. textbooks), shortage or inadequacy of computers for instruction, lack or inadequacy of Internet connectivity, shortage or inadequacy of computer software for instruction, shortage or inadequacy of library materials and shortage or inadequacy of audio-visual resources
Size	The total number of students enrolled in the school. Across the included countries this number ranges from 4 to 5000.
Ratio	This variable indicates the teacher-student ratio within each school. Across the included countries this number ranges from 0.87 to 38.06.
Certification	This variable is a measure of the proportion of teachers within the school that are certified to teach at the high school level. The OECD calculated this proportion by dividing the number of certified teachers by the total number of teachers within the school.

Measures of school-level decision making. As described in Chapter Three, the measures of school-level decision making were taken from the 12 items on the school background survey. These items (see Table 4.4) from the PISA school background questionnaire were preceded by the following stem: “Regarding your school, who has a considerable responsibility for the following tasks?” For each of the 12 items, principals completing the survey had to choose between four options for each task. These options included, “National educational authority,” “Regional or local education authority,” “School governing board,” and “Principals or teachers.”

Table 4. 4: *Decision-Making Survey Items*

Regarding your school, who has a considerable responsibility for the following tasks?
Selecting teachers for hire
Firing teachers
Establishing teachers’ starting salaries
Determining teachers’ salary increases
Formulating the school budget
Deciding on budget allocations within the school
Establishing student disciplinary policies
Establishing student assessment policies
Approving students for admission to the school
Choosing which textbooks are used
Determining course content
Deciding which courses are offered

Description of decision making variables. Table 4.5 presents the distribution of school-level decision making among the participating schools across countries. The values in the table are the percentages of principles that selected the “Principal or teacher” option within each country. As displayed in the table there is variability both across countries, as well as across the items within each country. Across the decision

making variables, the median percentages ranged from 10% indicating that school-level personnel made starting salary decisions, to 94% indicating that they made decisions regarding textbook use. Across the countries, the median percentages ranged from 8% in Portugal to 88% in the Netherlands.

According to the *PISA 2006 Technical Report*, the OECD considers the majority of the items in Table 4.4 to fall on two scales (Organization for Economic Cooperation and Development, 2009b). The first is “School responsibility for resource allocation”, which comprised the following six items: “Selecting teachers for hire”, “Firing teachers”, “Establishing teachers’ starting salaries”, “Determining teachers’ salaries increases”, “Formulating the school budget”, and “Deciding on budget allocations within the school.” The second scale is labeled “School responsibility for curriculum and assessment” and was composed of these four items: “Establishing student assessment policies,” “Choosing which textbooks are used,” “Determining course content,” and “Deciding which courses are offered.” The items “Approving students for admission to the school” and “Establishing student disciplinary policies” were not included in either scale as they did not hang together empirically with the other items.

However, previous researchers who have used the same PISA variables, or variables similar to them, have used the variables separately and have found different relationships exist for the individual variables (Woessmann, 2001; Fuchs & Woessmann, 2007). Therefore, instead of using the PISA derived scales, the variables will be entered in individually.

Table 4. 5: *Percent Frequency Distribution of School-Level Decision Making Variables*

Item	Austria	Chile	Denmark	Finland	Hungary	Ireland	Korea	Nether-lands	New Zealand	Norway	Portugal	Slovenia	Spain	Sweden	Median
Selecting Teachers for Hire	14%	5%	89%	59%	73%	31%	3%	99%	88%	65%	0%	100%	0%	96%	62%
Firing Teachers	10%	1%	60%	26%	75%	6%	2%	72%	57%	44%	0%	90%	0%	75%	35%
Starting Salaries	0%	0%	31%	9%	37%	0%	2%	44%	12%	14%	0%	10%	0%	71%	10%
Salary Increases	0%	0%	37%	8%	39%	0%	1%	39%	29%	16%	0%	27%	0%	87%	12%
Formulate Budget	23%	12%	87%	69%	55%	42%	43%	81%	71%	74%	8%	61%	40%	84%	58%
Budget Allocations	93%	42%	83%	97%	50%	91%	66%	89%	88%	96%	4%	80%	39%	95%	86%
Student Discipline	65%	91%	71%	97%	67%	94%	95%	96%	84%	75%	55%	98%	47%	98%	88%
Student Assessment	66%	82%	78%	97%	71%	92%	93%	91%	91%	61%	66%	79%	69%	93%	81%
Student Admission	79%	83%	94%	75%	70%	84%	98%	89%	84%	48%	8%	84%	10%	70%	81%
Textbook Use	80%	92%	90%	100%	76%	98%	84%	97%	92%	96%	98%	97%	88%	99%	94%
Course Content	73%	27%	85%	69%	66%	64%	80%	87%	88%	61%	50%	75%	48%	86%	71%
Courses Offered	57%	62%	84%	91%	55%	92%	83%	84%	92%	44%	65%	71%	31%	74%	73%
Median	61%	35%	84%	72%	67%	74%	73%	88%	86%	61%	8%	80%	35%	87%	61%

Running a principal components analysis (PCA) across countries and then running a separate PCA for each individual country demonstrated that combining variables is not the ideal way to create predictors for this particular data set. PCA is a data reduction technique that produces a smaller set of uncorrelated variables, which are “easier to understand and use in future analyses than a larger set of correlated variables” (Dunteman, 1989, p. 7). While PCA would be an ideal method to reduce the number of variables in the current study, an examination of PCA results demonstrated otherwise. While there were four clearly defined factors in the overall PCA analysis across countries, the individual PCA analyses for the individual countries resulted in varying factors, meaning that the results in Austria, might not mean the same thing as the results in Denmark if the overall components from the across county PCA were used. This indicated the need for using the individual variables instead of PCA scores. It should be noted that this method of using individual variables is not without its limitations. Multicollinearity, the inclusion of two highly correlated variables in a multiple regression model, must be considered in using this approach. While the issue of multicollinearity is not ideal, it was deemed more desirable than using combined variables which meant different things in different countries, thereby limiting their interpretability. This is supported by previous research which has found that inappropriate use of PCA and factor analysis can have consequences for the obtained results (Fabrigar, MacCallum, Wegener, & Strahan, 1999).

Model Building and Results. The following section describes the model building process as well as presents the results of the unconditional model and conditional Models 1 and 2.

Unconditional model. The model building began with the unconditional model, also referred to as the one-way ANOVA with random effects model or the null model. The information obtained from this model is used to calculate the unconditional intraclass correlation coefficient (ICC). The following equations are used to represent the unconditional model:

$$PV_{ij} = \beta_{0j} + r_{ij} \quad (\text{Eq. 4.1})$$

$$\beta_{0j} = \gamma_{00} + u_{0j} \quad (\text{Eq. 4.2})$$

The combined model is as follows:

$$PV_{ij} = \gamma_{00} + u_{0j} + r_{ij} \quad (\text{Eq. 4.3})$$

The dependent variable is labeled “PV” and represents the inclusion of all five plausible values as the outcome variable. The HLM software takes all five plausible values into account when estimating models with individual student achievement as the criterion (Bryk, Raudenbush & Congdon, 2008). Additionally, when entering the model into HLM, the issue of centering must be addressed. When working with multilevel regression models, “it is best that all independent variables be centered” (Bickel, 2007, p. 135). However, since the variables entered into the models were either standardized or dichotomous in nature, centering was not necessary.

The unconditional model has one fixed effect. This is γ_{00} , which is the grand mean for the outcome variable in the population. Here, one assumes that these groups are a small subset of the possible values that one wishes to generalize to in the population (Newsom, 2006). In the unconditional model, the random effects are r_{ij} (error associated with individuals) and u_{0j} (random between-school effect). In the unconditional model the following formula applies, where τ_{00} is the between group variability and σ^2 is the within group variability:

$$\text{Var}(Y_{ij}) = \text{Var}(u_{0j} + r_{ij}) = \tau_{00} + \sigma^2 \quad (\text{Eq. 4.4})$$

The ICC is the proportion of variability between groups, which in the PISA data is the proportion of variability that exists among schools in each of the countries. The ICC is calculated to determine the degree of clustering within schools. The formula used in calculating the ICC is presented in the following Equation. 4.5

$$ICC = \frac{\hat{\tau}_{00}}{\hat{\tau}_{00} + \hat{\sigma}^2} \quad (\text{Eq. 4.5})$$

Using Austria as an example, the ICC formula with the values for the Austrian mathematics data is presented in the following Equation 4.6. In Austria, more than half of the total variability that exists in Austrian students' mathematics achievement, exists between schools

$$ICC = \frac{0.771}{0.771 + 0.507} = 0.60 \quad (\text{Eq. 4.6})$$

The reliabilities of the level-1 intercepts, the level-2 intercepts (γ_{00}) which represent the mean student achievement, the errors associated with individuals (r_{ij}), the

random between-school effects (u_{0j}) and the ICC's for reading and mathematics literacy for each of the 14 countries are presented in Tables 4.6 and 4.7.

Table 4. 6: *Unconditional Model for Mathematics Literacy Outcome*

Country	Reliability	Fixed Effects	Random Effects		Mathematics Literacy ICC ¹
	Intercept (β_{0j})	Intercept (γ_{00})	Level-1 (σ^2)	Level-2 (τ_{00})	
Austria	0.96	-0.186 (0.089)	0.507	0.771*	0.60
Chile	0.91	-1.514* (0.108)	0.404	0.427*	0.48
Denmark	0.74	0.125* (0.037)	0.714	0.089*	0.11
Finland	0.68	0.517* (0.024)	0.697	0.048*	0.06
Hungary	0.95	-0.566* (0.077)	0.372	0.725*	0.66
Ireland	0.88	-0.247* (0.070)	0.638	0.181*	0.22
Korea	0.95	0.489* (0.069)	0.620	0.374*	0.38
Netherlands	0.98	0.386* (0.134)	0.317	0.612*	0.66
New Zealand	0.84	0.153* (0.040)	0.840	0.168*	0.17
Norway	0.69	-0.122* (0.030)	0.858	0.083*	0.09
Portugal	0.94	-0.459* (0.057)	0.637	0.330*	0.34
Slovenia	0.95	-0.239* (0.067)	0.353	0.550*	0.61
Spain	0.80	-0.371* (0.032)	0.783	0.115*	0.13
Sweden	0.80	0.003 (0.045)	0.819	0.154*	0.16
Mean	0.86				0.33

¹ Calculated using the following formula: $ICC = \frac{\tau_{00\ uncond}}{\tau_{00\ uncond} + \sigma_{uncond}^2}$

N/S= Not Included due to lack of statistical significance

*p<.01

As displayed in Table 4.6, the mean reliability of the unconditional models using mathematics literacy as the outcome variable was 0.86. These reliabilities ranged from 0.68 for Finland to the highest reliability of 0.98 for the Netherlands. The mean ICC for the mathematics literacy outcome was 0.33. The ICCs ranged from 0.06 for Finland to 0.66 for Hungary and the Netherlands.

As displayed in Table 4.7, the mean reliability of the intercept in the unconditional models using reading literacy as the outcome variable was 0.88. These reliabilities ranged from 0.74 for both Finland and Norway to the highest reliability of 0.98 for the Netherlands. The mean ICC for the reading literacy outcome was 0.35. The ICCs ranged from 0.08 for Finland to 0.70 for Slovenia.

In Table 4.6 and 4.7, the percent of total variability among schools were all statistically significant. However, some of the ICCs could be considered more meaningfully important than others. For example, it could be argued that an ICC of 0.06 for Finland with mathematics literacy as an outcome is not as meaningfully significant as the Netherlands ICC of .66. However, there are not any strict guidelines as to what counts as a meaningfully significant ICC and accordingly, the data from all 14 countries were appropriately analyzed using HLM analyses.

Table 4. 7: *Unconditional Model for Reading Literacy Outcome*

Country	Reliability	Fixed Effects	Random Effects		Reading Literacy ICC ¹
	Intercept (β_{0j})	Intercept (γ_{00})	Level-1 (σ^2)	Level-2 (τ_{00})	
Austria	0.96	- 0.270 (0.092)	0.544	0.835*	0.60
Chile	0.90	- 1.130* (0.134)	0.659	0.559*	0.46
Denmark	0.78	-0.024 (0.041)	0.709	0.116*	0.14
Finland	0.74	0.516* (0.025)	0.629	0.057*	0.08
Hungary	0.95	-0.593* (0.081)	0.352	0.782*	0.69
Ireland	0.90	-0.059 (0.075)	0.742	0.256*	0.26
Korea	0.95	0.567* (0.064)	0.531	0.301*	0.36
Netherlands	0.98	0.171** (0.134)	0.346	0.626*	0.64
New Zealand	0.88	0.183* (0.050)	0.951	0.257*	0.21
Norway	0.74	-0.138* (0.036)	1.035	0.129*	0.11
Portugal	0.94	-0.327* (0.060)	0.674	0.385*	0.36
Slovenia	0.96	-0.292 (0.064)	0.263	0.603*	0.70
Spain	0.82	-0.520* (0.032)	0.723	0.121*	0.14
Sweden	0.84	0.085* (0.055)	0.900*	0.215*	0.19
Mean	0.88				0.35

¹ Calculated using the following formula: $ICC = \frac{\tau_{00\ uncond}}{\tau_{00\ uncond} + \sigma_{uncond}^2}$

/S= Not Included due to lack of statistical significance

*p<.01

Model 1. Model 1 builds upon the unconditional model by including student and school covariates at levels one and two. These are “intercept only” models, as the relationship between each of the school level variables and the plausible values were fixed and not allowed to vary randomly across schools. This approach was used due to the low reliabilities of the slopes.

The variables included at level-1 took into account student background characteristics. Contextual variables at level-two accounted for differences at the school-level. In building Model 1, the same nine variables described above in the school and student factors sections were included in all 28 models (one for mathematics and one for reading literacy for each country). While the results of Model 1 were interesting in their own right, the focus of this dissertation is the relationship between the school-level decision making variables and student achievement, rather with school and student level background characteristics modeled in order to examine the school-level decision making variables impacts above and beyond these background covariates. Therefore, the results of Model 1 for each individual country will not be presented here in detail, but are presented in Tables 4.8 through 4.21. The equations for Model 1 are presented below. With the exception of the outcome variable, this model was the same across both reading and mathematics literacy.

$$PV_{ij} = \beta_{oj} + \beta_1(\text{Gender}) + \beta_2(\text{Born}) + \beta_3(\text{Maturity}) + \beta_4(\text{Family_SES}) + \beta_5(\text{Parent_Career}) + r_{ij} \quad (\text{Eq. 4.7})$$

$$\begin{aligned}
\beta_{0j} &= \gamma_{00} + \gamma_{01}(\text{Re sources}) + \gamma_{02}(\text{Ratio}) + \gamma_{03}(\text{Certified}) + \gamma_{04}(\text{Size}) + u_{0j} \\
\beta_{1j} &= \gamma_{10} \\
\beta_{2j} &= \gamma_{20} \\
\beta_{3j} &= \gamma_{30} \\
\beta_{4j} &= \gamma_{40} \\
\beta_{5j} &= \gamma_{50}
\end{aligned}
\tag{Eq. 4.8}$$

The combined model is as follows:

$$\begin{aligned}
PV_{ij} &= \gamma_{00} + \gamma_{01}(\text{Re sources}) + \gamma_{02}(\text{Ratio}) + \gamma_{03}(\text{Certified}) + \gamma_{04}(\text{Size}) + \\
&\gamma_{10}(\text{Gender}) + \gamma_{20}(\text{Born}) + \gamma_{30}(\text{Maturity}) + \gamma_{40}(\text{Family_SES}) + \\
&\gamma_{50}(\text{Parent_Career}) + u_{0j} + r_{ij}
\end{aligned}
\tag{Eq. 4.9}$$

Model 2. The next step in the model building process was to add the decision making variables in at level-2. These variables were entered in at this stage to examine their contribution to the model above and beyond the variability explained by the student and school covariates.

Model 2 contains the same nine student and school covariates as were included in Model 1, but includes all 12 of the school decision making variables, which were entered in regardless of statistical significance. The variables included in Model 2 are presented in the following Equations 4.10 through 4.12. Again, an intercepts-as-outcomes approach was adopted.

$$PV_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(\text{Born}) + \beta_3(\text{Maturity}) + \beta_4(\text{Family_SES}) + \beta_5(\text{Parent_Career}) + r_{ij} \quad (\text{Eq. 4.10})$$

$$\begin{aligned} \beta_{0j} = & \gamma_{00} + \gamma_{01}(\text{School_Size}) + \gamma_{02}(\text{Ratio}) + \gamma_{03}(\text{Re sources}) + \\ & \gamma_{04}(\text{Certification}) + \gamma_{05}(\text{Discipline}) + \gamma_{06}(\text{Assessment}) + \\ & \gamma_{07}(\text{Admission}) + \gamma_{08}(\text{Textbooks}) + \gamma_{09}(\text{Hire_Teachers}) + \\ & \gamma_{010}(\text{Fire_Teachers}) + \gamma_{011}(\text{Salary_Increase}) + \\ & \gamma_{012}(\text{Starting_Salary}) + \gamma_{013}(\text{Budget_Allocation}) + \\ & \gamma_{014}(\text{Formulate_Budget}) + \gamma_{015}(\text{Course_Content}) \\ & \gamma_{016}(\text{Course_Offerings}) + u_{0j} \end{aligned} \quad (\text{Eq. 4.11})$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

$$\beta_{5j} = \gamma_{50}$$

The combined model is as follows:

$$\begin{aligned} PV_{ij} = & \gamma_{00} + \gamma_{01}(\text{School_Size}) + \gamma_{02}(\text{Ratio}) + \gamma_{03}(\text{Re sources}) + \\ & \gamma_{04}(\text{Certification}) + \gamma_{05}(\text{Discipline}) + \gamma_{06}(\text{Assessment}) + \\ & \gamma_{07}(\text{Admission}) + \gamma_{08}(\text{Textbooks}) + \gamma_{09}(\text{Hire_Teachers}) + \\ & \gamma_{010}(\text{Fire_Teachers}) + \gamma_{011}(\text{Salary_Increase}) + \\ & \gamma_{012}(\text{Starting_Salary}) + \gamma_{013}(\text{Budget_Allocation}) + \\ & \gamma_{014}(\text{Formulate_Budget}) + \gamma_{015}(\text{Course_Content}) \\ & \gamma_{016}(\text{Course_Offerings}) + \gamma_{10}(\text{Maturity}) + \gamma_{20}(\text{Family_SES}) + \\ & \gamma_{30}(\text{Parent_Career}) + \gamma_{40}(\text{Gender}) + \gamma_{50}(\text{Born}) + u_{0j} + r_{ij} \end{aligned} \quad (\text{Eq. 4.12})$$

Model 2 is presented individually for each country in the following Tables 4.8 through 4.21. Following the tables, a discussion section will describe the results of the HLM analyses for Model 2. Specifically, this discussion section will be structured as

follows, (1) a description of the significant school decision making variables from Model 2 within each country, and (2) comparisons of the results of Model 2 across countries.

Table 4. 8: Models 1 and 2 for Austria

Austria	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	0.17	0.09	0.067	0.82	0.09	<0.001	0.09	0.27	0.749	0.77	0.23	0.002
Level One												
Student Demographics												
Maturity	0.12	0.02	<0.001	0.18	0.02	<0.001	0.12	0.02	<0.001	0.18	0.02	<0.001
Family SES	0.16	0.02	<0.001	0.10	0.02	<0.001	0.16	0.02	<0.001	0.10	0.02	<0.001
Parent Career	-0.01	0.02	0.749	0.02	0.02	0.224	-0.01	0.02	0.770	0.02	0.02	0.224
Gender	0.31	0.04	<0.001	-0.31	0.04	<0.001	0.31	0.04	<0.001	-0.30	0.04	<0.001
Born in Country	-0.15	0.05	0.003	0.07	0.06	0.223	-0.15	0.05	0.002	0.08	0.06	0.208
Level Two												
School Demographics												
School Resources	-0.05	0.03	0.144	-0.07	0.03	0.027	-0.08	0.03	0.026	-0.09	0.03	0.005
Student/Teacher Ratio	0.00	0.04	0.901	-0.05	0.04	0.275	0.00	0.04	0.994	-0.04	0.04	0.264
Proportion Certified	0.36	0.04	<0.001	0.37	0.04	<0.001	0.38	0.04	<0.001	0.37	0.04	<0.001
School Size	0.31	0.05	<0.001	0.26	0.05	<0.001	0.28	0.06	<0.001	0.26	0.05	<0.001
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	0.14	0.11	0.196	0.04	0.10	0.686
Firing Teachers	-	-	-	-	-	-	0.25	0.14	0.074	0.21	0.15	0.147
Starting Salaries	-	-	-	-	-	-	na	na	na	na	na	na
Salary Increases	-	-	-	-	-	-	na	na	na	na	na	na
Formulate Budget	-	-	-	-	-	-	0.21	0.16	0.178	-0.05	0.20	0.791
Budget Allocations	-	-	-	-	-	-	0.15	0.19	0.431	0.33	0.20	0.099
Student Discipline	-	-	-	-	-	-	-0.01	0.11	0.891	-0.02	0.10	0.833
Student Assessment	-	-	-	-	-	-	0.09	0.09	0.349	0.18	0.11	0.099
Student Admission	-	-	-	-	-	-	0.00	0.14	0.999	-0.05	0.14	0.735
Textbook Use	-	-	-	-	-	-	-0.15	0.12	0.206	-0.29	0.13	0.031
Course Content	-	-	-	-	-	-	-0.17	0.11	0.143	-0.18	0.12	0.141
Courses Offered	-	-	-	-	-	-	0.14	0.13	0.277	0.04	0.11	0.691
Random Components												
	Residual Variance			Residual Variance			Residual Variance			Residual Variance		
Within Schools	0.463			0.486			0.463			0.486		
Between Schools	0.214			0.219			0.200			0.209		
Total Residual	0.677			0.705			0.663			0.695		
Total Variance Explained	47%			49%			48%			50%		

Note. na=not available for inclusion in the model due to lack of variability.

Table 4. 9: Models 1 and 2 for Chile

Chile	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	-1.18	0.31	0.001	-0.17	0.42	0.694	-1.53	0.54	0.008	-0.44	0.67	0.517

Level One

Student Demographics

Maturity	0.13	0.02	< 0.001	0.12	0.03	0.001	0.12	0.02	<0.001	0.11	0.03	0.002
Family SES	0.05	0.03	0.138	0.04	0.04	0.282	0.05	0.03	0.137	0.04	0.04	0.263
Parent Career	0.12	0.03	< 0.001	0.10	0.04	0.016	0.12	0.03	< 0.001	0.10	0.04	0.016
Gender	0.21	0.05	< 0.001	-0.25	0.08	0.004	0.21	0.05	< 0.001	-0.26	0.08	0.004
Born in Country	-0.39	0.21	0.079	-0.22	0.27	0.411	-0.39	0.21	0.077	-0.22	0.27	0.408

Level Two

School Demographics

School Resources	0.02	0.10	0.862	0.00	0.11	0.987	-0.02	0.09	0.811	-0.05	0.10	0.587
Student/Teacher Ratio	-0.06	0.08	0.421	-0.12	0.09	0.181	-0.07	0.08	0.341	-0.12	0.09	0.200
Proportion Certified	-0.01	0.07	0.940	0.00	0.07	0.966	-0.01	0.06	0.878	-0.04	0.08	0.647
School Size	0.27	0.10	0.013	0.28	0.12	0.022	0.30	0.09	0.003	0.34	0.10	0.003

School Decision Making

Selecting Teachers for Hire	-	-	-	-	-	-	na	na	na	na	na	na
Firing Teachers	-	-	-	-	-	-	na	na	na	na	na	na
Starting Salaries	-	-	-	-	-	-	na	na	na	na	na	na
Salary Increases	-	-	-	-	-	-	na	na	na	na	na	na
Formulate Budget	-	-	-	-	-	-	0.11	0.21	0.594	0.12	0.25	0.629
Budget Allocations	-	-	-	-	-	-	0.28	0.19	0.141	0.47	0.25	0.072
Student Discipline	-	-	-	-	-	-	-0.16	0.30	0.611	0.16	0.26	0.558
Student Assessment	-	-	-	-	-	-	0.11	0.28	0.681	-0.15	0.28	0.591
Student Admission	-	-	-	-	-	-	-0.03	0.18	0.856	-0.08	0.25	0.740
Textbook Use	-	-	-	-	-	-	0.35	0.36	0.341	0.19	0.47	0.683
Course Content	-	-	-	-	-	-	0.15	0.15	0.320	0.09	0.20	0.671
Courses Offered	-	-	-	-	-	-	-0.23	0.15	0.148	-0.31	0.23	0.183

Random Components	Residual Variance	Residual Variance	Residual Variance	Residual Variance
Within Schools	0.400	0.629	0.399	0.629
Between Schools	0.207	0.347	0.213	0.337
Total Residual	0.606	0.976	0.612	0.966
Total Variance Explained	27%	20%	26%	21%

Note. na=not available for inclusion in the model due to lack of variability.

Table 4. 10: Models 1 and 2 for Denmark

Denmark	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	0.38	0.11	<0.001	0.90	0.11	<0.001	0.27	0.15	0.075	0.67	0.18	<0.001
Level One												
Student Demographics												
Maturity	0.16	0.03	<0.001	0.16	0.03	<0.001	0.16	0.03	<0.001	0.16	0.02	<0.001
Family SES	0.18	0.02	<0.001	0.09	0.02	<0.001	0.17	0.02	<0.001	0.09	0.02	<0.001
Parent Career	0.20	0.03	<0.001	0.22	0.03	<0.001	0.20	0.03	<0.001	0.21	0.02	<0.001
Gender	0.14	0.03	<0.001	-0.29	0.04	<0.001	0.14	0.03	<0.001	-0.29	0.04	<0.001
Born in Country	-0.41	0.09	<0.001	-0.39	0.08	<0.001	-0.41	0.09	<0.001	-0.40	0.08	<0.001
Level Two												
School Demographics												
School Resources	-0.01	0.02	0.720	0.04	0.03	0.229	-0.01	0.03	0.798	0.03	0.03	0.264
Student/Teacher Ratio	-0.02	0.08	0.786	-0.02	0.08	0.810	-0.02	0.08	0.847	0.00	0.08	0.967
Proportion Certified	0.10	0.05	0.064	0.08	0.05	0.122	0.12	0.05	0.029	0.12	0.05	0.028
School Size	0.07	0.08	0.380	0.03	0.09	0.720	0.04	0.09	0.642	0.00	0.11	0.997
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	0.05	0.08	0.561	0.16	0.10	0.109
Firing Teachers	-	-	-	-	-	-	-0.02	0.05	0.668	0.04	0.07	0.580
Starting Salaries	-	-	-	-	-	-	0.05	0.10	0.635	0.06	0.08	0.461
Salary Increases	-	-	-	-	-	-	-0.05	0.10	0.616	-0.07	0.09	0.410
Formulate Budget	-	-	-	-	-	-	0.04	0.08	0.630	0.03	0.10	0.790
Budget Allocations	-	-	-	-	-	-	0.08	0.10	0.395	0.12	0.10	0.223
Student Discipline	-	-	-	-	-	-	-0.08	0.09	0.364	-0.16	0.08	0.063
Student Assessment	-	-	-	-	-	-	-0.02	0.07	0.779	-0.10	0.08	0.235
Student Admission	-	-	-	-	-	-	0.08	0.07	0.291	0.05	0.09	0.544
Textbook Use	-	-	-	-	-	-	-0.02	0.12	0.891	0.03	0.13	0.822
Course Content	-	-	-	-	-	-	0.04	0.08	0.637	0.13	0.07	0.062
Courses Offered	-	-	-	-	-	-	-0.06	0.08	0.433	-0.09	0.13	0.504
Random Components	Residual Variance		Residual Variance			Residual Variance		Residual Variance				
Within Schools	0.594		0.585			0.593		0.584				
Between Schools	0.043		0.063			0.050		0.064				
Total Residual	0.637		0.648			0.643		0.649				
Total Variance Explained	21%		21%			20%		21%				

Table 4. 11: Models 1 and 2 for Finland

Finland	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	0.78	0.11	<0.001	1.70	0.10	<0.001	0.71	0.22	0.002	1.51	0.23	<0.001

Level One

Student Demographics

Maturity	0.11	0.02	<0.001	0.07	0.02	<0.001	0.11	0.02	<0.001	0.08	0.02	<0.001
Family SES	0.21	0.02	<0.001	0.14	0.02	<0.001	0.21	0.02	<0.001	0.14	0.02	<0.001
Parent Career	0.21	0.02	<0.001	0.19	0.02	<0.001	0.20	0.02	<0.001	0.19	0.02	<0.001
Gender	0.14	0.03	<0.001	-0.51	0.03	<0.001	0.14	0.03	<0.001	-0.51	0.03	<0.001
Born in Country	-0.46	0.10	<0.001	-0.36	0.09	<0.001	-0.46	0.10	<0.001	-0.36	0.09	<0.001

Level Two

School Demographics

School Resources	-0.01	0.03	0.615	-0.01	0.03	0.627	-0.01	0.03	0.699	-0.01	0.02	0.790
Student/Teacher Ratio	-0.04	0.06	0.488	-0.12	0.07	0.112	-0.07	0.06	0.241	-0.16	0.07	0.023
Proportion Certified	0.01	0.03	0.756	0.02	0.03	0.465	0.01	0.03	0.770	0.03	0.03	0.354
School Size	0.00	0.09	0.975	0.17	0.09	0.061	0.02	0.09	0.807	0.18	0.09	0.041

School Decision Making

Selecting Teachers for Hire	-	-	-	-	-	-	-0.08	0.06	0.169	-0.09	0.05	0.103
Firing Teachers	-	-	-	-	-	-	0.09	0.05	0.093	0.10	0.05	0.063
Starting Salaries	-	-	-	-	-	-	0.00	0.07	0.955	-0.02	0.11	0.855
Salary Increases	-	-	-	-	-	-	-0.03	0.09	0.715	-0.16	0.09	0.059
Formulate Budget	-	-	-	-	-	-	0.00	0.05	0.950	0.03	0.05	0.535
Budget Allocations	-	-	-	-	-	-	0.07	0.13	0.613	-0.01	0.14	0.914
Student Discipline	-	-	-	-	-	-	0.04	0.12	0.730	0.03	0.11	0.790
Student Assessment	-	-	-	-	-	-	-0.13	0.12	0.279	0.07	0.15	0.651
Student Admission	-	-	-	-	-	-	0.05	0.05	0.346	0.08	0.05	0.153
Textbook Use	-	-	-	-	-	-	na	na	na	na	na	na
Course Content	-	-	-	-	-	-	-0.01	0.05	0.886	0.06	0.05	0.306
Courses Offered	-	-	-	-	-	-	0.10	0.07	0.143	0.03	0.07	0.621

Random Components	Residual Variance	Residual Variance	Residual Variance	Residual Variance
Within Schools	0.597	0.501	0.597	0.501
Between Schools	0.033	0.043	0.034	0.042
Total Residual	0.630	0.544	0.631	0.543
Total Variance Explained	15%	21%	15%	21%

Note. na=not available for inclusion in the model due to lack of variability.

Table 4. 12: Models 1 and 2 for Hungary

Hungary	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	-1.02	0.15	<0.001	-0.12	0.14	0.393	-1.05	0.24	<0.001	-0.18	0.24	0.445
Level One												
Student Demographics												
Maturity	0.10	0.01	<0.001	0.09	0.01	<0.001	0.09	0.01	<0.001	0.08	0.01	<0.001
Family SES	0.04	0.02	0.044	0.01	0.02	0.623	0.03	0.02	0.050	0.01	0.02	0.663
Parent Career	0.09	0.02	<0.001	0.06	0.02	0.012	0.09	0.02	<0.001	0.06	0.02	0.013
Gender	0.34	0.02	<0.001	-0.14	0.03	<0.001	0.34	0.02	<0.001	-0.14	0.03	<0.001
Born in Country	0.11	0.11	0.307	-0.06	0.10	0.575	0.11	0.11	0.314	-0.06	0.10	0.579
Level Two												
School Demographics												
School Resources	0.05	0.08	0.495	0.05	0.08	0.507	0.08	0.07	0.264	0.06	0.07	0.390
Student/Teacher Ratio	-0.08	0.08	0.310	-0.06	0.07	0.369	-0.13	0.07	0.064	-0.10	0.07	0.151
Proportion Certified	0.15	0.09	0.116	0.16	0.08	0.039	0.15	0.14	0.308	0.17	0.13	0.170
School Size	0.35	0.13	0.006	0.33	0.13	0.010	0.45	0.12	<0.001	0.41	0.12	0.001
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	0.08	0.36	0.825	0.04	0.30	0.896
Firing Teachers	-	-	-	-	-	-	-0.39	0.36	0.281	-0.31	0.30	0.306
Starting Salaries	-	-	-	-	-	-	-0.11	0.18	0.537	0.01	0.18	0.951
Salary Increases	-	-	-	-	-	-	0.61	0.18	0.001	0.46	0.17	0.010
Formulate Budget	-	-	-	-	-	-	-0.04	0.20	0.833	-0.13	0.20	0.514
Budget Allocations	-	-	-	-	-	-	-0.09	0.20	0.657	-0.03	0.19	0.859
Student Discipline	-	-	-	-	-	-	0.24	0.28	0.387	0.00	0.27	0.989
Student Assessment	-	-	-	-	-	-	0.02	0.31	0.944	0.35	0.31	0.258
Student Admission	-	-	-	-	-	-	0.29	0.17	0.086	0.38	0.18	0.036
Textbook Use	-	-	-	-	-	-	-0.37	0.23	0.098	-0.40	0.20	0.045
Course Content	-	-	-	-	-	-	0.04	0.25	0.859	-0.14	0.22	0.534
Courses Offered	-	-	-	-	-	-	0.05	0.21	0.829	0.08	0.21	0.687
Random Components												
Within Schools	Residual Variance			Residual Variance			Residual Variance			Residual Variance		
	0.332			0.338			0.331			0.338		
Between Schools	0.529			0.534			0.496			0.514		
Total Residual	0.860			0.872			0.827			0.852		
Total Variance Explained												
	22%			23%			25%			25%		

Table 4. 13: Models 1 and 2 for Ireland

Ireland	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	-0.31	0.26	0.227	0.10	0.30	0.747	0.44	0.26	0.101	0.97	0.30	0.003
Level One												
Student Demographics												
Maturity	0.11	0.02	< 0.001	0.12	0.02	< 0.001	0.11	0.02	< 0.001	0.12	0.02	< 0.001
Family SES	0.21	0.02	< 0.001	0.21	0.03	< 0.001	0.21	0.03	< 0.001	0.21	0.03	< 0.001
Parent Career	0.17	0.03	< 0.001	0.18	0.03	< 0.001	0.16	0.03	< 0.001	0.18	0.03	< 0.001
Gender	0.09	0.05	0.080	-0.29	0.06	< 0.001	0.09	0.05	0.078	-0.29	0.06	< 0.001
Born in Country	-0.03	0.06	0.615	0.05	0.08	0.537	-0.03	0.06	0.621	0.05	0.07	0.508
Level Two												
School Demographics												
School Resources	0.00	0.05	0.929	0.04	0.05	0.450	-0.03	0.04	0.503	0.01	0.05	0.819
Student/Teacher Ratio	0.40	0.11	0.001	0.47	0.12	0.001	0.30	0.10	0.004	0.32	0.13	0.019
Proportion Certified	0.10	0.36	0.772	0.57	0.40	0.162	-0.09	0.28	0.748	0.28	0.27	0.314
School Size	0.01	0.12	0.959	-0.05	0.11	0.670	-0.04	0.13	0.777	0.02	0.16	0.899
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	0.16	0.11	0.167	0.10	0.12	0.410
Firing Teachers	-	-	-	-	-	-	0.25	0.11	0.039	0.19	0.12	0.109
Starting Salaries	-	-	-	-	-	-	na	na	na	na	na	na
Salary Increases	-	-	-	-	-	-	na	na	na	na	na	na
Formulate Budget	-	-	-	-	-	-	-0.01	0.09	0.885	-0.03	0.10	0.750
Budget Allocations	-	-	-	-	-	-	-0.38	0.11	0.001	-0.37	0.12	0.005
Student Discipline	-	-	-	-	-	-	-0.28	0.10	0.010	-0.27	0.16	0.092
Student Assessment	-	-	-	-	-	-	0.30	0.09	0.002	0.40	0.18	0.033
Student Admission	-	-	-	-	-	-	-0.23	0.10	0.022	-0.14	0.13	0.286
Textbook Use	-	-	-	-	-	-	-0.33	0.15	0.029	-0.28	0.14	0.048
Course Content	-	-	-	-	-	-	-0.03	0.08	0.707	0.03	0.10	0.734
Courses Offered	-	-	-	-	-	-	0.18	0.13	0.171	-0.14	0.14	0.333
Random Components	Residual Variance		Residual Variance			Residual Variance		Residual Variance				
Within Schools	0.543		0.619			0.543		0.619				
Between Schools	0.056		0.086			0.048		0.077				
Total Residual	0.599		0.705			0.591		0.695				
Total Variance Explained	27%		29%			28%		30%				

Note. na=not available for inclusion in the model due to lack of variability.

Table 4. 14: Models 1 and 2 for Korea

Korea	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	0.60	1.09	0.587	1.63	0.90	0.074	0.84	0.91	0.361	1.76	0.83	0.036
Level One												
Student Demographics												
Maturity	0.03	0.02	0.276	0.02	0.02	0.261	0.02	0.02	0.368	0.02	0.02	0.368
Family SES	0.19	0.02	<0.001	0.10	0.02	<0.001	0.19	0.02	<0.001	0.10	0.02	<0.001
Parent Career	0.01	0.02	0.615	0.01	0.02	0.776	0.01	0.02	0.622	0.01	0.02	0.778
Gender	0.12	0.05	0.026	-0.36	0.05	<0.001	0.13	0.05	0.018	-0.35	0.05	<0.001
Born in Country	0.37	0.23	0.110	-0.06	0.27	0.835	0.37	0.23	0.114	-0.06	0.28	0.830
Level Two												
School Demographics												
School Resources	-0.02	0.07	0.740	-0.02	0.06	0.764	-0.02	0.08	0.762	0.00	0.07	0.962
Student/Teacher Ratio	-0.13	0.13	0.321	-0.08	0.11	0.494	-0.06	0.16	0.715	-0.02	0.12	0.858
Proportion Certified	-1.04	1.80	0.564	-0.93	1.44	0.523	-1.77	1.38	0.203	-1.31	1.15	0.261
School Size	0.14	0.09	0.152	0.20	0.08	0.021	0.13	0.09	0.171	0.19	0.09	0.042
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	0.29	0.31	0.361	0.08	0.19	0.675
Firing Teachers	-	-	-	-	-	-	na	na	na	na	na	na
Starting Salaries	-	-	-	-	-	-	-0.31	0.17	0.076	-0.10	0.17	0.540
Salary Increases	-	-	-	-	-	-	na	na	na	na	na	na
Formulate Budget	-	-	-	-	-	-	0.27	0.12	0.033	0.26	0.12	0.038
Budget Allocations	-	-	-	-	-	-	0.23	0.19	0.232	0.22	0.16	0.178
Student Discipline	-	-	-	-	-	-	-0.06	0.22	0.781	0.12	0.22	0.577
Student Assessment	-	-	-	-	-	-	-0.06	0.16	0.689	-0.12	0.16	0.471
Student Admission	-	-	-	-	-	-	-0.26	0.21	0.222	-0.27	0.18	0.150
Textbook Use	-	-	-	-	-	-	-0.28	0.20	0.159	-0.37	0.16	0.020
Course Content	-	-	-	-	-	-	0.48	0.30	0.112	0.44	0.27	0.099
Courses Offered	-	-	-	-	-	-	-0.05	0.22	0.819	-0.14	0.16	0.393
Random Components	Residual Variance		Residual Variance				Residual Variance			Residual Variance		
Within Schools	0.593		0.504				0.593			0.503		
Between Schools	0.295		0.227				0.290			0.223		
Total Residual	0.887		0.730				0.882			0.726		
Total Variance Explained	11%		12%				11%			13%		

Note. na=not available for inclusion in the model due to lack of variability.

Table 4. 15: *Models 1 and 2 for Netherlands*

Netherlands	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	-0.46	0.15	0.005	-0.11	0.15	0.461	-0.97	0.39	0.019	-0.59	0.43	0.172
Level One												
Student Demographics												
Maturity	0.13	0.02	<0.001	0.11	0.02	<0.001	0.13	0.02	<0.001	0.11	0.02	<0.001
Family SES	0.09	0.03	<0.001	0.01	0.02	0.664	0.09	0.03	0.001	0.01	0.02	0.704
Parent Career	0.05	0.03	0.092	0.09	0.03	0.002	0.05	0.03	0.103	0.09	0.03	0.003
Gender	0.17	0.03	<0.001	-0.17	0.05	0.002	0.17	0.03	<0.001	-0.17	0.05	0.002
Born in Country	-0.05	0.08	0.529	-0.08	0.08	0.346	-0.05	0.08	0.537	-0.08	0.08	0.348
Level Two												
School Demographics												
School Resources	-0.01	0.09	0.924	0.00	0.09	0.970	-0.02	0.09	0.837	0.00	0.10	1.000
Student/Teacher Ratio	0.65	0.10	<0.001	0.65	0.13	<0.001	0.69	0.12	<0.001	0.62	0.15	<0.001
Proportion Certified	-0.05	0.09	0.554	0.01	0.09	0.885	-0.04	0.10	0.678	0.04	0.09	0.657
School Size	0.07	0.09	0.418	0.09	0.10	0.374	0.11	0.09	0.233	0.12	0.10	0.243
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	na	na	na	na	na	na
Firing Teachers	-	-	-	-	-	-	0.01	0.15	0.930	0.04	0.19	0.859
Starting Salaries	-	-	-	-	-	-	-0.12	0.17	0.477	-0.24	0.22	0.291
Salary Increases	-	-	-	-	-	-	-0.09	0.19	0.623	-0.05	0.21	0.807
Formulate Budget	-	-	-	-	-	-	0.16	0.18	0.386	0.24	0.19	0.207
Budget Allocations	-	-	-	-	-	-	0.12	0.31	0.696	-0.16	0.42	0.704
Student Discipline	-	-	-	-	-	-	na	na	na	na	na	na
Student Assessment	-	-	-	-	-	-	0.30	0.38	0.448	0.19	0.41	0.650
Student Admission	-	-	-	-	-	-	0.00	0.23	0.999	0.20	0.32	0.527
Textbook Use	-	-	-	-	-	-	na	na	na	na	na	na
Course Content	-	-	-	-	-	-	0.10	0.21	0.649	0.06	0.25	0.816
Courses Offered	-	-	-	-	-	-	-0.06	0.30	0.829	0.15	0.34	0.673
Random Components	Residual Variance		Residual Variance		Residual Variance		Residual Variance		Residual Variance		Residual Variance	
Within Schools	0.273		0.307		0.273		0.307		0.273		0.307	
Between Schools	0.267		0.299		0.309		0.353		0.267		0.299	
Total Residual	0.540		0.606		0.583		0.660		0.540		0.606	
Total Variance Explained	42%		38%		37%		32%		42%		38%	

Note. na=not available for inclusion in the model due to lack of variability.

Table 4. 16: *Models 1 and 2 for New Zealand*

New Zealand	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	-0.37	0.11	0.001	0.58	0.13	<0.001	-0.15	0.24	0.536	1.07	0.24	<0.001
Level One												
Student Demographics												
Maturity	0.13	0.02	<0.001	0.16	0.02	<0.001	0.13	0.02	<0.001	0.16	0.02	<0.001
Family SES	0.24	0.02	<0.001	0.25	0.02	<0.001	0.24	0.02	<0.001	0.25	0.02	<0.001
Parent Career	0.20	0.02	<0.001	0.24	0.02	<0.001	0.20	0.02	<0.001	0.24	0.02	<0.001
Gender	0.16	0.05	0.001	-0.32	0.04	<0.001	0.16	0.05	0.001	-0.31	0.04	<0.001
Born in Country	0.01	0.05	0.774	-0.21	0.05	<0.001	0.02	0.05	0.766	-0.21	0.05	<0.001
Level Two												
School Demographics												
School Resources	0.05	0.03	0.139	0.01	0.04	0.746	0.05	0.03	0.109	0.02	0.04	0.684
Student/Teacher Ratio	0.07	0.07	0.277	0.13	0.09	0.152	0.07	0.07	0.284	0.11	0.08	0.210
Proportion Certified	0.10	0.07	0.145	0.06	0.08	0.486	0.11	0.08	0.146	0.07	0.09	0.441
School Size	0.04	0.03	0.143	0.05	0.03	0.146	0.05	0.03	0.059	0.07	0.03	0.026
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	-0.31	0.18	0.097	-0.57	0.23	0.015
Firing Teachers	-	-	-	-	-	-	0.07	0.06	0.244	0.16	0.08	0.050
Starting Salaries	-	-	-	-	-	-	-0.05	0.13	0.711	-0.10	0.12	0.420
Salary Increases	-	-	-	-	-	-	-0.02	0.08	0.840	0.00	0.08	0.961
Formulate Budget	-	-	-	-	-	-	-0.08	0.08	0.314	-0.15	0.11	0.159
Budget Allocations	-	-	-	-	-	-	0.00	0.12	0.997	0.12	0.12	0.341
Student Discipline	-	-	-	-	-	-	-0.17	0.14	0.228	-0.27	0.14	0.060
Student Assessment	-	-	-	-	-	-	0.21	0.18	0.235	0.08	0.21	0.686
Student Admission	-	-	-	-	-	-	0.07	0.14	0.620	0.23	0.17	0.169
Textbook Use	-	-	-	-	-	-	na	na	na	na	na	na
Course Content	-	-	-	-	-	-	-0.01	0.13	0.916	-0.07	0.14	0.647
Courses Offered	-	-	-	-	-	-	na	na	na	na	na	na
Random Components	Residual Variance			Residual Variance			Residual Variance			Residual Variance		
Within Schools	0.710			0.755			0.709			0.754		
Between Schools	0.063			0.110			0.068			0.109		
Total Residual	0.773			0.864			0.778			0.863		
Total Variance Explained	23%			28%			23%			29%		

Note. na=not available for inclusion in the model due to lack of variability.

Table 4. 17: *Models 1 and 2 for Norway*

Norway	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	-0.05	0.12	0.658	0.81	0.13	<0.001	0.08	0.18	0.666	1.02	0.21	<0.001
Level One												
Student Demographics												
Maturity	0.04	0.03	0.228	0.07	0.03	0.019	0.04	0.03	0.212	0.07	0.03	0.020
Family SES	0.13	0.02	<0.001	0.11	0.02	<0.001	0.13	0.02	<0.001	0.11	0.02	<0.001
Parent Career	0.27	0.02	<0.001	0.28	0.03	<0.001	0.27	0.02	<0.001	0.28	0.03	<0.001
Gender	0.08	0.04	0.029	-0.45	0.04	<0.001	0.08	0.04	0.034	-0.45	0.04	<0.001
Born in Country	-0.30	0.08	<0.001	-0.37	0.08	<0.001	-0.30	0.08	<0.001	-0.38	0.08	<0.001
Level Two												
School Demographics												
School Resources	0.01	0.04	0.687	0.02	0.05	0.722	-0.01	0.04	0.782	0.01	0.05	0.905
Student/Teacher Ratio	-0.10	0.07	0.142	-0.08	0.09	0.374	-0.11	0.07	0.130	-0.12	0.09	0.200
Proportion Certified	0.00	0.02	0.817	0.00	0.02	0.873	0.01	0.02	0.775	0.00	0.03	0.898
School Size	0.05	0.12	0.706	0.01	0.15	0.958	0.07	0.12	0.579	0.05	0.15	0.748
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	-0.09	0.07	0.209	-0.03	0.09	0.769
Firing Teachers	-	-	-	-	-	-	0.01	0.07	0.883	0.01	0.08	0.895
Starting Salaries	-	-	-	-	-	-	-0.01	0.08	0.884	0.06	0.09	0.520
Salary Increases	-	-	-	-	-	-	0.12	0.08	0.108	0.08	0.09	0.365
Formulate Budget	-	-	-	-	-	-	0.03	0.06	0.652	0.02	0.08	0.809
Budget Allocations	-	-	-	-	-	-	0.06	0.09	0.495	-0.02	0.13	0.864
Student Discipline	-	-	-	-	-	-	-0.10	0.06	0.100	-0.17	0.07	0.023
Student Assessment	-	-	-	-	-	-	-0.01	0.06	0.827	0.01	0.07	0.871
Student Admission	-	-	-	-	-	-	-0.02	0.05	0.769	-0.10	0.07	0.208
Textbook Use	-	-	-	-	-	-	-0.10	0.09	0.279	0.00	0.11	0.986
Course Content	-	-	-	-	-	-	-0.01	0.06	0.832	-0.08	0.07	0.314
Courses Offered	-	-	-	-	-	-	0.07	0.06	0.218	0.02	0.07	0.833
Random Components	Residual Variance		Residual Variance			Residual Variance			Residual Variance			
Within Schools	0.751		0.815			0.751			0.815			
Between Schools	0.058		0.099			0.060			0.098			
Total Residual	0.809		0.914			0.811			0.913			
Total Variance Explained	14%		22%			14%			22%			

Table 4. 18: Models 1 and 2 for Portugal

Portugal	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	-0.42	0.11	<0.001	0.44	0.13	0.001	-0.38	0.19	0.042	0.47	0.24	0.046
Level One												
Student Demographics												
Maturity	0.31	0.02	<0.001	0.28	0.02	<0.001	0.31	0.02	<0.001	0.28	0.02	<0.001
Family SES	0.13	0.02	<0.001	0.14	0.02	<0.001	0.13	0.02	<0.001	0.13	0.02	<0.001
Parent Career	0.09	0.01	<0.001	0.11	0.02	<0.001	0.09	0.01	<0.001	0.11	0.02	<0.001
Gender	0.24	0.03	<0.001	-0.25	0.03	<0.001	0.24	0.03	<0.001	-0.25	0.03	<0.001
Born in Country	-0.13	0.06	0.033	-0.17	0.07	0.014	-0.13	0.06	0.035	-0.17	0.07	0.015
Level Two												
School Demographics												
School Resources	0.02	0.03	0.565	0.03	0.04	0.381	0.02	0.03	0.445	0.04	0.04	0.244
Student/Teacher Ratio	0.00	0.07	0.979	-0.08	0.08	0.326	0.00	0.06	0.994	-0.11	0.07	0.133
Proportion Certified	-0.03	0.02	0.185	-0.02	0.02	0.491	-0.02	0.02	0.469	0.01	0.02	0.809
School Size	0.13	0.04	0.001	0.17	0.04	<0.001	0.11	0.04	0.003	0.15	0.04	<0.001
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	na	na	na	na	na	na
Firing Teachers	-	-	-	-	-	-	na	na	na	na	na	na
Starting Salaries	-	-	-	-	-	-	na	na	na	na	na	na
Salary Increases	-	-	-	-	-	-	na	na	na	na	na	na
Formulate Budget	-	-	-	-	-	-	-0.24	0.12	0.037	-0.19	0.14	0.178
Budget Allocations	-	-	-	-	-	-	0.22	0.12	0.066	0.29	0.14	0.047
Student Discipline	-	-	-	-	-	-	0.00	0.06	0.943	0.03	0.08	0.716
Student Assessment	-	-	-	-	-	-	-0.01	0.06	0.909	0.00	0.08	0.964
Student Admission	-	-	-	-	-	-	0.08	0.08	0.338	0.09	0.08	0.291
Textbook Use	-	-	-	-	-	-	0.10	0.17	0.553	0.07	0.22	0.764
Course Content	-	-	-	-	-	-	-0.20	0.06	0.002	-0.31	0.07	<0.001
Courses Offered	-	-	-	-	-	-	-0.03	0.06	0.549	0.01	0.07	0.841
Random Components	Residual Variance			Residual Variance			Residual Variance			Residual Variance		
Within Schools	0.480			0.495			0.480			0.495		
Between Schools	0.081			0.110			0.070			0.093		
Total Residual	0.560			0.605			0.550			0.588		
Total Variance Explained	42%			43%			43%			44%		

Note. na=not available for inclusion in the model due to lack of variability.

Table 4. 19: Models 1 and 2 for Slovenia

Slovenia	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	-0.40	0.13	0.002	0.37	0.10	<0.001	-0.85	0.37	0.030	0.17	0.29	0.559
Level One												
Student Demographics												
Maturity	0.06	0.01	<0.001	0.06	0.02	0.004	0.06	0.01	<0.001	0.06	0.02	0.004
Family SES	0.05	0.01	0.001	0.04	0.01	0.003	0.05	0.01	0.001	0.04	0.01	0.004
Parent Career	0.04	0.02	0.085	0.05	0.01	<0.001	0.04	0.02	0.087	0.05	0.01	<0.001
Gender	0.31	0.03	<0.001	-0.26	0.02	<0.001	0.31	0.03	<0.001	-0.26	0.02	<0.001
Born in Country	-0.07	0.09	0.429	-0.05	0.06	0.443	-0.07	0.09	0.441	-0.05	0.06	0.452
Level Two												
School Demographics												
School Resources	-0.05	0.06	0.393	-0.02	0.05	0.731	-0.05	0.06	0.416	-0.02	0.05	0.676
Student/Teacher Ratio	0.02	0.05	0.677	0.05	0.05	0.287	0.05	0.05	0.303	0.06	0.05	0.169
Proportion Certified	0.51	0.09	<0.001	0.40	0.08	<0.001	0.49	0.09	<0.001	0.38	0.08	<0.001
School Size	0.46	0.11	<0.001	0.45	0.11	<0.001	0.41	0.09	<0.001	0.41	0.10	<0.001
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	na	na	na	na	na	na
Firing Teachers	-	-	-	-	-	-	-0.02	0.16	0.906	-0.04	0.16	0.789
Starting Salaries	-	-	-	-	-	-	-0.01	0.13	0.937	-0.01	0.12	0.954
Salary Increases	-	-	-	-	-	-	0.10	0.10	0.327	0.01	0.10	0.928
Formulate Budget	-	-	-	-	-	-	-0.13	0.11	0.274	-0.07	0.11	0.541
Budget Allocations	-	-	-	-	-	-	-0.15	0.16	0.341	-0.03	0.17	0.854
Student Discipline	-	-	-	-	-	-	0.21	0.26	0.448	0.06	0.22	0.789
Student Assessment	-	-	-	-	-	-	0.12	0.11	0.253	0.00	0.12	0.987
Student Admission	-	-	-	-	-	-	-0.07	0.10	0.490	-0.06	0.11	0.569
Textbook Use	-	-	-	-	-	-	0.36	0.16	0.026	0.32	0.18	0.073
Course Content	-	-	-	-	-	-	-0.18	0.13	0.179	-0.12	0.14	0.393
Courses Offered	-	-	-	-	-	-	0.19	0.10	0.058	0.07	0.12	0.554
Random Components	Residual Variance		Residual Variance		Residual Variance		Residual Variance		Residual Variance		Residual Variance	
Within Schools	0.327		0.245		0.327		0.245		0.327		0.245	
Between Schools	0.265		0.269		0.251		0.272		0.251		0.272	
Total Residual	0.592		0.514		0.579		0.517		0.592		0.517	
Total Variance Explained	34%		41%		36%		40%		34%		40%	

Note. na=not available for inclusion in the model due to lack of variability.

Table 4. 20: Models 1 and 2 for Spain

Spain	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	-0.13	0.10	0.190	0.44	0.09	<0.001	-0.19	0.12	0.129	0.43	0.11	<0.001
Level One												
Student Demographics												
Maturity	0.39	0.02	<0.001	0.34	0.02	<0.001	0.39	0.02	<0.001	0.34	0.02	<0.001
Family SES	0.17	0.02	<0.001	0.08	0.02	<0.001	0.17	0.02	<0.001	0.08	0.02	<0.001
Parent Career	0.09	0.01	<0.001	0.12	0.02	<0.001	0.09	0.01	<0.001	0.12	0.02	<0.001
Gender	0.14	0.03	<0.001	-0.31	0.03	<0.001	0.14	0.03	<0.001	-0.31	0.03	<0.001
Born in Country	-0.26	0.06	<0.001	-0.29	0.05	<0.001	-0.27	0.06	<0.001	-0.29	0.05	<0.001
Level Two												
School Demographics												
School Resources	0.00	0.02	0.847	0.00	0.03	0.878	0.00	0.02	0.951	0.01	0.02	0.674
Student/Teacher Ratio	0.00	0.07	0.979	0.06	0.10	0.569	-0.02	0.07	0.826	0.03	0.09	0.720
Proportion Certified	na	na	na	na	na	na	na	na	na	na	na	na
School Size	0.03	0.06	0.649	-0.02	0.05	0.703	0.03	0.05	0.524	-0.01	0.05	0.839
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	0.46	0.24	0.056	-0.14	0.24	0.564
Firing Teachers	-	-	-	-	-	-	na	na	na	na	na	na
Starting Salaries	-	-	-	-	-	-	0.18	0.23	0.444	0.57	0.17	0.002
Salary Increases	-	-	-	-	-	-	na	na	na	na	na	na
Formulate Budget	-	-	-	-	-	-	-0.03	0.05	0.529	-0.08	0.07	0.226
Budget Allocations	-	-	-	-	-	-	0.00	0.06	0.951	0.15	0.08	0.056
Student Discipline	-	-	-	-	-	-	-0.04	0.08	0.605	-0.09	0.07	0.206
Student Assessment	-	-	-	-	-	-	0.03	0.06	0.614	0.02	0.07	0.763
Student Admission	-	-	-	-	-	-	-0.07	0.10	0.467	0.03	0.10	0.781
Textbook Use	-	-	-	-	-	-	0.12	0.10	0.231	0.02	0.09	0.836
Course Content	-	-	-	-	-	-	-0.07	0.05	0.182	-0.01	0.07	0.880
Courses Offered	-	-	-	-	-	-	-0.01	0.05	0.893	-0.04	0.06	0.549
Random Components	Residual Variance		Residual Variance		Residual Variance		Residual Variance		Residual Variance		Residual Variance	
Within Schools	0.568		0.526		0.567		0.567		0.526		0.526	
Between Schools	0.068		0.081		0.067		0.067		0.080		0.080	
Total Residual	0.636		0.607		0.635		0.635		0.606		0.606	
Total Variance Explained	29%		28%		29%		29%		28%		28%	

Note. na=not available for inclusion in the model due to lack of variability.

Table 4. 21: Models 1 and 2 for Sweden

Sweden	Model 1						Model 2					
	Mathematics			Reading			Mathematics			Reading		
	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.	Coef.	s.e.	Sig.
Intercept	0.30	0.11	0.007	1.11	0.12	<0.001	0.59	0.18	0.002	1.38	0.19	<0.001
Level One												
Student Demographics												
Maturity	0.10	0.02	<0.001	0.08	0.03	0.005	0.10	0.02	<0.001	0.07	0.03	0.006
Family SES	0.24	0.02	<0.001	0.18	0.02	<0.001	0.24	0.02	<0.001	0.18	0.02	<0.001
Parent Career	0.21	0.02	<0.001	0.20	0.02	<0.001	0.21	0.02	<0.001	0.20	0.02	<0.001
Gender	0.00	0.03	0.969	-0.43	0.04	<0.001	0.00	0.03	0.958	-0.43	0.04	<0.001
Born in Country	-0.30	0.07	<0.001	-0.31	0.08	<0.001	-0.30	0.07	<0.001	-0.31	0.08	<0.001
Level Two												
School Demographics												
School Resources	0.03	0.03	0.401	0.01	0.04	0.810	0.02	0.03	0.512	-0.01	0.04	0.895
Student/Teacher Ratio	0.10	0.10	0.310	0.19	0.14	0.183	0.11	0.11	0.291	0.19	0.16	0.221
Proportion Certified	-0.02	0.03	0.503	0.01	0.03	0.816	-0.02	0.03	0.477	-0.01	0.03	0.817
School Size	0.33	0.08	<0.001	0.37	0.10	0.001	0.34	0.08	<0.001	0.40	0.10	<0.001
School Decision Making												
Selecting Teachers for Hire	-	-	-	-	-	-	na	na	na	na	na	na
Firing Teachers	-	-	-	-	-	-	-0.02	0.06	0.771	0.00	0.07	0.954
Starting Salaries	-	-	-	-	-	-	-0.03	0.08	0.747	-0.07	0.09	0.427
Salary Increases	-	-	-	-	-	-	0.02	0.10	0.855	-0.04	0.11	0.709
Formulate Budget	-	-	-	-	-	-	0.03	0.07	0.684	0.15	0.08	0.062
Budget Allocations	-	-	-	-	-	-	-0.07	0.11	0.551	-0.23	0.16	0.145
Student Discipline	-	-	-	-	-	-	-0.15	0.13	0.249	0.14	0.14	0.322
Student Assessment	-	-	-	-	-	-	0.03	0.17	0.864	-0.06	0.14	0.669
Student Admission	-	-	-	-	-	-	-0.02	0.09	0.859	0.04	0.10	0.712
Textbook Use	-	-	-	-	-	-	na	na	na	na	na	na
Course Content	-	-	-	-	-	-	-0.15	0.11	0.185	-0.24	0.19	0.206
Courses Offered	-	-	-	-	-	-	0.05	0.08	0.586	0.05	0.09	0.593
Random Components	Residual Variance			Residual Variance			Residual Variance			Residual Variance		
Within Schools	0.680			0.702			0.680			0.701		
Between Schools	0.073			0.100			0.080			0.109		
Total Residual	0.753			0.802			0.760			0.810		
Total Variance Explained	23%			28%			22%			27%		

Note. na=not available for inclusion in the model due to lack of variability.

Discussion of quantitative results. The following section will present the results of the HLM analyses. The two components of this discussion will focus on the results of Model 2, which was the same across all 14 countries, lending itself to making comparisons in addition to examining the results within each country.

Model 2 results within countries. The following section will examine the statistically significant school decision making variables from Model 2 individually for each of the 14 countries.

Austria. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 48% and 50%, respectively. Across reading and mathematics models, textbook usage was the only statistically significant school decision making variable, and it was only significant for predicting reading achievement. Holding everything else constant, if a school was able to make decisions regarding textbooks, there was a predicted 0.31 standard deviation increase in reading achievement. As the standard deviation for reading literacy scores in Austria was 108, this means that at schools that were similar in student composition and school characteristics, there was about a predicted 33 point increase (108×0.31) in scale scores on the PISA reading literacy assessment when school leaders made decisions regarding textbooks.

Chile. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 26% and 21%, respectively. While there were significant predictors at the school level, none of the decision making variables were statistically significant in either the mathematics or reading literacy outcomes.

Denmark. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 20% and 21%, respectively. None of the school-level decision making variables were significant.

Finland. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 15% and 21%, respectively. Similar to Denmark, none of the school-level decision making variables were significant.

Hungary. The total percent of variance explained by Model 2 for both the mathematics and reading outcomes was 25%. Decisions regarding salary increases were the only statistically significant predictor of the mathematics outcome. Ability to make salary decisions were positively related to mathematics student achievement, with a predicted 0.61 standard deviation unit increase in mathematics performance when everything else in the model was held constant. As the standard deviation for mathematics literacy scores in Hungary was 91, in schools that were similar in student composition and school characteristics, there was a predicted 56 point increase (0.61×91) in scale scores on the PISA mathematics literacy assessment when school leaders made decisions regarding teachers' salary.

Three predictors of reading literacy: *Salary increases*, *Student admission*, and *Textbook use* were statistically significant. The standard deviation for reading literacy was 94. Salary increases was significant with a predicted 0.46 increase in standard deviation units [approximately 43 point (94×0.46) predicted increase in scale score]; student admission was significant with a predicted 0.38 increase in standard deviation units [approximately 36 point (94×0.38) predicted increase in scale score]; and textbook

use was significant with predicted a 0.40 decrease in standard deviation units [approximately 38 point (94×0.40) predicted decrease in scale score].

Ireland. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 28% and 30%, respectively. Nine school-level decision making variables were found to be statistically significant predictors of mathematics achievement. These included: firing teachers, which when holding everything else constant was associated with a predicted 0.25 standard deviation increase in mathematics literacy scores [approximately 22 point (88×0.25) predicted increase in scale scores]; budget allocations which, when holding everything else constant was associated with a predicted 0.38 standard deviation decrease in mathematics literacy scores [approximately 33 point (88×0.38) predicted increase in scale scores]; student discipline, when holding everything else constant was associated with a predicted 0.28 standard deviation decrease in mathematics literacy scores [approximately 25 point (88×0.28) predicted decrease in scale scores]; student admission, when holding everything else constant was associated with a predicted 0.23 standard deviation decrease in mathematics literacy scores [approximately 20 point (88×0.23) predicted decrease in scale scores]; and textbook use, when holding everything else constant was associated with a predicted 0.33 standard deviation decrease in mathematics literacy scores [approximately 29 point (88×0.29) predicted decrease in scale scores].

For the reading literacy outcome, three school-level decision making variables were found to be statistically significant. Holding everything else constant, budget allocation decisions, were associated with a predicted 0.37 standard deviation decrease in

reading literacy scores [approximately 34 point ($92*0.37$) predicted decrease in scale scores]. Student assessment decisions, when holding everything else constant was associated with a predicted 0.40 standard deviation increase in reading literacy scores [approximately 37 point ($92*0.40$) predicted increase in scale scores]. Textbook usage, when holding everything else constant, was associated with a predicted 0.28 standard deviation decrease in reading literacy scores [approximately 26 point ($92*0.28$) predicted decrease in scale scores].

Korea. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 11% and 13%, respectively. For the mathematics outcomes, budget formulation decisions were found to be statistically significant. Holding everything else constant, if school leaders were permitted to make decisions regarding formulating the budget, there was a predicted 0.27 standard deviation increase in reading achievement. As the standard deviation for mathematics literacy scores in Korea was 93, this means that at schools that were similar in student composition and school characteristics, there was about a predicted 25 point increase ($93*0.27$) in scale scores on the PISA mathematics literacy assessment when school leaders made decisions regarding formulating the budget.

For the reading literacy outcome, the two significant decision-making variables were formulating the budget and textbooks. Holding everything else constant, if school leaders were able to make decisions regarding budget formulation, there was a predicted 0.26 standard deviation increase in reading achievement. As the standard deviation for reading literacy scores in Korea was 88, this means that at schools that were similar in

student composition and school characteristics, there was about a predicted 23 point ($88*0.26$) increase in scale scores on the PISA reading literacy assessment when school leaders made decisions regarding budget formulation. Regarding textbook decisions, holding everything else constant, in schools where leaders made decisions about textbook usage, there was a predicted 0.37 standard deviation decrease in reading achievement. In schools that were similar in student composition and school characteristics, there was a predicted 33 point ($88*0.37$) decrease in scale scores on the PISA reading assessment when school leaders made decisions regarding textbook decisions.

Netherlands. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 37% and 32%, respectively. While there were significant predictors at the school-level, none of the decision making variables were statistically significant.

New Zealand. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 23% and 29% respectively. None of the school decision making variables were statistically significant for the mathematics outcome. However, there was one significant school decision making predictor for the reading literacy outcome. When holding everything else constant, if a school was able to make decisions regarding hiring teachers, this was associated with a predicted 0.57 standard deviation decrease in reading achievement. As the standard deviation for reading achievement was 105, this means that at schools that were similar in student composition and school characteristics, there was approximately a predicted 60 point ($105*0.57$)

decrease in scale scores on the PISA reading literacy assessment when school leaders made decisions regarding hiring teachers.

Norway. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 14% and 22%, respectively. For the reading outcome, holding all other variables constant, if a school was able to make student discipline related decisions it was associated with a predicted 0.17 standard deviation decrease in reading achievement. Multiplying this by the standard deviation of Norway's students' scores on the reading portion of the PISA exam (105), this means that at schools with similar student composition and school characteristics, there was approximately an 18 point (105×0.17) predicted decrease in scale scores on the PISA reading assessment when school leaders made student discipline related decisions.

Portugal. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 43% and 44%, respectively. Course content decisions was a statistically significant predictor of both mathematics and reading outcomes. For the mathematics outcome, holding all other variables constant, if a school was able to make course content decisions it was associated with a predicted 0.20 standard deviation decrease in mathematics achievement. Multiplying this by the standard deviation of Portugal's students' scores on the mathematics portion of the PISA exam (91), this means that at schools with similar student composition and school characteristics, there was approximately a 18 point (91×0.20) predicted decrease in scale scores on the PISA mathematics assessment when school leaders made course content related decisions.

For the reading literacy outcome—with a corresponding standard deviation of 99 for Portugal’s students’ scores on the literacy assessment—holding everything else constant, if schools were able to make course content decisions, it was associated with a predicted 0.31 standard deviation decrease in reading achievement, and approximately a 31 point (99×0.31) predicted decrease in scale scores on the PISA literacy assessment.

Decisions regarding formulating the budget were another statistically significant predictor of mathematics achievement. Holding everything else constant, if schools were able to make budget formulation decisions, it was associated with a predicted 0.24 standard deviation decrease in mathematics achievement and approximately a 22 point (91×0.24) predicted decrease in scale scores on the PISA mathematics assessment.

Budget allocation decisions were also a statistically significant predictor of student reading achievement. Holding everything else constant, if a school was able to make decisions regarding budget allocations, it was associated with a predicted 0.29 standard deviation increase in reading achievement. At schools that were similar in student composition and school characteristics, there was approximately a 29 point (99×0.29) predicted increase in scale scores on the PISA reading assessment when school leaders had the ability to make budget allocation related decisions.

Slovenia. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 36% and 40%, respectively. There was only one school level decision making predictor that was statistically significant across either of the two outcomes. Textbook usage decisions were a positive predictor of mathematics achievement. After holding everything else constant, if a school was able to make

decisions regarding textbooks, it was associated with a predicted 0.36 standard deviation increase in mathematics achievement. Since the standard deviation of Slovenia's students' scores on the mathematics portion of the PISA exam was 89, this means that at schools that were similar in school characteristics and student composition, there was approximately a 32 point (89×0.36) predicted increase in scale scores on the PISA mathematics assessment when school leaders had the ability to make textbook related decisions.

Spain. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 29% and 28%, respectively. Across these models, only one decision making predictor was statistically significant. Specifically, for reading literacy, decisions regarding starting salaries was positively related to student achievement. Holding everything else constant, the ability to make starting salary decisions was associated with a predicted 0.57 standard deviation increase in reading achievement. As the standard deviation for reading literacy scores in Spain was 89, in schools that were similar in student composition and school characteristics, there was approximately a 51 point (89×0.57) predicted increase in scale score on the PISA mathematics literacy assessment in schools that made starting salary decisions.

Sweden. The total percent of variance explained by Model 2 for mathematics and reading outcomes was 22% and 27%, respectively. There were significant predictors at the school level, however, none of the decision making variables were statistically significant in either the mathematics or reading literacy outcomes.

Model 2 results across countries. While the previous section examined the results of Model 2 of the quantitative analysis by country, this section presents a comparison of the statistically significant school-level decision making variables across countries.

Tables 4.22 and 4.23 present the statistically significant decision making predictors of mathematics reading literacy after controlling for the student and school covariates, respectively. School-level decision making measures that were not significant in any of the countries, and countries that did not have any significant decision making predictors were not included in the tables.

Table 4. 22: Coefficients and Corresponding Standard Errors for School Decision Making Predictors of Mathematics

Country	Firing Teachers	Salary Increases	Formulate Budget	Budget Allocations	Student Discipline	Student Assessment	Student Admission	Textbook Use	Course Content
Hungary		0.61* (0.18)							
Ireland	0.25** (0.11)			-0.38* (0.11)	-0.28** (0.10)	0.30* (0.09)	-0.23** (0.10)	-0.33** (0.15)	
Korea			0.27** (0.12)						
Portugal			-0.24** (0.12)						-0.22* (0.06)
Slovenia								0.36** (0.16)	

*p<.01 **p<.05 ***p<.001

As presented in the table, five of the countries examined in the study had school-level decision making variables that were statistically significant predictors of mathematics achievement. Since the variables in the HLM models were either standardized prior to being included in the model or dichotomous in nature, this allowed

for comparisons of their school decision making coefficients. Hungary's decision making coefficient for salary increase had the largest magnitude (0.61), while Portugal's course content predictor variable had the lowest magnitude (-0.22).

Out of the 11 total school-level decision making variables that were statistically significant across the countries, six were negative predictors of mathematics achievement. *Formulate budget* and *Textbook use* were the only predictors that were significant in more than one country. For these two predictors, the direction (positive or negative) of the coefficients was different across both countries for both predictors. For example, while textbook usage decisions was a positive predictor in Slovenia, it was a negative predictor in Ireland.

Table 4.23 presents the significant decision making predictors of reading after controlling for the student and school-level covariates. School-level decision making measures that were not significant in any of the countries, and countries that did not have any significant decision making predictors were not included in the table.

Table 4. 23: Coefficients and Corresponding Standard Errors for School Decision Making Predictors of Reading

Country	Selecting Teachers for Hire	Starting Salaries	Salary Increases	Formulate Budget	Budget Allocations	Student Discipline	Student Assessment	Student Admission	Textbook Use	Course Content
Austria									-0.29** (0.13)	
Hungary			0.46** (0.17)					0.38** (0.18)	-0.40** (0.20)	
Ireland					-0.37* (0.12)		0.40** (0.18)		-0.28** (0.14)	
Korea				0.26** (0.12)					-0.37** (0.16)	
New Zealand	-0.57** (0.23)									
Norway						-0.17** (0.07)				
Portugal					0.29** (0.14)					-0.31*** (0.07)
Spain		0.57* (0.17)								

*p<.01

**p<.05

***p<.001

As presented Table 4.23, eight of the countries examined in the study had school-level decision making measures that were statistically significant predictors of reading achievement after controlling for the student and school covariates, compared to five countries for the mathematics outcome. This finding is interesting, as previous research has found that, compared to reading achievement, mathematics achievement is more heavily influenced by teacher and school characteristics (for example, see Nye, Konstantopoulos, & Hedges, 2004). As described previously, since the variables in the HLM models were either standardized prior to being included in the model or dichotomous in nature, this allowed for comparisons of coefficients. Coefficients for

Spain and New Zealand had the largest magnitude (0.57), while Norway's student discipline coefficient had the lowest magnitude (0.17).

Out of the 14 total school-level decision making variables that were statistically significant across the countries, eight were negative predictors of reading literacy achievement. *Budget allocations* was significant in two countries, both of which had a different direction for their coefficient (positive and negative). *Textbook Use* was significant and negative in direction across four countries.

Conclusions from the quantitative analysis. Across the 14 countries, school-level decision making variables were found to be statistically significant predictors of mathematics achievement in five countries and reading achievement in eight countries. These predictors were not all positive in direction, as more than half (13 out of 24) of the variables across the two outcomes demonstrated a negative relationship between decision making and achievement. While these results are interesting in their own right, considering them in light of the policies within the individual countries provides greater insight into the context in which these decisions are taking place. Consequently, the final research question will connect these quantitative results with the OECD country background reports to deepen the understanding of the results from the previous two research questions.

Research Question Three: Coordinating Qualitative and Quantitative Results

The third research question asked, "What are the patterns that exist between a country's policies towards school-level decentralization on the one hand and the

association between school-level decision making and student achievement on the other?” This question was addressed using coordination strategies, connecting the qualitative and quantitative sections. Therefore the final phase of the results section involves presenting the qualitative and quantitative data together. Examining patterns “may offer useful insights on the nature of the relationships between policy and outcomes” (Braun, et al., 2010, p. 41). The following section combines the qualitative and quantitative results, and examines patterns that exist across the two analyses. The hypothesis for this section was that countries that were found to be ‘Moving’ and accordingly, typically had schools with greater school-level decision making functions, those countries would have more statistically significant decision making predictors of student achievement. Additionally, it was hoped that the country background reports would provide further contextual information to support the qualitative and quantitative findings.

The following Table 4.24 gives an overview of the comparisons between the results from the qualitative and quantitative analyses with contextual information obtained from the OECD background reports. Following the table, the comparison of the qualitative and quantitative results from each country will be presented individually.

Table 4. 24: *Combined Results with OECD Background Information*

Country	Ranking	Mathematics Significant Variables	Reading Significant Variables	Reflections from Background Reports
Austria	Strolling	None	Textbook use (-)	Texts not directly addressed in background report
Chile	Moving	None	None	Leadership considered important in improving student achievement. Accountability measures in place for evaluating school leaders.
Denmark	Strolling	None	None	Variability in the extent of actual decentralization across schools.
Finland	Moving	None	None	School leaders are responsible for a number of tasks, as the country has a decentralized decision making system.
Hungary	Strolling	Salary increases (+)	Salary Increases (+) Student Admission (+) Textbook use (-)	Wages typically determined by standard minimum wage for teachers, but increases may be made at local level. Hungarian school heads have decision making abilities in terms of which students may enroll in their school (limited in primary schools). Selecting texts appears to be a school level responsibility.
Ireland	Strolling	Firing teachers (+) Budget allocations (-) Student discipline (-) Student assessment (+) Student admission (-) Textbooks (-)	Textbooks (-) Budget allocations (-)	Admission policies and textbooks were not well explained in the policy document. Schools carry out the policies of the Boards regarding staffing decisions. Principals are responsible for the management of school resources, including the budget. Discipline issues are dealt with at the school level. Additionally schools are mainly responsible for student assessment and reporting results to parents. Principals are also responsible for the management of the budget
Korea	Sinking	Formulate budget (+)	Formulate budget (+) Textbooks (-)	School level staff plays a role in budgetary decision making. The Ministry of Education and Human Resources Development is responsible for textbooks.
Netherlands	Moving	None	None	Decentralization is considered a key component in the country's leadership policies.
New Zealand	Moving	None	Selecting teachers for hire (-)	School's boards of trustees are responsible for making staffing decisions.
Norway	Strolling	None	Student Discipline (-)	Disciplinary decisions are a school level responsibility
Portugal	Sinking	Formulate budget (-) Course Content (-)	Budget allocations (+) Course Content (-)	Content is largely defined at a national level. Budgetary decisions are dealt with by those running the consortiums, rather than the schools.
Slovenia	Moving	Textbook use (+)	None	Teachers are permitted to select textbooks.
Spain	Sinking	None	Starting salary (+)	Lower percentages of Spanish head teachers are permitted to make salary decisions as compared to the OECD average.
Sweden	Moving	None	None	The principal of a Swedish school is granted responsibility of a variety of tasks.

Austria. The country's policies were ranked as 'Strolling.' Education in Austria has been considered highly bureaucratic, however decision making capabilities have begun to expand, especially for those in the head teacher position. Across the country's HLM models, textbook use was the only significant predictor of student achievement, and it was only significant for the reading literacy outcome. Policies regarding textbooks were not directly discussed in the OECD background report. However, the report does detail that school leaders have demanded more autonomy over school resources in order to improve student achievement (Schratz & Petzold, 2007).

Chile. Chile's leadership policies were labeled as 'Moving.' The function and mandate of Chilean leaders involves three spheres: pedagogical, administrative and financial. These school leaders are considered to be essential in improving student achievement, and accordingly, school leaders are accountable for their leadership practices. However, there were not any statistically significant school decision making predictors in either of the HLM models, with four of the fourteen variables lacking the variability to be used as predictors in the models.

Denmark. Ranked as having 'Strolling' leadership policies, after controlling for student and school covariates Denmark did not have any statistically significant decision making predictors in either the math or reading outcomes. This may at least in part be due to the structure of decentralization within the country. In theory, headteachers in Denmark are responsible for a large scope of tasks. As described in the qualitative results, the Ministry of Education worked with headteacher organizations to develop criteria for headteachers, spanning across five categories of leadership: overall, education policy,

pedagogical and academic, administrative and financial and personnel policy (Pluss Leadership A/S , 2007). However, based on the current policies, it appears that the extent of decision making at the school level could be extremely variable based on the relationship between school head and their governing board.

Finland. While their leadership policies were considered to be ‘Moving,’ Finland did not have any statistically significant decision making predictors of student achievement. Finland relies heavily on a decentralized system of leadership. Finland’s leadership policies have transferred a great deal of decision making power to local levels, and school principals are responsible for a number of activities dealing with school development, such as student assessment, curriculum, and selection of school personnel. However, Finland is home to a relatively homogenous population, and very little variability exists between schools in the country (ICC for math is 0.06, ICC for reading is 0.08). Therefore, one possible explanation for the lack of significant decision making variables is because of the lack of variability available to be explained.

Hungary. Hungary’s leadership policies were classified as ‘Strolling.’ The only statistically significant predictor of mathematics achievement was salary increases, while student assessment and student admission were positive predictors of reading literacy achievement and textbook use was a negative predictor. In terms of salary, wages are typically determined based on a standard minimum wage for teachers, though decisions to increase their salary may be made at the local level (Performance Management Research Centre, 2007). It appears that Hungarian school heads have decision making abilities in terms of which students may enroll in their school, with the exception of

primary school heads, who are obligated to accept students that live in the area. Finally, selecting textbooks and course resources appears to be a task that is provided autonomy at the school level. This is in line with the general role of Hungarian school heads, which are granted a great deal of responsibilities.

Ireland. Classified as a ‘Strolling’ country, Ireland has been transitioning from a highly centralized education system to allowing greater responsibility for principals. Examining statistically significant predictors, for the mathematics literacy outcome, budget allocations, student discipline and student admission were negative predictors, while firing teachers and student assessment were positive predictors. For the reading literacy outcome, textbooks and budget allocation decisions were both negative predictors.

Admission policies were not well explained in the policy document, though it appears to be established by the Boards of Management. Similarly, it appears that schools carry out the policies of the Boards regarding staffing decisions. Policies regarding textbooks were not explicitly stated in the policy reports, though it was described that principals in Ireland are responsible for the management of school resources, including the budget (Leadership Development for Schools, 2007). Discipline issues are dealt with at the school level, with the majority of the responsibility for student discipline given to the deputy principal. Finally, schools are mainly responsible for student assessment and reporting results to parents. These results appear to align with the country’s educational policies evolving shift towards decentralization.

Korea. Korea was classified as ‘Sinking’ due to the fact that education policies in the country are “top-down” and highly centralized (Kim, et al., 2007). Formulating budgets was a positive predictor of both mathematics and reading achievement, while starting textbook use was a negative predictor of reading achievement.

According to the Korean OECD school background report, the school does have some freedom in how they spend the school budget with both the principal and chief teachers playing a role in budgetary decision making. However, the Ministry of Education and Human Resource Development is responsible for the publishing and certifying of school textbooks (Kim, et al., 2007). This aligns with typical Korean leadership policies, which tend to be “top-down” and limit the decision making abilities of the principals (Kim, et al., 2007, p. 105).

Netherlands. The Netherlands was designated as a country that is ‘Moving’ due to its highly decentralized educational system, though the country’s HLM models did not have any statistically significant decision making predictors. Since the majority of the variability in Dutch students’ achievement scores occurred between schools, and the OECD background report describes that schools are granted autonomy to achieve their own objectives (Bal & de Jong, 2007), it is not apparent why the school decision making predictors were non-significant.

New Zealand. Like the Netherlands, New Zealand was also characterized as ‘Moving’ due to their highly decentralized educational system. For the reading outcome, selecting teachers for hire was a negative predictor of achievement. Schools’ boards of trustees bear the main responsibility in making staffing decisions, though principals and

teacher representatives serve on these boards. In New Zealand the principal is the chief executive of the school board, ensuring extensive participation in decision making at both the board and school levels.

Norway. The educational leadership policies of Norway were characterized as ‘Strolling’ since much of the decentralization has occurred above the school level, and the decision making capabilities granted to school principals appear managerial in nature. The only statistically significant predictor of student achievement across the two models was student discipline, which was found to be a negative predictor of reading literacy. Student discipline, while mentioned in the background report, was not explicitly described. However, it appears to be a school level responsibility that Norwegian teachers struggle with due to the fact that discipline problems have been reported as more prevalent in Norway than in other OECD countries, which could aid in understanding it as a negative predictor of achievement (Norwegian Directorate for Education and Training, 2007).

Portugal. Due to the emphasis on decision making at the school consortium level, and the accompanying bureaucracy, Portugal was given a ranking of ‘Sinking.’ This bureaucracy was reinforced when looking further into the context of the policies behind the significant HLM model variables. After controlling for student and school covariates, the course decision making variable was found to be negative predictor of school achievement for both math and reading literacy achievement. According to the OECD background report, course content is defined at a national level, and up until 2005, teachers were assessed based on the extent to which this curriculum content was

delivered (Portugese Ministry of Education, 2007). Budget allocations were found to be a positive predictor of reading achievement while formulating the budget was a negative predictor of mathematics achievement. However, it appears that much of the budgetary decisions are dealt with by those who are responsible for running the consortiums, rather than the leaders of the individual schools.

Slovenia. Slovenia's leadership policies were identified as 'Moving' as a large number of responsibilities are granted at the school level, though the head teacher shoulders all of the responsibility that is granted to the school. Despite these described responsibilities, the only statistically significant decision making variable was textbook use, a positive predictor of mathematics literacy achievement. While the OECD background report does not address who actually selects textbooks, it does state that teachers in Slovenia are granted the autonomy to select the material that they would like to teach their students from the texts, though they are constrained by what students need to know for their external assessments. This aligns with the country's balance between school autonomy, transparency and accountability that was described in the background report.

Spain. Due to an extremely limited scope of school level responsibilities, limited solely to curriculum decisions, Spain's leadership policies were characterized as 'Sinking.' However, holding student and school covariates constant, decisions regarding starting salaries was found to be a predictor of Spanish students' reading literacy achievement. According to the country's leadership background report, an extremely low percentage of Spanish head teachers are permitted to make salary related decisions

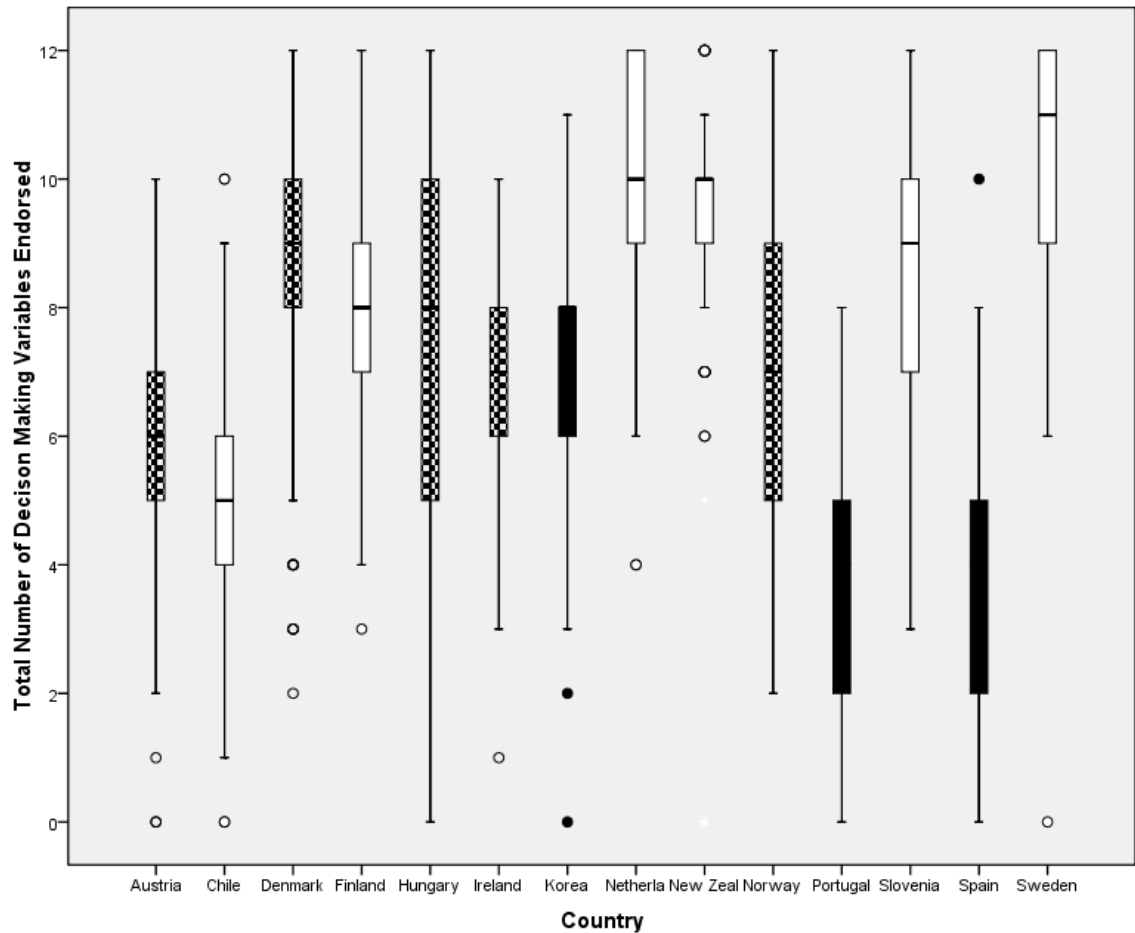
(approximately 5%), particularly compared to the OECD average (approximately 22%). This is in line with the country's 'Sinking' ranking.

Sweden. Finally, the leadership policies for the educational system in Sweden were found to be 'Moving' due to their decentralization of many responsibilities, excluding curriculum. However, none of the decision making variables were found to be significant predictors of Swedish student achievement. Based on the country's ICCs (for math 0.16 and for reading 0.19) and the extent of decision making described in the OECD background report, potential reasons for not finding any significant decision making predictors were not apparent.

Further considerations. The preceding examination of patterns used to address the study's third research question should be considered alongside an important caveat. While there were some instances of statistically significant school decision making predictors across countries, largely these leadership measures did not appear to have a strong relationship with the PISA achievement outcomes after accounting for student and school level covariates. Therefore, while some interesting patterns between the qualitative and quantitative analysis were observed, ultimately they should be considered with caution.

In light of this caveat, another useful way to examine the relationship between principal's responses to the twelve decision making items on the PISA school survey, with whether the country was ranked as 'Moving,' 'Strolling,' or 'Sinking' is to examine them using a box plot. Due to the lack of strong evidence that a statistical relationship exists between leadership and achievement as defined in this study, the box plot allows

an alternative approach for an examination of this relationship. This is displayed in Figure 4.1.



Note. White='Moving,' Checks='Strolling,' Black='Sinking'
 Figure 4.1: Box plot of school decision making variables by country

Figure 4.1 presents a box plot, with the values of the boxes representing the total number of decision making measures endorsed. Examining the graph, it appears that generally, the principals in countries that were ranked as 'Sinking' responded that staff at their school were responsible for fewer decision making tasks than in other countries. Conversely, it generally appears that principals in countries that were ranked as 'Moving'

responded that schools were able to make more decisions than in other countries. The patterns seen in Figure 4.1 are descriptive rather than statistical in nature. Therefore, while there were weak relationships between school decision making variables and student achievement statistically, descriptively it appears that principals in ‘Moving’ countries were more likely to answer positively to the school decision making questions than were principals in ‘Strolling’ countries and to a larger extent, principals in ‘Sinking’ countries.

Discussion

The preceding section discussed the relationship between countries, their qualitative rankings and statistically significant decision making predictors, and an examination of their context using the OECD leadership country background reports. While this discussion examined the variables included in the models, there were a number of variables that were not statistically significant predictors of mathematics or reading literacy, but were identified in the policy background reports as important leadership policies. Their lack of significance in the models may be due to a number of limitations, which will be expanded upon in Chapter Five, though one reason may be due to the way that these decision making variables were measured. Certain aspects of leadership may be meaningfully related to student achievement, but they may not be well captured with the PISA decision making items. Additionally, while the background reports helped to aid in understanding as to why some variables were significant within the individual country models, generally the background reports did not provide

indications as to why some relationships were positive in direction, while others were negative.

Conclusions

This chapter presented the results of the qualitative and quantitative analyses separately, as well as a coordinated discussion of these results in tandem. Chapter Five will continue with a discussion of more detailed findings. Additionally the final chapter will include policy implications, limitations of the study and recommendations for future research.

Chapter 5

In consideration of the results found in the previous chapter, the aim of this chapter is to offer further insights about the relationship between national leadership policy and achievement by connecting the study's results with previous literature. The discussion will begin with a general review of the study, followed by more detailed findings and policy implications. The chapter concludes with limitations of the study and recommendations for future research.

Overview of the Study

This dissertation examined three main research questions. To answer the research question regarding the extent to which educational policies of a country allow for school personnel to take on leadership roles at the school level, this study aimed to address limitations in the decentralization and school leadership literature by examining school leadership policies, not just within countries that are high performing, but countries across the achievement spectrum on the 2006 PISA assessment. Based on a qualitative content analysis of OECD country background reports of school leadership policies, countries were ranked according to Stoll and Fink's (1996) educational effectiveness and improvement typologies as being either 'Moving,' 'Strolling,' or 'Sinking.' Overall, results showed that out of 14 countries, six were ranked as 'Moving,' five were ranked as 'Strolling' and three were ranked as 'Sinking.'

The second research question explored the relationship between school-level control of decision making and student mathematics and reading literacy achievement on

the 2006 PISA assessment, with the present study building on the previous literature by taking an international approach to examining this relationship. Generally, results showed that school-level decision making variables were limited in their utility to predict student achievement on the PISA assessments in reading and mathematics.

To answer the third research question regarding the patterns that exist between a country's decentralization policies and the relationship between school-level decision making and student achievement, this study explicitly considered school-level decision making predictors of student achievement in the context of decentralization policies. Examining a country's rankings (ie., 'Moving,' 'Strolling' or 'Sinking') in terms of whether or not school-level decision making variables were significant did not reveal any obvious patterns for either of the student achievement outcomes as assessed by the PISA assessments. However, these results are interpreted with the caveat that this study did not find much of a relationship between decision making and achievement. A descriptive examination of the sum of principal's responses on the school decision making variables compared with their qualitative rank did indicate that there was a trend of principals in 'Moving' countries having higher overall means across the school decision making measures.

Discussion of Findings

This section will present a discussion of the study's findings in more depth, and connect these findings to previous literature. Specifically, this discussion will examine

the results of the quantitative analyses alongside the previous literature from the school leadership and student achievement field.

School leadership is considered a vital component of educational reform (for example, see Fullan, 2007; Spillane, 2009). Previous research has found that principals play a central role in the success or failure of school change and improvement (Kelley & Peterson, 2007), and the principalship has been identified as a key element needed in building successful schools (Davis, Darling-Hammond, Lapointe, & Meyerson, 2005). Therefore, it is not surprising that internationally, school leadership has become a policy priority in many countries. As discussed in the earlier chapters of this study, these leadership policies are often associated with a decentralization of educational decision making (Pont, Nusche, & Moorman, 2008). This has sprung from growing concern regarding the quality of education and student achievement (Pont, Nusche, & Moorman, 2008). Additionally, the increase in decentralization of school policies in many countries has been coupled with increased autonomy and accountability at the school level (Pont, Nusche, & Hopkins, 2008).

Examining the relationship between school leadership practices and student learning is complex, requiring a great number of considerations on the part of the researcher. Pont, Nusche and Moorman (2008) have characterized this relationship as “conceptually and methodologically challenging” (p. 34). Previous research in this area has demonstrated inconsistencies in the statistical significance of the relationship between school leadership practices and student achievement.

This was demonstrated in the literature review in Chapter Three, where out of the fourteen studies examined, twelve found statistical significance somewhere in their examination of the relationship between student achievement and the school leadership measure as they define it, while two of the studies did not find a significant relationship between these two measures (O'Donnell & White, 2005; Leithwood, et al., 2006). However, out of the twelve that found significance, five found significance in only some of the models of school leadership practices and student achievement, with lack of significance based on a number of differences between models, including model type (direct versus indirect), level of schooling, school subject tested, and characteristics of leadership examined (Griffith, 2004; Kaplan, et al., 2005; Miller & Rowan, 2006; Leithwood & Jantzi, 2006; Gordon & Seashore Louis, 2009).

Similarly to previous research, this study also found inconsistencies in statistical significance across the school-level decision making variables. Across all 14 countries, there were few statistically significant relationships between decision making measures and student achievement found, and further still around half of these significant relationships were negative in direction.

The findings of the HLM analysis could essentially be considered statistical “noise.” The general pattern of weak and scattered findings of statistical significance may not necessarily be due to meaningful relationships between decision making practices and student achievement, but rather artifacts of simultaneous inferences. In other words, some of the statistically significant relationships that were found could be

due to the fact that multiple null hypotheses were being examined simultaneously, thereby increasing the probability of making a type I error across the models.

This does not mean that none of the findings were legitimate. For example, in Ireland six of the decision making variables were found to be statistically significant predictors of mathematics achievement. This indicates that there really was a well-founded relationship between decision making practices and student achievement within the country.

Aside from a few exceptions, however, the general finding of this study is that there does not appear to be a relationship between school-level decision making practices and student achievement. The patterns discovered within the analysis are consistent with the null hypothesis that the particular aspects of leadership that were studied do not have a strong relationship with the outcomes after controlling for school level covariates. Additionally, exploratory analyses uncovered that overall there was weak evidence of the relationship between decision making and achievement even without the presence of covariates. Therefore, based on the measures used in the quantitative analyses in this study, one can conclude that there generally was not a statistically significant relationship between decision making at the school level and student achievement.

This finding is in contrast with some of the previously published research in the field. For example, Leithwood, Louis, Anderson and Wahlstrom (2004) concluded, that the total effects of leadership practices are second to only classroom instruction among school level factors that impact student learning. However, this study found that there was a lack of association between many of the principal-reported school decision making

variables and student achievement. Further, the additional variance explained by school decision making variables above and beyond the covariates in Model 1 tended to be either low or none at all.. Therefore, looking across the results of this study, making claims about the meaningful significance of the school decision making variables based on the present results would be far overreaching.

While this study did not find a relationship between decision making and achievement, it does suggest how one would gather evidence on school leadership/autonomy. While the decision making variables in this particular study were extremely weak predictors of student achievement, one possible explanation is that these measures were not captured in a manner that provided enough depth to detect an impact on achievement. The results of this study do not allow for conclusions about whether other methods of measuring school decision making variables would provide differential results to the ones obtained in this analyses, however they do indicate an opportunity for future research to examine how leadership measures are constructed and how deeply these variables are able to probe into this complex construct.

Policy Implications

As described in previous chapters, there is an increasing emphasis on student achievement outcomes internationally, with policymakers and educational researchers seeking solutions to raise achievement (Fuchs & Wößmann, 2007). Ultimately, a question that policymakers and educational researchers are interested in is: Should school leadership continue to be a key policy priority in international education policy? While

the answer is of great interest, the results of this study cannot be used to address such a question. However, this dissertation can provide three main policy implications based on the study's findings. These implications should be cautiously considered in light of the caveat that school-level decision making measures were generally found to be weak predictors of student achievement.

Policy does not always translate into increased performance. Based on the results from the present study, it appears that national educational leadership policies do not always lead to higher student outcomes. This conclusion comes with the caveat that education policies are complex, school leadership is hard to operationalize and student achievement is challenging to predict. However, based on the results of the study, there did not appear to be a distinct pattern between leadership policy rankings and the extent to which school-level decision making variables predicted student achievement.

An example of this is Slovenia, a country that was ranked as 'Moving' in its leadership policies, and where more than half of the available variability in reading and mathematics outcomes lay among schools. In Slovenia, head teachers are "fully responsible for the leadership of a school," and while school councils also play a big role, the head teacher is responsible for implementing all decisions (Koren, 2007, p. 28). However, in Model 2 only one decision making measure was found to be a statistically significant predictor of achievement: starting salaries. Thus, strong policies did not always translate into significant relationships in the country's HLM models.

These findings, while somewhat disappointing, are in line with previous research that found mixed results when examining the relationship between leadership and

achievement. As discussed in the literature review, some studies found statistically significant relationships between leadership and achievement, while others did not (for example, see Gordon & Louis, 2009; Miller & Rowan, 2006). Thus, if policymakers are interested increasing student achievement, as is typically the case, based on these results school-level decision making policies may not ideally be their first plan of action.

All leadership is not positive leadership. Additionally, when relationships between school-level decision making and student achievement were found, they were not always in a positive direction. As described in Chapter Four, 14 out of the 24 statistically significant relationships between decision making measures and achievement were actually negative predictors of student achievement. Overall, this appeared to be the case more frequently for reading than for mathematics performance. For example, in Ireland, a country whose leadership policies were ranked as ‘Strolling,’ across both the reading and mathematics outcomes in Model 2 there were nine statistically significant decision making predictors. Six out of these nine measures were negative predictors of student achievement.

The lack of a consistent positive relationship among measures of leadership and measures of student achievement has been found in previous research. As Waters and colleagues (2003) concluded from their meta-analysis which examined the effects of leadership practices on student achievement over the course of 30 years of literature, while leadership practices may have a positive relationship with student achievement, leaders can also have a negative impact. The authors claim that this negative impact on student achievement is the result of either concentrating on the wrong issues or

miscalculating the magnitude of the change they are trying to implement (Waters, et al., 2003). While information to address the potential root causes of the negative impact between leadership activities and achievement is not available in this study beyond those provided in the OECD background reports, based on both the present study and previous literature, it is something to consider in conducting future research on the topic, as well as when developing leadership policies.

Context matters. To fully comprehend the first two policy implications for these countries, and the results of the study at large, takes an understanding of context. Education is context-bound, as the events that happen in schools and classrooms are largely shaped by contextual factors, such as geographic region, student population, teacher population, economic constraints, etc. (Airasian & Russell, 2008). Similarly, one could argue that understanding countries' school systems, and subsequently their leadership policies, also takes an understanding of context, as education systems are not uniform internationally.

An example of differences in contexts can be observed between Finland and Hungary. In Finland the population served is typically homogenous across schools. In contrast, Hungary is home to a more heterogeneous society and there exists large differences in student achievement among schools in the country. One can imagine that in considering school reforms for these two very different populations, that policies would have to look different in order to best address the needs of each particular country.

Cultural and contextual differences are especially important in light of the current trend in globalization of education policies, which exists in tension with societal cultures

(Dimmock & Walker, 2000). It is for this reason that the results of comparing leadership policies and the relationship between leadership practice and achievement are better understood when considered in the context of the individual countries in which they occur. This study contributes to a gap in the literature, in that the research questions are examined on an international scale. Additionally, the analyses included information from country background reports so that the relationship between leadership and achievement was not examined irrespective of each individual country's particular characteristics. In the age of the global reform movement, when countries are borrowing ideas from each other's policies and practices, it is important to remember that in supporting leadership activities, context is important.

Study Limitations

There are several important limitations to this study and its findings. First, the school questionnaire given during the PISA administration is only answered by school principals. This is due to the fact that PISA utilizes a two-stage stratified sampling design, where schools are selected, and then individuals are selected, bypassing intact classrooms, and accordingly, classroom teachers. The accuracy of the principals' perspectives on school-level decision making is a limitation, as the perspectives of the classroom teachers are not included, and the majority of the work that has been done in the field has included teacher perspectives (for example, see Gordon & Seashore Louis, 2009). However, while the exclusion of teachers in measuring decision making is not ideal, there has been previous research that has also relied on the school principals'

perspectives in measuring school leadership practices and student achievement (for example, see Kaplan, et al., 2005).

The way the school decision making measures were constructed is another limitation. The PISA school background questionnaire items that were used to measure school-level decision making asked participants to determine whether principals and teachers, as opposed to decision makers outside of the school, are given the primary responsibilities for a list of tasks. As leadership is a complex and multi-faceted construct, there are a number of different ways in which it can be measured and operationalized. While these particular school decision making measures were used due to their availability, using different measures of school leadership as they become more widely available in large scale studies, could potentially lead to different results.

Additionally, since PISA is an international study, which includes the presence of cultural and contextual differences across the participating countries, the leadership questions could also be interpreted differently by participants based on their contexts. As is the case with other constructs that are examined on international exams, in trying to capture a construct that may look different in different countries, a potential risk is that the questions addressing this construct may not mean the same thing or be interpreted the same way by all participants. Particularly in the case of school leadership, a construct that has been found to be notoriously complex to begin with, there exists the potential for inconsistent interpretations of questions measuring school decision making.

Students are 15 years old when they take the PISA assessment, and in most instances have only been in their secondary school for about two to three years at the time

of testing. Therefore, another limitation lies in the issue that leadership may have had confined impacts on achievement in such a short period of time, which could limit the quantitative results of this study.

Another limitation is the small and potentially unrepresentative sample of countries included in the study. Countries that participated in the PISA assessment, as well as the countries that participated in submitting an OECD policy report were a self-selected sample. Therefore, the results of this dissertation are not generalizable to all countries, or even all OECD countries. Additionally, there is a disproportionately high representation of European countries—11 out of 14 countries that were included in the study are located in Europe.

Finally, as there are differences that exist across countries, but all countries are modeled using the same variables, there is an inherent uncertainty regarding what is not being adequately captured in certain countries due to unmeasured variables. In some countries there is also the issue of there not being enough variability across schools that was able to be modeled. In these instances, one cannot explain variation between schools if there is none. Both of these limitations have ramifications for the results of the multi-level models.

Despite these limitations however, there are a number of benefits associated with using secondary data analysis, including that it is inexpensive to use, does not require the time needed to collect primary data, provides large sample sizes and in some cases, is the only way for a researcher to obtain the information necessary to answer their research questions (Nicoll & Beyea, 1999).

Future Research

While this study provides an important foundation for examining the relationship between policy and achievement in an international setting, future research is required. The mixed methods approach was found to be a useful and informative way of addressing the current research questions. However this approach could certainly be replicated and improved upon. Three recommendations for doing so are as follows.

As described in the literature review, school leadership practices are complex and hard to define (Allix & Gronn, 2005). Additionally, the construct of school leadership is difficult to operationalize. Currently, PISA is one of the few large scale studies that includes items on their questionnaires that allow researchers to look at school leadership practices. The leadership measures that PISA includes on their school background questionnaire were certainly useful in answering this study's research questions. However, there is no such thing as a perfect measure, and accordingly, future research may benefit by using a conceptualization of leadership that is constructed differently, or that includes different components of leadership than just decision making, such as instructional leadership or distributed leadership.

Future research could also benefit from including more contextual information and data sources about leadership practices in each country. One of the major strengths of the current study is that it included OECD country background reports which supplied information about each country's school systems in addition to leadership policies within the country. While valuable, these reports were still limited by what information the

individual countries chose to disclose, as well as being restricted to information about policy and not practice. Additionally, in cases such as Norway and Denmark, neither of which had much variability between schools that was able to be modeled, it was difficult to model the relationship between school level leadership and student achievement due to the lack of variability at level-2. This does not mean that there are not still positive associations between school leadership and student achievement in these countries. Future research that obtains more qualitative information about leadership practices within schools could be quite informative in understanding the quantitative relationships. Surveying teachers could also be very useful in gaining additional information beyond the school principals.

Lastly, as described in the literature review section of this dissertation, the relationship between leadership and achievement is typically described as having two different paths: direct effects and indirect effects. The present study examined the direct effects of school-level decision making practices on student achievement after controlling for student and school-level covariates. Yet, previous research has found that using indirect methods of examining this same relationship can also yield important results. Therefore, the quantitative portion of this study could be reanalyzed by examining the indirect effects of school-level leadership on achievement and including what Hallinger and Heck (1998) refer to as intervening variables, such as teacher practices, which may help to further explain the relationship between school leadership practices and student achievement.

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Appendix A: Qualitative Policy Ranking

Austria

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels		<ul style="list-style-type: none"> – “The role of the head of school is being the moderator in the process of decision-making and executing of these decisions. Since schools will have more autonomy in the future the principles of what is commonly understood as “New Public Management” will become more and more a challenge for the work of the school leader” (p. 27) – “The duties of the school head and the school authorities are defined in the law, but only in form of a broad description without details, which offers various possibilities of interpretation. The different areas of responsibilities often overlap. Interview partners for this study suggest that the responsibilities of the school authorities and of the school head should be more clearly defined...A loosely defined system has advantages for different interpretations according to the situative context, but it can also lead to arbitrary action in decision-making” (p. 27-28). 	<ul style="list-style-type: none"> – “In Austria, education has always been a most sensitive area, heavily disputed among political decision-makers. This explains the caustic distribution of responsibilities between different bodies and entities. The existing legal framework therefore renders attempts at amending education laws very difficult” (p. 21). – “Austria belongs to the countries which has a decision-making structure with many actors involved, which makes it far more difficult to have a systemic influence in a change process, e.g. by devolution processes of decision making processes.

			<p>According to the bureaucratic school governance model, Austria still has a strongly input-regulated, hierarchical system, which is interwoven with federal elements, causing parallel structures on the national and federal state level” (p. 36).</p> <ul style="list-style-type: none">- “The visitors of the OECD study on attracting, developing and retaining effective teachers describe that Austrian schools do not possess a lot of autonomy; furthermore, they describe the Austrian school system as highly bureaucratic” (p. 36)- “In Austria, the organization of schools is characterised by a very flat structure (one head and many teachers, which fosters what is called an ‘equality myth’ among the teaching staff. The inner hierarchy is simply concealed and the distribution of organisational tasks is difficult to achieve. Additionally, heads of school are often regarded as being primus inter pares – a perception that leads to additional problems in the safeguarding of organisational
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			<p>tasks. Heads of school regard their 'managerial functions' in terms of dutiful compliance with what is laid down in rules and statutes. The hierarchical structure of the school system offers them no other means of safeguarding their professional positions. Therefore, leadership is still often seen as an individual task which puts a lot of pressure on the school heads. Recent developments in Austria aim at changing the role of the individualistic leader towards a more systemic leadership role, which distributes leadership among several actors in the school. Sharing leadership renders people more ownership of what happens in school and asks them for taking over responsibility accordingly. Some schools started experimenting with a "middle management" structure in schools (e.g. subject area heads), which the ministry is planning to introduce nationwide in bigger schools. This will enhance the distribution of leadership at the school level" (p. 43-44)</p>
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<p>Empowered Actors</p>	<ul style="list-style-type: none"> - “Consultations play an important part in the Austrian school system. Through the School Education Act of 1974, the stakeholders-teachers, parents students and the community-are invited to participate in decision-making. Teacher unions, organizations, and groups have a strong influence on decision-making. Since the school year 1993/1994, the 14th amendment to the School Organization Act has empowered the respective school partnership body to issue its own curricular regulations autonomously by a two-thirds vote. This means that main focal points may be chosen within a given framework and schools can develop 	<ul style="list-style-type: none"> - “Many / some decisions at school level are taken in a representative manner. The democratic decision-making process involves the agreement of a two-third majority in each of the groups involved by the respective committee – consisting of the head of school (he or she has no right to vote), teaching staff (depending on the form, either three representatives or all teachers), and parents (depending on the form, either three representatives or all parents), in academic secondary education also pupils’ representatives belong to this committee” (p. 27). 	<ul style="list-style-type: none"> - “Individual schools have little autonomy; they have some budgetary autonomy and they are allowed to adapt the curricula to their needs within limited boundaries. The teachers are responsible for the interpretation of the curricular guidelines” (p. 22). - “According to current policy, school leaders in Austria are still “lonely fighters” at their work places. Therefore, leadership is rarely distributed among others with the exception of large professionally oriented upper secondary schools” (p. 74).
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	<p>their own profile” (p. 22)</p> <ul style="list-style-type: none"> - “Several initiatives have been introduced by the Ministry of Education to support learning-centred leadership, but not only restricted to the school head, but also for the teachers. An example for this is the introduction of the early warning system (<i>Frühwarnsystem</i>), a regulation which asks teachers to contact parents immediately if they notice a decline in a pupils’ or student’s achievement or behaviour and to arrange a meeting to jointly find a solution to the respective problem(s) with a view to improvement. The impact of this policy measure can be noticed in the decrease of retention numbers” (p. 51). - “Another strength in current policy on 		
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	<p>school leadership lies in the situation that school leaders have— apart from the missing autonomous decision-making options mentioned—great freedom in leading their schools according to their own leadership expectations. Since there is little external control on the work of the individual school, the school leaders have the chance to operate their school along their leadership abilities” (p. 75).</p>		
<p>Function and Mandate</p>	<ul style="list-style-type: none"> - “The ministry sets the general curriculum. The individual school has a possibility to adjust the school curriculum according to its geographical circumstances and local demands within defined boundaries. In order to establish its own school profile the school can focus its curriculum on a particular pedagogical and/or topical emphasis. In this way, the school is able to be 	<ul style="list-style-type: none"> - “Further duties of the school head are laid down in the Civil Service Code and the Province Teacher Service Code. He or she runs the school, corresponds with the school authorities, and advices teachers on their teaching and educational work. School heads may inspect instruction being given in the classroom at any time, in order to monitor the quality of teaching. “ (p. 26). - “In the years 2006 and 2007 the following changes are taking place or are planned to be put into practice: <ul style="list-style-type: none"> • Continuing development of teachers will be strengthened, the attendance of training 	<ul style="list-style-type: none"> - “Decision-making in the different schools and school types does not vary much. At each school, the school leader has to follow the line structure, and there is little autonomy in curricular, personnel and budgetary issues, as pointed out in more detail earlier in this study. There is a difference between the so-called compulsory schools (covering the compulsory schooling period of students) and academic lower and upper secondary education. The latter only have one level of inspectorate

	<p>responsive to the interests and abilities of the pupils and can place the teachers in their appropriate positions. The school can also consider regional characteristics, equipment, and space in its curricular approach” (p. 33).</p> <p>– “Disciplinary behaviour is usually only monitored on the class or school levels. A so-called early warning system (<i>Frühwarnsystem</i>) was introduced by the Ministry of Education as a regulatory device which asks teachers to contact parents immediately if they notice a decline in a pupils’ or student’s achievement or behaviour and to arrange a meeting to jointly find a solution to the respective problem(s) with a view to improvement. Only if</p>	<p>courses will be compulsory.</p> <ul style="list-style-type: none"> • School heads should be provided with more co-determination concerning the employment and development of teachers. • An individual school head could lead several smaller schools, which brings the resources from the administration to the pupils. • Many schools have already established their own profiles. To make these profiles more visible to the outside and to help the pupils to attend the appropriate school, the schools are given the possibility to mention their focus in the identification of the school (e.g. EDV-Hauptschule [ICT General Secondary School])” (p.30). <p>– In Austria, the financial sovereignty is divided: For the federal schools the financial sovereignty is in the federal administration. In the compulsory schools sector the providers of the particular school are responsible for resource allocation (e.g. building, maintenance, running costs) - in the public area these are the local communities, in the private area they are the bodies or authorities responsible for the school. In federal schools the salary of the teachers is paid by the federal government, in compulsory schools the regional school board delivers the money, but reclaims it from the federal government. The schools have little financial autonomy. They can only decide autonomously about third-party funds. Parents do not have any direct decision making power in financing, unless parents associations grant benefits to the</p>	<p>between the ministry and the schools (Landesschulinspektor/innen), whereas the compulsory schools have an extrainspektorial level in the respective school districts (Bezirksschulinspektor/innen)” (p. 36)</p> <p>– “School leaders only have autonomy within limited boundaries. They are not able to appoint new teachers according to the needs of their schools, personnel selection is conducted by the regional education authorities or the ministry. Concerning the curriculum, the school leaders have limited autonomy within the boundaries of the curriculum. Although compulsory schools receive a financial budget from the local community, budgetary decision-making is very limited. Many school leaders demand more autonomy for their decision-making in order to use their resources better for improving their students’ performance” (p. 37-38).</p> <p>– “Decision-making in appointing staff in Austria is divided between all three</p>
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	<p>schools fail in settling problems on the school level, the local educational authority will be involved” (p. 48).</p> <ul style="list-style-type: none"> – “School autonomy has brought schools some flexibility in curriculum development and implementation. The national framework for the different stages and types of school – within given limits - allow to introduce new curricular areas or change the number of hours dedicated to certain subject areas. They can also move some hours from one school year to the following or introduce focused teaching in a particular area by using more lessons than schools would regularly do (e.g. with a particular school profile). The national framework offers core elements which have 	<p>school from their financial contributions to these associations. According to OECD data 27% of the decisions on resource allocation are taken by the federal states, 54% by the local authorities, and 17% directly by the schools” (p.32)</p> <ul style="list-style-type: none"> – “Since the devolution itself is not an aim in itself, the question is how it is possible in the Austrian bureaucratic model to organize the school system in a way that the interplay of decision-making power in curricular, personnel and budgetary matters, national targets for success (curricula, education standards) and the transparency of the result orientation (standardised tests, comparison of results etc.) work towards a quality improvement policy and strategy. A national reform convent on constitutional reforms has started working on suggestions how to deal with the complexity of the interference of national and regional decision-making structures at large and of schooling in particular. Its aim is to come up with suggestions how to set clear responsibilities for the different agents and give them a structure which makes (school) administration less of a burden in decision making processes. On the school level, it will be the question which responsibilities and support structure a school leader gets to run a school effectively” (p. 36-37) 	<p>levels of authority: the staff appointments scheme of the federal schools is defined by the ministry, the employment and dismissal of teachers is regulated by the regional school authority. The latter is also the authority that allocates teachers to the schools, which – for compulsory schools - happens in collaboration with the school partners, the teacher union, the local community and the school inspector(s). Public schools do not have any personnel sovereignty in employing or dismissing staff” (p. 38).</p>
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	<p>to be covered by all schools and elective parts which the schools can decide on autonomously. In upper secondary education, the number of compulsory written exams has been limited to one per semester and additional forms of assessment can be decided on by the schools” (p. 48).</p>		
Rights and Responsibilities	<ul style="list-style-type: none"> - “The school head has to advise the teachers and to monitor the performance of the pupils...The school head is responsible for implanting laws and other and other legal regulations as well as instructions issued by the educational authorities. The school head prepares the meetings of the school partners and is responsible for executing the decisions made at these meetings. 	<ul style="list-style-type: none"> - One of the principals that was promoted by experts of the <i>Zukunftskommission</i> (Future Commission), which was set up to develop a proposal for policy development in the Austrian school system, was the following: <i>“More autonomy and more responsibility: more flexibility by transparent performance and accountability at the same time. The initiative of providing schools with more autonomy should be carried on. At the same time this made more transparency and accountability necessary not only for schools but for teachers and the policy as well”</i> (p. 29). - “As far as the organisation of daily school life is concerned, the autonomy of the school head is limited. Some decisions are taken autonomously by the school 	<ul style="list-style-type: none"> - “The organisation and leadership structures do not vary much between the different school types. In all schools the school leaders are responsible for both the pedagogy and the administration of the school. Several school heads complain that the administrative work takes so much time that they do not have enough time left to take care of other matters. At primary and general secondary schools, the school head has to do all administrative work alone; at academic secondary lower and upper secondary

	<p>School heads have to adapt the annual budget to the needs of their school and prepare the school....After a four-year probation phase, the position of the school head becomes a permanent post. The position is permanently linked to a defined school (to defined schools), if he or she has successfully completed the compulsory school management training. Holders of permanent posts have a right to be employed at the school and may be transferred from one school to another under the conditions, which are exhaustively set out in the Civil Service Code and the Service Code for Province Teachers” (p. 26).</p> <p>– “The school head is the superior to all teachers, but for relevant decisions in school life a two-third</p>	<p>committee:</p> <ul style="list-style-type: none"> • Variation in number of lessons in compulsory subjects • Variation of group sizes in class compositions or year groups • Introduction of new fields of learning and transformation of optional subjects into compulsory ones <p>Other decisions are the school head’s task:</p> <ul style="list-style-type: none"> • Composition of student groups in optional subjects and special needs teaching • Opening the school to people from outside (e.g. extra-curricular activities) <p>However, there are several conditions which have to be considered: The scope for such variations is limited to a maximum of 16 hours in general secondary schools and 8 hours in lower academic secondary schools. The budgetary neutrality has to be assured, and all orders and school laws have to be followed” (p. 34).</p> <p>– “According to the law, it is the duty of the school leader to observe and evaluate the teaching of his or her teachers. Furthermore, he or she should act as a mentor. In reality, most school heads are mentors and instructors for their teachers – for example, the school heads assist their teaching staff when they have to solve conflicts with other teachers, with pupils or parents. Concerning the evaluation and mentoring of teachers, most school leaders neglect this duty for</p>	<p>schools and secondary vocational schools and colleges, he or she usually has secretarial support. Depending on the size of the individual school: The bigger the school, the fewer teaching obligations the school head has” (p. 39)</p> <p>– “A distribution of responsibilities may happen at school level. In the present system some school types do already, at least partly, practise a distribution of responsibilities. At some bigger schools the function of a permanent deputy has been established. A teacher with a reduced teaching load supports the school head with the administrative work; the permanent deputy is no superior to the other teachers. At secondary technical schools and colleges, the function of department heads has been established. The department heads take over some of the duties of the school head and they are responsible for their areas...Recently, there have been discussions about the introduction of a middle management structure, whereby different teachers could have constant leadership</p>
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	<p>majority among teachers, parents and, if applicable, students is necessary. This offers teachers, parents, and students the ability to participate in decision-making. The teachers have a lot of autonomy in their classrooms as long as they follow the curriculum. It is the duty of the school leader to assure that all teachers at their schools teach according to the national requirements” (p.39)</p> <ul style="list-style-type: none"> - “The new curricula offer the schools more freedom and flexibility in the implementation to their own needs and expectations. It is the school leaders’ task to decide on the local interpretation and regulation, but usually it is the subject teachers or subject teams which decide on the local curricular agreements, 	<p>several reasons. In small schools, it is often because of the close collegiality, in large schools it is often the number of staff which is difficult to reach individually. Peer coaching is not an established practice in Austrian schools, although there seems to be demand. School heads who are members of the Leadership Academy learnt collegial peer coaching as an important vehicle for bring about change. That is why some of them have introduced collegial peer coaching as professional development at their schools” (p. 49).</p> <ul style="list-style-type: none"> - “The criteria for the assessment of teachers through school heads is regulated by the public services act: It is their duty to monitor the teachers’ performance in alignment with the curriculum prescriptions. In reality, however, teacher evaluation by school leaders does not take place on a regular basis. Furthermore, the school head has no autonomy to reward or sanction teachers, but if they want to become active in those areas, they can involve the next higher levels of authority. They can, for example, ask for gratifications (on a limited budget) for teachers who are doing extra work, which will be granted by the regional or national level. If teachers fail to do their work expectedly, the regional education authority has to be informed and formal inspections are executed, which deal with such cases (in conjunction with the teachers union)” (p. 50). 	<p>functions in particular areas (e.g. subject areas). This would, of course, ask for a new salary structure, which makes the government hesitant to put such a policy immediately into practice” (p. 40)</p> <ul style="list-style-type: none"> - “Many qualified school leaders take a lot of effort into putting their visions and ideas on school improvement and how to establish better learning for their pupils into practice. However, many of those visions never become reality, partly because of the lack of opportunities and resources, and partly because of the lack of capacity to do so. Many of them feel overwhelmed with administrative tasks, especially school leaders of primary and general secondary school levels, who have little or no administrative support” (p. 74).
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	<p>and the school head only interferes if agreement cannot be reached on the teachers' level. In upper secondary education, the decision-making process is more a cross-curricular one, which brings the school head more into the leadership function" (p. 49).</p> <p>– "The duties of head teachers have changed a lot as the education system has become more autonomous. Whereas they previously used to be mainly responsible for administrative tasks, deregulation has brought the head teachers an increase in pedagogical leadership duties. As the direct supervisor of all teachers and other employees working at the school, the head teacher is the connecting link between the school staff, the pupils</p>	<p>– "Until recently, it used to be the practice that teachers – or in larger schools, subject-departments - themselves decided on their own which in-service activities they wanted to take part in, which are usually offered by the regional in-service training institution. They only had to apply to the school head and the regional education authority to be granted permission for participation. The new laws regulating the yearly time budget for the work of the teachers in compulsory schools involves the school leader more in steering in-service activities in his or her school. The planned introduction of school development plans asks for professional development policies in school. Budgetary reasons have also contributed to a streamlined decision-making process about the internal policy on which teacher should attend which in-service activities. The school head is challenged to make good use of sending the appropriate teachers according to the needs of the school. This policy should also make teachers more responsible for bringing home the added value of their professional learning to the schools. A study on the implementation of the new law commissioned by the ministry shows that there have been mixed experiences implementing this professional development policy" (p. 50).</p>	
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	and their parents and legal guardians. The head teacher has to draw up a work schedule and must monitor the teaching work done by the staff, with the emphasis on providing advice” (p. 49).		
Monitoring/Accountability	<ul style="list-style-type: none"> – “Individual school inspection officials are usually appointed for specific school types...School inspectors look at the quality of teaching and the implementation of administrative tasks. After the inspection a meeting between the school inspectors and the teachers takes place, the school leader can also attend this meeting...In most cases, the school inspectors act as advisors and mentors. It is also a duty of the school inspectors to look at all activities of 	<ul style="list-style-type: none"> – “The school head is responsible for implementing laws and other legal regulations as well as instructions issued by the educational authorities. Since he or she has the duty to evaluate the work of the teaching personnel, he or she has a strong influence on monitoring teaching and learning in school. However, teachers still work along their own teaching philosophy, that is why it is difficult for the school head to lead all teachers’ individual achievements into an orchestrated school result” (p. 45). – “This will change with the introduction of national standards in three subject areas (German, Maths and first Foreign Language). The increasing standardisation in the Austrian school system will create more transparency in what the students have to achieve in each of the stages of progression in the students’ school career paths. The introduction of result-based exercise types and national tests will give teachers the 	<ul style="list-style-type: none"> – “Currently, the hitherto insularly acting education system (Altrichter and Schratz 2004) is undergoing a major “cultural change” as a result of the global testing by large scale assessments (e.g. TIMSS, PISA, IGLU). Like other continental European education systems, the Austrian education system has mainly been input controlled (laws, resources, curricula, teacher education, school supervisory boards) with no central or standardised final exams or standardised tests of the output through national tests or performance assessments. Studies have shown the inequalities of the teacher centered assessments so far used in Austria (cf. Eder 2001). In fact there has been a strong aversion against tests in education...It is more or less exclusively up to teachers to

	<p>the school leader and the teachers” (p.18).</p> <ul style="list-style-type: none"> - “In 2004, the Leadership Academy, the Austrian Ministry of Education, Science and Culture started an innovative concept for the professionalizing of 6.500 school leaders and other executives in leadership positions in the Austrian school system in a very short period of time on the basis of the latest scientific findings on innovation and change” (p. 70). 	<p>chance to compare and contrast their students’ results with those of regional or national averages. School leaders have a key role in using the evidence to enable teachers to enhance teaching and learning in their classes” (p. 46).</p> <ul style="list-style-type: none"> - “There has not been much tradition of school accountability in Austrian schools, but recent challenges caused by PISA results have caused intensified discussions about a system-wide quality assurance system with different layers of accountability” (p. 46) 	<p>assess their pupils. The Austrian school system is selective, after only four years in primary school, pupils are allocated to general secondary schools <i>or</i> academic secondary schools according to their marks of their last year in primary school. This causes pressure on primary teachers, students and parents. In urban areas a highly competitive market exists, so that additionally to the year 4 reports the year 3 reports are used to screen children’s achievements. General secondary schools try to attract pupils through specialised school profiles (e.g. computer or sport), a result of granting them more autonomy in the 90s” (p. 31).</p> <ul style="list-style-type: none"> - “Since the Austrian school system does not possess a national system for quality assurance yet, the monitoring and control takes place more or less informally, depending on the structure of the system and the individuals involved” (p. 48). - “Active participation in professional development
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			<p>programmes is expected but not compulsory or a condition of continued employment as a school leader, or for promotion or increased compensation. However, a lot of school leaders and other personnel in leadership position in the Austrian education system take part in the Leadership Academy because they expect it to be a bonus when they apply for higher positions” (p. 63).</p>
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Chile

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels where the shift of power will be occurring.	<ul style="list-style-type: none"> - “Another of the aspects highlighted in this reference framework is that school Leadership cannot involve only the figure of the Head Teacher but a team of leaders within each educational unit. These teams are in general formed by the Head Teacher, the Deputy, Technical Head, Inspector General, Reviewers, persons in charge of the curriculum and other education professionals who mostly fulfil leadership-teaching and technical-pedagogical functions” (p. 33) - “ In this regard, the legal body was modified by Law 19,979 of November 2004, adding explicit precisions regarding the role, functions and attributions of the Head Teacher. In this way, the Teachers Act reads: “The main function of a Head Teacher is to direct and lead the institutional educational project”. At those schools reporting to Municipalities, it further indicates: “...the Head 	<ul style="list-style-type: none"> - “From the regulatory point of view, Exempt Resolution N°7394, dated 7th September 2005, made the Good School Leadership Framework (MBD) official. This reference framework sets forth the standards or criteria for what in public policy is considered to be good school leadership. The text indicates the following regarding good leaders: “... the ability of these professionals to become Leaders of the Educational Project at these schools, concerned with learning achievements for all students, institutional achievements, satisfaction among the educational community, the ability to take part in definitions related to teaching, administration, and the organizational atmosphere in these various learning communities.” (p. 33). - “The main challenges facing education policy in Chile are 	

	<p>Teacher shall in addition manage the school administration and finances, and further fulfil all other functions, attributions and responsibilities awarded by law, including those awarded by virtue of Law 19,410.” (p. 34).</p> <ul style="list-style-type: none"> - “ Furthermore, the Teachers Act determines the forms of entry, permanence and duration of Head Teachers in their positions at municipal schools. However, application of the Teachers Act is the responsibility of each school sustainer, which in practice generates an important diversity of criteria and modes of implementation, since it is they who define the conditions for the public contests and therefore the requirements and characteristics of the Head Teachers sought by the sustainers. Likewise, it is the sustainers that determine the professional development or training requirements for Head Teachers” (p. 35). - In 2007, priorities in the policy to strengthen school leadership are related to three major issues. The first has to do with supporting leadership teams and sustainers for massive implementation of collective performance incentives¹⁴. 	<p>related to the governments ability to support the task of autonomous Head Teachers; that is, in terms of more actively controlling and supervising, with well-defined criteria, what is done by local education authorities. This is both in the sphere of Municipalities as well as in the sphere of private sustainers” (p. 35).</p> <ul style="list-style-type: none"> - “In general, public secondary schools and those schools with larger enrolments tend to generate governance structures including more numerous leadership teams; whereas in primary schools these teams tend to be less complex. However, there is no census data about the distribution and structure of school governance in Chile” (p. 39). - 	
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The second is related to greater dissemination of the Good School Leadership Framework and the formation of local networks of school leaders. Finally, through direct action of MINEDUC, but in collaboration with other public and private agents, the implementation of leadership formation programmes. . These two last issues are mainly expressed through four components: strengthening of competences for quality management of schools, the quality of communal school management, strengthening of local networks for the development of school management and teaching leadership, and the quality of support for training and understanding of school leadership. The first three include initiatives such as:

- “Course-workshops for school management teams, to develop competences and form communal networks of Head Teachers. The main contents are: the school in systems (curriculum, resources, professional development, and coexistence), Development and use of data for decision-making, relational competences. Each of the Institutions in charge take at least 30 schools (about 500 schools), representing a total of approximately

1500 leaders. This includes Technical Transfer from Corporate Leadership to Educational Management. SOFOFA15 for training of Head Teachers (course for school leaders and priority secondary schools).

- Courses for sustainers and teams to develop competences associated to local education management.
- Definition of a mechanism for initial training and induction for recently established leaders (Law 20,006) with mentor and mentoring in practice.
- Development of leadership performance assessment: induction, on-line modules for leaders, with mentoring at a distance, massive face-to-face initial phase via a planning day in February and regional one day event, IT support for the process, dissemination materials¹⁶.
- In turn, the Quality component of support for training and understanding of school leadership includes actions such as:
- Good Practices of Communal Management to strengthen school leadership: sample study, process systemization, survey and publication (Head Teacher contests, school supervision, professional

	<p>development, own programmes, etc.)</p> <ul style="list-style-type: none"> • Design, modelling and technical transfer of new methodologies for the formation of leaders, formation agencies. • Improvement of the Good School Leadership Framework: review and adjustment of the framework, translation into specific competences (knowledge and behaviour rubrics)” (p. 50). <p>–</p>		
<p>Empowered Actors Which actor groups are to be empowered by the decentralization?”</p>	<p>– “Regarding organization and leadership structures, current regulatory frameworks do not clearly specify the responsibility structure within schools and schools must themselves do this based on the resources available –human, material and financial- assign tasks and functions to their leadership teams. In this sphere, legislation in Chile does not set minimum standards, for example in relation to the number of hours estimated as necessary for leadership and technical-pedagogical functions according to enrolment or type of teaching. Of course this will be limited by the number of teaching hours available at the school and the understanding and commitment of</p>	<p>– “It should be pointed out that school leadership teams are also formed mostly by teachers without formal responsibility or assignment to the leadership function. This is at times strength, in the sense of promoting greater participation and fostering the appearance of new leaders within the educational community. However, it may also reflect a great weakness, in that the procedures used to select these teachers are not open to participation, do not recognize natural leaders from among the body of teachers, and also, given the shortage of leadership staff, the teachers end up performing duties for which they often don’t even</p>	<p>–</p>

the sustainer with the need to set-up and strengthen powerful governance structures with schools, which is in turn conditioned by the issue of finance and loss of enrolment from the public sector in favour of the private sector” (p. 41).

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have the real time assigned in their contracts, and therefore these tasks are neither recognized nor rewarded by wage incentives” (p. 35)

“Recent legal modifications imposed by Law 19,979 to the Teachers Statute and which introduced a mechanism for the annual assessment of Head Teachers and teaching and technical-pedagogical leaders, providing new attributions and a new role to Head Teachers of subsidized and municipal schools, already seen in 255-258, allows Head Teachers to take certain action in the field of curricular organization, decisions about pedagogical work for planning teaching activities, supervision of curricular implementation and its assessment, and assessment of the leadership team. However, the impossibility of taking part in the selection of teaching staff with the right to vote, same as their limited ability to affect modifications to the teaching staff at the school or releasing bad teachers, limits them greatly or, said differently, makes it even more difficult for the Head Teacher to build a common vision and conducting all community players towards achievement of the educational objectives imposed by that vision. As to the allocation of financial resources, in spite of the new facilities provided, either due to a school culture that is still not able to deepen its accountability, or due to the reluctance by

		<p>sustainers to give greater autonomy in the financial field, either way Head Teachers are unable to efficiently deal with the resources necessary to implement their improvement strategies when these have been defined.” (p. 40)</p> <p>–</p>	
<p>Function and Mandate the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment</p>	<ul style="list-style-type: none"> – (Head Teachers Roles) “In the pedagogical sphere: <ul style="list-style-type: none"> • Formulate, follow-up and assess the targets and goals of the school, the study plans and programmes, and strategies for their implementation. • Organize, guide and observe the technical-pedagogical and professional development work of the school teachers. • Adopt measures necessary for parents to regularly receive information about the operation of the school and the progress of their children” (p. 34) – (Head Teachers Roles “In the administrative sphere: <ul style="list-style-type: none"> • Organize and supervise the work of teachers and non-teaching staff at the school. • Propose contract and replacement staff, both teaching and non-teaching. • Promote appropriate coexistence at 	<ul style="list-style-type: none"> – “Furthermore, considering the decentralized administration of schools and staff, particularly in the public or municipalized sector, the allocation of resources is made to each Municipality by the Ministry of Education on the basis of actual student attendance to school. Resources for school maintenance are allocated on the same basis. Other resources for central intervention projects in schools are also transferred to the Municipalities who in turn allocate them to the schools. In some cases the Head Teachers of municipal schools are given attributions to manage resources. It should be pointed out that the percentage of schools with this type of attribution represent no more than 10% of municipal schools. This is although the mechanism for requesting this attribution was simplified to make the procedures easier for Head Teachers and hindering the refusal of this request by the Municipality” (p. 37). 	<ul style="list-style-type: none"> – “Another recent modification to the financial allocation system was related to the annual budget for the municipal system, which includes the teachers for all schools managed by the Municipality, investment projects, and operation and maintenance expenditure -all of which must be approved by the Municipal Council who in turn receives a monthly report of the budget execution. This is with the idea of introducing more effective accountability by local authorities” (p. 37). – “It should be pointed out that a qualitative study of leadership practices in municipal schools⁸, showed those Head Teachers who systematically obtain good results in national tests –at either municipal or private subsidized schools- have a significant say in the appointment of staff assigned by the Municipality or private

	<p>the school and participate in the selection of teachers” (p. 34)</p> <ul style="list-style-type: none"> - (Head Teachers Roles) “In the financial sphere: <ul style="list-style-type: none"> • Assign, manage and control resources in those cases when these functions have been assigned by the sustainer, in accordance to the law on delegated attributions” (p. 34). - NOTE: Tasks in the administrative and financial spheres “may be delegated to dependent staff” (p. 34). - “In relation to curricular implementation, although directed from the central level as the in-practice and legally recognized authority of the school system, it is the schools themselves that have the attributions for organizing time and assigning educational resources, focusing on particular learning present in the curriculum or specific contexts to be better taken-in by students in a particular geographic or socio-cultural area. Likewise, the Head Teacher and the leadership team have the attributions to organize the preparation of teaching, including learning strategies, assessing progress, and organization 	<ul style="list-style-type: none"> - “Regarding teacher training and professional development, there are two avenues for this. The first is by decision of the sustainer, in which case the Municipalities or private sustainers cover the costs incurred. It is they, in line with the curricular framework and real educational needs of the students, who decide and manage the most appropriate training. In practice this depends greatly on the financial capacity of the sustainer and their educational vision. The second is by decision of the teacher, which is sometimes performed with the authorization of the sustainer or financial support by the sustainer on a voluntary basis. However, if the course is given outside the hours contracted by the sustainer, the teacher does not require authorization.” (p. 49). - 	<p>sustainer to the schools they direct, although they do not legally have this attribution. However, in spite of this, they have gained the right -probably by demonstrating a great capacity for leadership at their schools.” (p. 37).</p> <ul style="list-style-type: none"> - “As to recruitment, assessment and discharge of teaching staff, it has already been mentioned this is an attribution of the sustainers, either public or private. In the public or municipal sector there is a certain legal reference framework to be respected in the execution of these processes, in spite of allowing for a great diversity among Municipalities” (p. 37). - “Municipalities have the power to define the teaching staff per commune (Teachers Act). These are merely communicated to DEPROV. Likewise, it is the Municipalities that decide payment of teacher rewards, appointment decrees, work contracts and terms, etc.” (p. 38). - “As to the selection of students in the municipal sector, schools
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of contents and learning in each sub-sector and level of teaching. “ (p. 37).

- “The area of Curricular Management is central to the Good School Leadership Framework, in the sense that the ultimate goal of all schools is student learning and therefore implementation and assessment of the curriculum. Hence, the competences contained in this area have to do with the way the Head Teacher must ensure effective learning in the classrooms of the school he/she directs, considering the school’s particular culture and educational project. Specifically, the criteria for this domain are those necessary for the Head Teacher and Leadership Team to promote designing, planning, set-up and assessment of appropriate school processes so as to implement the curriculum in the classroom, quality control and assurance of teaching strategies, and the monitoring and assessment of curriculum implementation” (p. 43).

- “Within this context of providing greater accountability to school leadership, the Ministry of Education promoted significant changes in the bill reforming the law

are by law obliged to receive all students requesting enrolment. Only a few schools have selection systems on account of their high demand for enrolment. Private subsidized sustainers, on the other hand, decide and set up their selection processes. It must be remembered that schools with shared funding, by merely making an additional charge are already establishing a selection process with the amounts charged” (p 38).

on the Full School Day, Law N°19,532. This bill was passed by Parliament and published as Law N°19,979 on 6th November 2004 and, among other aspects, sets forth the attributions and functions of Head Teachers. Specifically, this law says the main function of a Head Teacher is to conduct and lead the school educational project, aside from ensuring the administrative and financial management of the school, when these attributions have been awarded according to the current legislation. As indicated in paragraph 256, this Law gave subsidized school Head Teachers the following attributions:

- Formulate, follow-up and assess the targets and goals of the school, the study plans and programmes, and strategies for their implementation.
- Organize, guide and observe the technical-pedagogical and professional development work of school teachers.
- Adopt measures necessary for parents to regularly receive information about the operation of the school and progress of their children.” (p. 43).

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<p>Rights and Responsibilities the types of decisions that are allowed to be made, meaning whether the decisions are final and binding versus consultative or advisory</p>	<p>– “However, the evident tension here is related to teachers” contract time. Teachers hired for 44 hours will have 33 hours classroom time – excluding breaks - and the remaining time will be assigned to non-teaching curricular activities. If their contracts are for less time, the corresponding proportion will be applied, that is 75% of the contracted hours will be dedicated to classroom teaching and 25% to non-teaching curricular activities. The tasks defined by the Teachers Act as supplementary educational tasks of classroom teachers, are: administration, class tutor, special programmes and cultural activities, typical school activities, class preparation, breaks, among others ” (p.43).</p>	<p>– “The other modification introduced by the same legal body –but this time about the Teachers Act- is the creation of a School Council at each subsidized school, a body formed at least by the Head Teacher –presiding-, the sustainer or their representative, a teacher chosen from among peers, the president of the parents association and the president of the student association, in secondary schools. This Council is basically for information, consultation and proposals, the sustainer being able to resolve. The Council can be revoked at the beginning of each school year. This Council must be informed of at least the following issues:</p> <ul style="list-style-type: none"> • Student learning outcomes • Reports on the inspections conducted by MINEDUC agencies • In the case of public schools, the results of contests for teachers, support staff, administrative and leadership staff • Annual school budget, with all income and expenditure • Every 4 months, the actual income 	<p>– “The challenge for Head Teachers is not only to deal with this drop in enrolment but also the change in school population, since the municipal sector does not select students and hence students who are more difficult to educate, with greater socioeconomic difficulties and more socially vulnerable, are concentrated at municipal schools. Students from better socioeconomic classes or with greater family incomes attend private subsidized schools. This is in addition all linked to social pressure to improve outcomes, since investment in education has increased significantly and learning outcomes are expected to follow the same path. “ (p. 35)</p> <p>–</p>

and expenditure report

With regards to consultation, this Council must be consulted at least about:

- Definition of the Institutional Education Project
- School targets and improvement projects proposed
- Written report about leadership management at the school
- Development and modifications to the Internal Regulation

– “In relation to ambiguities in the current governance structure of subsidized schools, they must follow the general regulatory frameworks, and in case of conflict or tensions, most usually the decision of the sustainer –both public and private- finally imposes the specific criteria for each case. This is with the exception of curricular aspects, where local authorities and private sustainers have in general not developed the necessary technical authority to support or discuss with the educational units reporting to them. Yet in relation to finance, resource allocation, and hiring of human resources, it is the opinion and decision of the sustainer that

		<p>finally conditions what is to be done by the school, as long as these decisions are within the legal frameworks determined by MINEDUC”(p. 40).</p>	
<p>Monitoring/Accountability monitoring and accountability rules accompanying decentralization reforms</p>	<ul style="list-style-type: none"> - “The law on the full school day which in its Article 11 says: “At the end of the second semester of each school year and prior to the beginning of the next school year, subsidized Head Teachers shall submit to the school community and their organizations a written report on the educational management of the school for that same school year.” This report shall include at least the following: • Learning targets and outcomes for the period, as set at the beginning of the school year. • Progress and difficulties of the strategies developed to improve learning outcomes. • <input type="checkbox"/> Study plan hours completed and fulfilment of the school calendar. • Internal efficiency indicators: enrolment, student attendance, pass rate, non-pass rate, and drop-out rate. • Use of financial resources received, managed and delegated 	<ul style="list-style-type: none"> - “In theory, the financing system introduces elements of choice and competition. The voucher system enables parents to choose a school freely in the public or private subsidized sector. Users create demand for one school rather than another. Schools react by expansion, contraction, or adjustment of cost and quality. It treats parents as clients, so that family decisions are decisive in the allocation of resources to education. The subsidy favours schools that can attract and retain students, while punishing those that fail in this objective. Thus, the framework tries to use competition between schools to induce the efficient use of resources and effective educational results. Nonetheless, this rationale needs to deepen the information and feedback mechanisms within the education system or <i>market</i> in order to guarantee efficient parental decisions” (p. 28). 	

	<ul style="list-style-type: none"> • Situation of the school infrastructure. • Accountability should also include lines of action and future commitments. • In the case of municipal schools these shall be accountable for commitments taken on with respect to the Municipal Education Annual Plan. “ (p. 44-45) <p>– “The government of Chile created an instrument called the Education Quality Measurement System. Its definition and objectives are the following: SIMCE, the Education Quality Measurement System, is based on a test applied nationwide once a year, and which all students take at a certain level alternately: 4th grade, 8th grade, and 2nd secondary year. The main objective is to generate reliable indicators serving to guide actions and programmes for improving the quality of teaching. The system used for assessment is the same for all schools in the country and the management is performed outside the schools. The scores obtained in the SIMCE test show performance for all students in various areas of learning by school, in comparison to previous years, and in comparison to other schools. The initial objective of allowing comparison between different</p>		
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	<p>schools was later supplemented by following-up on the performance of one same school over time” (p. 45).</p> <ul style="list-style-type: none"> - “The SIMCE test acts as a thermometer, establishing the situation of students in relation to what is expected of them, in line with the Curricular Framework. By using a standardized national test applied as a census, the system provides objective indicators of the quality of education at all schools in the country. Although the direct action of the SIMCE test is limited to measuring learning outcomes, the indicators generated enable the creation of a vast set of initiatives aimed at improving the quality of education by various players. The results of the SIMCE test can be used by teachers to review different aspects of their teaching practices, such as for example: <ul style="list-style-type: none"> • Technical pedagogical activities • Expectations and demands on students • Curricular coverage” (p. 45). - “There is no institutionalized process for monitoring the curriculum. However, the government has developed an instrument called Good School 		
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	<p>Leadership Framework and which specifies the professional activities of the leadership team, for example in relation to curricular implementation.” (p. 46).</p> <ul style="list-style-type: none"> - “In addition, the Good School Leadership Framework includes management of the School Atmosphere and Coexistence, defined as one of the factors contributing most to the good operation of a school and, at the same time, one of the factors where the Head Teacher and leadership team can have greatest influence. A good working atmosphere favours motivation and commitment among the educational community to organizational learning. In this sense, the school atmosphere and coexistence domain seeks to highlight the role of Head Teacher and leadership team in generating school atmospheres appropriate to empower the educational project and student learning outcomes. The criteria considered in this sphere of leadership action promote collaboration within the school and the formation of support networks in the surroundings. The standards considered in this dimension are: <ul style="list-style-type: none"> • Head Teacher and leadership team foster school values and an atmosphere of trust and 		
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	<p>collaboration within the school to achieve its targets.</p> <ul style="list-style-type: none"> • Head Teacher and leadership team foster a collaborative atmosphere among school staff, students, parents and tutors. • Head Teacher and leadership team ensure the definition of the school educational project fits with the characteristics of the surroundings. • Head Teacher and leadership team interact with other community organizations to further the school educational project and student learning outcomes, creating appropriate support networks. • Head Teacher and leadership team inform the community and school sustainers of the school achievements and needs” (p. 47) <p>– “Simultaneously, the Ministry of Education has created an institutional device, which inspired in the models of quality, is called the School Management Quality Assurance System¹², seeking to develop the capacities of schools to sustain their curricular proposal and materialize it through a series of support devices and resources aimed at producing conditions for the continuous improvement of the quality of processes and outcomes at schools. The devices comprising the structure of the system are: Self-</p>		
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	<p>Assessment, the External Review Panel, the Improvement Plan and funding through programmes for Educational Management Improvement, Public Accountability, and parallel processes for technical assistance for Municipal Education Administrators and Ministerial Supervision.” (p. 47)</p> <p>– “Quality Criteria for School Leadership in Chile. The process for development of quality standards for educational leaders in Chile concluded in 2005, thereby setting an unprecedented milestone for professional development and performance assessment of these professionals. These standards are consigned in the document called Good School Leadership Framework (Resolution N°07394 of 7th September 2005). This document includes international experience as well as a series of observations resulting from a broad national survey and consensus. Among the most important social players and institutions that took part in this process it is possible to mention: <i>Colegio de Profesores</i> (Teachers Association), <i>Asociación Nacional de Directores</i> (National Association of Head Teachers), and the First and Second National Survey of municipal Head Teachers</p>		
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	<p>(conducted in 2003 and 2004, respectively)” (p. 52).</p> <ul style="list-style-type: none"> - “ The Good School Leadership Framework (MBD) is organized around 4 spheres of professional competence to be developed by education professionals; these are: <ul style="list-style-type: none"> • Leadership. - Focused on the personal and professional development of the Head Teacher and leadership team to give direction and coherence to the Institutional Educational Project. • Curricular Management.- Appears as central to the Framework since it accounts for the way the Head Teacher approaches implementation and assessment of the curriculum in the classroom to achieve quality learning for all students. • Resource Management.- Referred to practices necessary for leaders to optimize resources for the achievement of institutional and learning targets, linked to the Institutional Educational Project. • Management of the School Atmosphere and Coexistence.- Seeks to highlight the role of the Head Teacher and leadership team in the generation of practices fostering school atmospheres appropriate for the achievement of learning as prescribed in the national 		
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	<p>Curricular Framework” (p. 52).</p> <ul style="list-style-type: none"> - “This instrument today provides Chile with a common benchmark to begin implementing performance assessment of Head Teachers, leadership and technical-pedagogical teachers, aiming at increasing professionalization processes and thereby have an impact on the quality of institutional management and learning for all students”(p. 52) - “Prior to 2005 there was no procedure for assessing school leaders in the public system. It was Law 19,979 which modified the Teachers Act and which introduced a performance assessment system for teachers fulfilling teaching and technical-pedagogical leadership functions” (p. 58). - “ The assessment system, already described in paragraph 256 of Chapter 4, sets forth an annual assessment procedure. That is, year after year, the Head Teacher of a public school must agree on a variable number of institutional targets and corresponding indicators, with a maximum of 4 and a minimum of 2. These targets must aim at improving the school institutional practice and outcomes, referred to the areas and dimensions set forth in the MINEDUC22 School 		
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	<p>Management Quality Framework. In addition, the Head Teacher shall agree with the sustainer on a variable number of 2 to 4 professional development targets based on the criteria and areas of the MBD. Both groups of targets are weighted equally in the final assessment, which is 50% for the institutional targets and 50% for the professional development targets” (p. 58).</p> <ul style="list-style-type: none"> - “ At the end of the school year the Head Teacher shall submit to the sustainer a report including the evidence and means for verification so as to ascertain fulfilment of the indicators previously associated to each target. It is the sustainer who verifies if the information provided in fact proves a particular level of compliance of the targets. If this compliance is below 50%, the sustainer shall reschedule the targets for assessment the following year and provide the necessary technical support for management by that Head Teacher. If an unsatisfactory assessment is obtained on a second consecutive year, the Head of DAEM or the Education Secretary at the Municipal Corporation must inform the Municipal Council²³ of the situation, the body able to release the Head Teacher from the position. Hence, the Head Teacher 		
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	<p>may lose the position even when everything indicates leaving the teaching body is not necessary, which in practice works as a perverse incentive for the Municipal Council, since the Council is to continue paying a high wage to the Head Teacher removed from the position, aside for a new Head Teacher wage to the next Head Teacher appointed by public contest” (p. 58-59).</p> <ul style="list-style-type: none"> - “It should be noted that although Head Teachers access the position by public contest, which entitles them to hold the position for 5 years, it is ultimately the assessment which annually accounts for their performance, the procedure which will truly determine the duration of their stay in the position. Defined in this way, this procedure has led to considerable resistance and discussion with the union association of municipal Head Teachers, who subject the assessment to the contest” (p. 59). - “Additionally, in 2004 a new performance allocation was recently created for leadership and technical-pedagogical teams at subsidized schools, both public and private. To obtain this temporary wage 		
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	<p>allocation, teaching leaders – including the school Head Teacher and teachers with technical-pedagogical functions- form a team which agrees to an annual Collective Performance Commitment with the school sustainer. For this, the school must have over 250 students” (p. 60).</p> <ul style="list-style-type: none"> - “ The agreement includes a maximum of 4 targets and a minimum of 2 institutional targets. These targets must be aimed at improving the school outcomes and processes, and they must be defined based on the areas and dimensions of the School Management Quality Framework (see Annex 6). In practice this collective performance agreement is exactly the same instrument as the Management Commitment agreed between the Head Teacher as part of the Performance Assessment System regarding the institutional targets. In this way a single instrument fulfils two functions, allowing for the performance assessment of municipal school Head Teachers as well as a collective performance incentive for leadership teams at subsidized schools.” (p. 60) - “ However, it does entail certain particular aspects: this agreement is voluntary in nature, since not all 		
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	<p>teachers fulfilling teaching-leadership or technical-pedagogical functions are obliged to sign it. Performance assessment is compulsory for the public or municipal sector. Unsatisfactory fulfilment of the Agreement targets (below 50%) has no administrative implications for the teams signing the agreements. If fulfilment of institutional targets is between 50-74.4%, the wage increase is not applicable. However, if target fulfilment is 75% to 90%, this does entitle teachers to the additional wage –however, only for one year following the effective fulfilment of targets at 10% of the RBMN and for every effective month of enforcement of the agreement. And if fulfilment is over 90%, the incremental wage bonus is 20% of RBMN, which in practice represents a 13th wage per year.” (p. 60)</p> <p>–</p>		
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Denmark

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels	<ul style="list-style-type: none"> – “Overall, the management system of the education sector must support the implementation of the politically set objectives with a view to securing education of high academic quality which is relevant to the needs of the labour market and which develops specialist, general and personal skills to the advantage of individual students and of society as a whole.” (p. 31). – “The thinking behind the decentralisation of decision-making powers and responsibilities to individual institutions relates to the fact that these institutions have the knowledge on conditions in education, the labour market and local conditions in general that is required to be able to meet local/regional needs and preferences, and to the fact that this ensures optimum deployment of resources and economising by giving the institutions incentives to use their finance efficiently.” (p. 31) 	<ul style="list-style-type: none"> – “School leadership faces conditions and challenges on account of the fact that there is a general political belief in the abilities of education to resolve a large number of problems originating from globalisation challenges; such as the increasing breadwinner burden, unemployment, integration, etc. This belief comes to life only at the moment in which it is linked with leadership – these links do not just develop on their own” (p. 13). – The conditions for compulsory education and post-compulsory education in terms of management and regulation are described in a series of Acts and regulations which cover objectives, the objectives and frameworks of the education, leadership and the relationship between central and decentralised leadership and management. Overall, it is true to say that “<i>Management of education is essentially based on</i> 	

- “In the education policy processes – both within and outside of the *Folketing* – political objectives for the parties concerned have been to improve education; and of course, there are different values and political attitudes at the root of this. In parallel, the education system over the past ten to 15 years has undergone a fundamental management reform, focusing on new political balance between objectives and frameworks established by the *Folketing*, the Government and the Ministry, and decentralised self-management with toplevel leadership being provided by boards (both municipal and within self-governing institutions). This reform vision, which was formulated in the late 1980s, is now about to be realised in more or less every area of education, with the introduction of boards, self-government and taximeter funding according to objective criteria with regard to teaching, aptitude and other areas relating to fees. The long-term reform work has provided grounds for political debate, but in the main everyone is giving their support to taximeter funding at present” (p. 31)
- “The 2006 Sorø meeting focused on leadership (the Minister for Education invites a number of people to the annual Sorø meeting

*the principle of objectives and framework management which is implemented by means of Acts and regulations, and where the individual educational institutions maintain responsibility for actual coordination and implementation of teaching.”*⁴⁴ Specific implementation takes place in a decentralised form, with no central involvement in details or management once the Acts have been passed. (p. 24).

- Educational institutions which are responsible for implementing post-compulsory education are generally led by a board of governors which appoints and dismisses institutional leaders. Institutions are led and managed by boards of governors and institutional leaders working in cooperation. Thus this management system is similar to the general management system in use at the Ministry of Education, with **decentralised** decision-making powers among boards of governors, leadership in municipalities and self-governing educational institutions; and **central** management with objectives and frameworks, supervision, block grants to municipalities and taximeter funding to self governing

for a broad debate on topics which are relevant and important at that point in time). The Minister for Education emphasised at the meeting how important leadership is, when decentralisation is the turning point for organisation of educational institutions. For instance, he noted that the transition to selfgovernment and board work for upper secondary schools poses a major challenge in terms of leadership, just as was seen in vocational education and training years ago (p. 33).

- “Much of the Danish education system, including municipal primary and lower secondary schools (*folkeskoler*) and post-compulsory education, is based on a simple management model with local responsibility and decision-making powers within the scope of the objectives and frameworks set nationally. Education legislation and orders establish the objectives, content and frameworks of the courses, while at the same time powers have been transferred locally to boards of governors and headteachers for them to deal with the national guidelines in organisational practice” (p. 87)
- “The vision of decentralization from the late 1980s has been realised in

institutions (p. 25).

- The **Minister for Education** establishes objectives for teaching and joint national objectives on what teaching is to lead to (§ 10), and issues consultative curricula. The Minister for Education establishes a minimum yearly number of teaching hours for students in all age groups (§ 16). Annual block grants from the **State** to the municipalities allow the municipal council to establish specific distribution of expenditure between municipal areas, including allocations to municipal primary and lower secondary schools. The Minister for Education appoints a **Council for Evaluation and Quality Development of Municipal Primary and Lower Secondary Schools**, which is tasked with monitoring and assessing the academic level and education development at municipal primary and lower secondary schools and what students are getting out of the teaching they are receiving, and also advise the Minister for Education of this. This council consists of three to five people with a special insight into conditions relating to municipal primary and lower secondary schools, along with 20 other

many ways, and it has shown strength in its simplicity and opportunities for closeness in the interplay between students, teachers and heads at schools in Denmark. This does not mean that activities are not arising and do not exist which break away from that vision. But the vision lives on, and has been implemented to a great extent in the reform work – including in work with basic conditions for leadership” (p. 91).

members representing various areas of interest in respect of compulsory education (§§ 57-57 b).* External examiners officially appointed by the Ministry of Education will assist with the assessment of examination candidates’ work. These external examiners must 1) ensure that the samples are compliant with the objectives and other requirements, 2) help to ensure that the samples are implemented on the basis of applicable rules, 3) help to ensure that examination candidates are dealt with consistently and fairly, and that their work is assessed reliably” (p. 26).

- “It may be concluded that compulsory education and postcompulsory education is based on a simple system of objectives and framework control whereby the boards at the educational institutions or municipalities hold overall responsibility for schools” (p. 30).
- “**Central:** The Government and stakeholder organisations working with education policy. The Minister for Education must convert the *Folketing*’s legislation into action at a local level via the municipal council (by means of guidance, decisions on content,

		<p>national objectives, etc.). Responsibility for municipal primary and lower secondary schools rests with the municipalities. The Council for Evaluation and Quality Development of Municipal Primary and Lower Secondary Schools advises the Minister.” (p. 47).</p>	
Empowered Actors	<ul style="list-style-type: none"> – “The municipal councils specify objects and frameworks for the activities of municipal primary and lower secondary schools, cf. § 2. The municipal council oversees the schools’ activities and can delegate its powers either wholly or partly to the boards of governors, apart from the powers relating to allocation and employer competence, cf. § 40. Also, the municipal council shall prepare an annual public quality report which describes the municipality’s education systems, the academic levels of schools, the arrangements made by the municipal council to assess the professional levels, and the municipal council’s follow-up on the latest quality report. If the quality report shows, on the basis of an overall assessment, that the academic level of a school is unsatisfactory, the municipal council shall prepare an action plan with a view to improving the level of the school, cf. § 40 a. At each school, a 	<ul style="list-style-type: none"> – “In the management structure outlined, the head has a very central part to play in respect of the interplay between policy, administration, academic standards, pedagogical theory and practice, and management – in respect of both central and local levels. Decentralisation involves an enormous amount of leadership responsibility for answers to queries arising both within and outside of the school. It must be emphasised that decentralisation has resulted in school leadership being applied in very different ways in practice, which indicates – for instance – that leadership in municipal primary and lower secondary schools does vary according to the municipality in question” (p. 48). 	–

board of governors will be appointed, consisting of five or seven parents elected by parents at the school, two representatives of the teachers and other staff at the school, and two representatives elected from and by the school's students. The headteacher of the school acts as the secretary for the board of governors and participates in board meetings, but is not entitled to vote, cf. § 42. The board of governors performs its tasks within the scope of the given objectives and frameworks, supervises the school and establishes principles for the running of the school with regard to issues such as the following: organisation or teaching, cooperation between school and home, information sent home regarding what students are getting out of the teaching, the distribution of work among teachers, joint arrangements including school camps, work experience, school-based leisure time activities (§ 44). Teaching must include regular evaluation of what students are getting out of it (§ 13). Within the frameworks given, the board of governors approved the budget, funding for teaching and school rules. The board of governors may issue statements to the municipal council on all matters concerning the school. The board of governors will issue an annual report and give

parents notice to attend a joint meeting once a year. Each school will appoint an **education council**, consisting of all teaching staff at the school. This education council will act in an advisory capacity to the school leadership (§ 46). Complaints about decisions made by individual schools may be presented to the municipal council within four weeks of notification of the decision (§ 51)” (p. 26-27).

- “In a 2006 survey of school leadership at municipal primary and lower secondary schools, it was explained that school leadership – apart from the topmost headteacher – in 95 % of cases consisted of more people than just the headteacher himself. The other members of the leadership at municipal primary and lower secondary schools include as a rule a deputy headteacher (85 % of schools), the head of any school-based leisure time activities (75 % of schools) and a technical headteacher (65 % of schools). The people included in the leadership at the smallest number of municipal primary and lower secondary schools are heads of department (25 %), heads of administration (16 %) and heads of education (9 %)” (p. 54).

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<p>Function and Mandate</p>	<ul style="list-style-type: none"> - “But there is a broad perception which indicates that school leadership is a separate leadership discipline.⁷⁹ In addition, there is much focus in Denmark on the content of good school leadership and the frameworks for implementing this. Leadership is often characterised as pedagogical leadership, particularly as regards municipal primary and lower secondary schools and upper secondary schools. However, this is not a clear term that can be used without ambiguity. On a general level, therefore, pedagogical leadership may refer to both the leadership style and its content – that is to say, to the way in which leadership is given and to the person or thing that is being led. Pedagogical leadership refers to a specific style of leadership required to be able to lead educational staff with success. Pedagogical leadership also relates to the type of task. At a focus group meeting with principals and leading inspectors, it was characterised as being at the opposite end of the scale to operating tasks which in principle could be executed at any company, and was designated as <i>“leadership of the content side of things, up to spreadsheets and budgets.”</i>⁸⁰ A researcher working in the field of school leadership described 	<ul style="list-style-type: none"> - “Employment of headteachers (selection, promotion and dismissal, etc.) The municipal council employs and dismisses headteachers and teachers in accordance with statements from the board of governors (§ 40). Responsibility for academic development must therefore rest with the municipal council” (p. 45). - “Student intake (numbers, maintaining and increasing): The municipal council makes decisions on schools’ scope with regard to age groups, the number of hours’ teaching for students, etc. The headteacher is responsible for maintaining student numbers and attracting new students” (p. 46). 	
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pedagogical leadership as a “unifying understanding of how leadership of educational institutions can be conceived and practised.” Educational institutions are understood to mean the institutions with a moral/cultural responsibility” (p. 37).

- “According to the Danish Union of School Leaders, school leadership at municipal primary and lower secondary schools cover four leadership areas which are depicted below both descriptively and normatively. These four areas are as follows:
 - □ Academic leadership.
 - Strategic leadership.
 - Staff leadership.
 - Administrative leadership.” (p.39).

- “The Ministry of Education worked in cooperation with headteacher organisations and prepared the booklet “Ledelse af uddannelsesinstitutioner – overordnede visioner for ledelse og ledelsesudvikling”,⁸⁹ in which general and collective requirements, conditions and criteria for leadership of the institutions are formulated. Ambitions and basic/specific requirements are formulated, in five areas:
 - Overall leadership.

- Education policy leadership.
- Pedagogical and academic leadership.
- Administrative and financial leadership.
- Personnel policy leadership.” (p. 41).

FOR SPECIFIC TASKS, SEE CHART ON PAGE 42

- “Finance and resource (teacher time) allocation: The municipal council allocates and distributes financial resources because municipal primary and lower secondary schools are a municipal initiative. Budgeting and resource allocation take place at individual schools. The board of governors approves the budget and accounts” (p. 45)
- “Development and implementation of syllabi (including timetabling and allocation of instruction time, etc.) National objectives and frameworks include, for example:
 - collective national objectives stating what teaching should lead to (§ 10)
 - a minimum number of teaching hours per year (§ 16)
 - curricula for guidance § 10
 Teaching will be arranged freely at schools within the scope of objectives and frameworks. Headteachers will lead and distribute

	<p>work at their schools, with responsibility to the board of governors and the municipal council (§ 45). The municipal council approves the number of schooldays, curricula, the length of schooldays, special teaching, etc. (§ 40)” (p. 45).</p> <p>– <i>“There is a very long tradition of parents playing a central part in the activities of the school”, according to a schools researcher on the relationship of schools with parents and boards of governors. Over the years, relations between parents and schools have developed, from being predominantly one-way communication from teachers to parents, to dialogue between the two parties. 1989 saw an amendment to the Act relating to boards of governors, denoting – among other things – the introduction of boards of governors at all municipal primary and lower secondary schools. This gave parents more influence over the activities of the school and became part of formalised school leadership” (p. 49).</i></p>		
Rights and Responsibilities	<p>– “Legislative frameworks for the roles and responsibilities of headteachers: § 45 A headteacher will be appointed for each independent school. The</p>	<p>– “The top headteachers’ roles and responsibilities are defined in the relevant laws relating to the individual types of institution, cf. Section 2.3. The main rule is that</p>	<p>– “Supervision and quality assurance activities implemented which focus on physical frameworks and financial conditions are the</p>

<p>headteacher of this school maintains administrative and pedagogical leadership of the school and will be answerable to the board of governors and the municipal council for the activities of the school. Para. 2. The headteacher will lead and distribute work among employees of the school and make all specific decisions in respect of students at the school. Para. 3. The headteacher of the school will prepare proposals for the board of governors in respect of the school's curricula and descriptions (...), proposals in respect of principles for school activities, etc. (...), and proposals for the school's budget (...) within the financial frameworks established by the municipal council (...). Para. 4. The headteacher of the school will carry out his duties in cooperation with the Staff" (p. 43).</p> <p>– “The board of governors <i>establishes principles</i> for:</p> <ol style="list-style-type: none"> 1. Organisation of teaching. 2. Cooperation between school and home. 3. Reporting home on what students are getting out of their teaching. 4. Distribution of work among teachers. 5. Collective arrangements for students during school hours, school camp, being sent out on work experience, etc. 6. School-based leisure time activities” (p. 49). 	<p>the headteacher must lead the activities of the school in cooperation with the board of governors. The top headteacher is answerable to the board of governors/municipal council and must implement the decisions of the board of governors/municipal council” (p. 43).</p> <p>– “The headteacher is responsible for day to day management and implements the decisions of the board of governors within the frameworks provided. There are differences between the powers of the boards of governors, depending on the type of school. The headteacher participates in board meetings. He is not entitled to vote, but he may speak. The headteacher – possibly together with other staff – acts as a notetaker in connection with these meetings. To a great extent, it is the headteacher who arranges the foundation for the work of the board of governors. In day to day leadership practice, there is a more or less organised interaction between – in particular – the chairman of the board of governors and the head. The cooperation between the headteacher and the chairman of the board of governors is often very much dependent on the individuals concerned. In</p>	<p>widespread. In general, it appears that municipalities primarily implement supervision of financial, structural and logistic conditions at municipal primary and lower secondary schools, while supervision of the qualitative conditions – such as the results, arrangement and implementation of teaching – is implemented to a much smaller extent. One of the conclusions of this analysis is that municipalities are not dealing with their supervision obligations to a satisfactory extent, and that this is linked with the fact that – among other things – the legislative basis does not define precise requirements in respect of the content and form of the supervision. However, this has changed with the latest amendment of the Act relating to municipal primary and lower secondary schools, in which municipal responsibility is defined and a Council for Evaluation and Quality Development of Municipal Primary and Lower Secondary Schools is set up” (p. 63).</p>
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– “The board of governors *approves*:

1. The budget of the school within the frameworks laid down for the school.
2. Teaching funds and establishes school rules.
3. Whether adults are to be allowed to participate in lessons.
4. Whether school activities are to include cultural centre activities” (p. 49).

– “The board of governors *must issue a statement* to the municipal council:

1. Regarding the employment of heads and teachers.
2. Regarding all queries as the municipal council presents them.” (p. 49).

– “The board of governors *prepares proposals* for the municipal council:

1. About the school’s curricula and descriptions” (p. 49).

– “The board of governors *provides recommendations*:

1. Relating to trial and development work which goes beyond established objectives and Frameworks (p. 49).

– “The board of governors *makes decisions on*:

1. Whether food arrangements are to be set up, if the municipal council has decided that these may be offered. The board of governors establishes principles on food arrangements within the scope of the frameworks laid down

particular, how long the chairman of the board of governors has been in the position, and how he understands his role as chairman of the board of governors, is absolutely crucial” (p. 48).

	<p>by the municipal council.</p> <ul style="list-style-type: none"> - “The board of governors may issue a statement and submit proposals to the municipal council: <p>1. In respect of all issues relating to the school in question.” (p. 49).</p>		
Monitoring/Accountability	<ul style="list-style-type: none"> - “The starting point for self-governing institutions is the fact that responsibility for self-management rests with the topmost leader in cooperation with the board of governors. Responsibility for success and disaster is decentralised. The institutions are given a few frameworks which have to be completed and implemented at the individual institutions. However, at the same time the institutions are part of a public system controlled politically. This means – among other things – that transparency and openness are required” (p.53). - “In Denmark, there is an Act relating to transparency and openness in education, etc. The purpose of this law is to ensure that <i>“citizens may simply and rapidly assess the quality of the teaching at individual schools and institutions.”</i> Similarly, the import of the law is that schools should allow themselves to be inspired by one another with regard to activities and objectives” (p. 60). 	<ul style="list-style-type: none"> - “§ 2 The purpose of the Institute is to assist in ensuring and developing the quality of education and teaching in Denmark. The Institute advises and cooperates with the Minister for Education and other public authorities and educational institutions on issues relating to evaluation and development of the quality of courses, etc. The Institute is amassing national and international experience of education evaluation and quality development, and regularly undertakes method development relating to evaluation and quality development” (p. 61). - “Headteachers have an absolutely crucial part to play as regards the development and evaluation of teaching and learning methods, as responsibility for the quality of the teaching and hence for the organisation and coordination of the same rests with individual schools – and hence with their headteachers (p. 61). 	<ul style="list-style-type: none"> - "The wave of decentralisation may – logically enough – have helped to ensure that the information available is also kept at a local level, and hence it can be difficult to gain a complete overview of quality and results in the education system. Therefore, in continuation of the recommendation of the management reports, a reform of information management in the system has been initiated – also known as the resource accounts. As far as post-compulsory education is concerned, the emphasis is on institutions for vocationally oriented education (business colleges, technical colleges, adult vocational training centres, combination colleges, agricultural colleges, etc.), social and health care colleges, general upper secondary schools and higher preparatory courses, as well as adult education centres (VUCs). The present information available is

– “Therefore, how headteachers at municipal primary and lower secondary schools develop and evaluate procedures for teaching and learning is down to the individual headteachers, so supporting the concept of decentralisation of school matters without central involvement in details. The municipal council works within the framework of the law to lay down objectives and frameworks and to maintain supervision with schools. There are no central requirements in respect of the content and form of this supervision, and therefore how organisation, arrangement and implementation of the supervision have been formulated has been designated locally” (p. 62).

– “Over the next few years, there will be great emphasis on how municipal primary and lower secondary schools do their work. This is one of the reasons for the agreement on the strengthening of municipal primary and lower secondary schools that was entered into in 2006. Quality work is arranged and implemented at a decentralised level at individual schools, and here headteachers hold overall responsibility in terms of quality” (p. 62).

insufficient as regards management, and therefore a simplified reporting system will be prepared between decentralised parties and the Ministry of Education. This will allow better management to be exercised as a whole, and permit the provision of better information on which decisions can be based locally, regionally and centrally. In this respect, it must also be noted that a conclusion in the management report states that there is a need to develop leadership information, user declarations and best practice: *“Thus it is necessary all at once to simplify output management, as well as reporting requirements and needs, in order to create a more relevant, more extensive knowledge base”* (p. 32).

- “The agreement also includes other elements which – once they have been implemented – will be of significance to teaching, learning and assessment at municipal primary and lower secondary schools. By way of example:
- In connection with the running of national tests, the overall results of tests from all over Denmark must be published

			<p>each year. Test results for individual schools and municipalities must not be published” (p. 64).</p> <ul style="list-style-type: none">– “In accordance with the Act relating to municipal primary and lower secondary schools, there are other set processes aiming to monitor students’ disciplinary behaviour, their learning progress and the results of this. In the first instance, students’ academic levels are gauged on the basis of marks” (p. 66).– “Headteachers are not normally evaluated systematically, and the data currently available does not indicate how often employment is extended. However, please see above with regard to terms of employment, along with the fact that top headteacher positions are viewed as long-term positions. We refer once again to the decentralisation of the school system, where – for example – development plans and leadership evaluations can be used on a local level” (p. 74).
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Finland

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels	<ul style="list-style-type: none"> – “The official status of school leadership is stipulated for each municipality and education provider by codes and ordinances. In the national legislation, a principal’s tasks are described very broadly with a general statement that each school shall have a principal who is responsible for the school’s operation” (p. 18). – “In the process of the distribution of responsibilities, education providers and the state and its agencies (central educational administration) have transferred a great deal of executive power to the local level. The education providers perform their tasks very independently within the framework of allocated resources, high professional competence and national 	<ul style="list-style-type: none"> – “Pre-primary and basic education and upper secondary general and vocational education are governed by objectives set in legislation and by national core curricula” (p. 15). – “School governance is mostly part of the municipal democratic system that is mainly governed by the Local Government Act and special legislation governing education in particular. The relationship between the state and the municipality is specified in the special legislation governing education and in the legislation governing financing. There are some minor differences between municipal educational institutions concerning the 	

	<p>educational tradition” (p. 19).</p> <ul style="list-style-type: none"> – “The Local Government Act and municipal ordinance, the regulations of the educational legislation, the national curriculum, the decision on lesson distribution, the financing system and other regulations governing schooling, such as those relating to safety and industrial democracy, as well as various hearing procedures, regulate a large part of school leaders’ work. It is duty focused and occupies a lot of a principal’s time but yet it is a necessary part of a principal’s work.” (p. 19) <p>–</p>	<p>level of delegation of various tasks relating to implementation of instruction and staff” (p. 26).</p>	
Empowered Actors	<ul style="list-style-type: none"> – “The principal has responsibility for the school’s work. The documents governing this work consist of the laws specified by the Government, national goals of education and lesson distribution as well as the national core curriculum and ordinance issued by the National Board of Education. School- and municipality-specific curricula are designed by schools or by 	<ul style="list-style-type: none"> – “The authority and official status of school leaders vary greatly from one form of educational institution to another, for example in the case of issues relating to personnel and financial administration, because according to the new legislation municipalities are entitled to make independent decisions on their educational 	–

	<p>education providers. In this process, the school plays an important role. The principal has responsibility for setting up an annual plan on the basis of the curriculum, that is, a work plan for the school. Practical school work is organised on the basis of the curriculum and the financial resources available” (p. 27).</p> <ul style="list-style-type: none"> - “Every school must have a principal who is responsible for the school’s operation. Certain responsibility areas have in some schools been specifically delegated to the vice-principal. Additionally various responsibility tasks have been delegated to teachers and/or teacher groups, student welfare staff and to the school secretary and janitors. The delegated tasks vary in different schools depending on the school size, schooling form and culture. Leadership is becoming more and more delegated so that more attention will be paid to the expertise of different people in a school and their opportunities for inclusion” (p. 27). 	<p>administration and, among other things, on the principal’s authority” (p. 18).</p>	
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- “Parents are usually strongly committed to a school’s work. In Finland, there are many parents’ associations affiliated to schools. Teachers and especially principals are expected to participate actively in all activities connected with their school” (p. 28).
- “The principal has a major role in school development. Principals are in a position that is a target of many expectations, and their expertise is trusted (p. 29).
- “School leaders exercise a wide-ranging, independent decision-making power on issues concerning school development. School leaders are highly educated and in their work they follow quite modern leadership models. It can be considered a considerable advantage that in terms of development work, education providers and schools are themselves responsible for their policy lines, for instance for a school’s focus areas, organisation of instruction,

	<p>school network solutions, etc. This allows the best expertise and competence to be found locally. When teaching staff and other staff are highly educated, the lines of action and quality can best be managed locally. The central administration has been able to concentrate on longterm strategic planning of educational policy and legislative development” (p.50)</p>		
Function and Mandate	<ul style="list-style-type: none"> – “By means of decrees, responsibilities relating to pupil and student assessment have been incorporated into a principal’s tasks” (p. 19). – “Schools have a strong autonomy in terms of implementing instruction. As a result of curriculum reform, goal-based and centralised control have become somewhat stricter in the Finnish education system. Principals have a very large scope of responsibility, and it varies from one locality to another depending on the education provider’s ordinance” (p. 25). 	<ul style="list-style-type: none"> – “The provision of schooling is based on financing from the state and municipalities. The central government transfer for education and culture varies from municipality to municipality but the portion to be financed by the municipality is always equal in size per citizen. Ultimately the municipality, being the schooling provider, makes decisions on allocating financing to any individual school or district. Within the schools, decisions on funds allocation are made based on different guidelines in primary and upper primary schools; decision making within any given school is in their own 	<ul style="list-style-type: none"> – “In the case of basic education, the municipality determines the child’s neighbourhood school but parents have the right to apply for an alternative schooling place in another school. At secondary level, the students are free to send applications to any school. The student (parents) chooses the school where he/she wishes to study” (p. 25).

– “The principal has a large influence on the selection of personnel. The principal either selects his or her personnel him/herself or his or her opinion is very important when the selection is made by another authority. Financial resources are tied up to a great extent because at a minimum three-quarters of a school’s expenses are personnel expenses. Even though the legislation is fairly broad, collective bargaining agreements of the personnel are so far very specific; thus, they limit the principal’s scope for action” (p. 27).

– “Responsibility issues are greatly dependent on the presence of a vice-principal or a deputy principal and what their tasks are. In any case, the principal takes ultimate responsibility. Tasks can be delegated but not final responsibility. When delegating tasks, their job descriptions must be clarified precisely. Responsibilities, duties and rights relating to any particular task must also be specified

hands” (p.21)

– “The National Board of Education determines the national core curriculum and the implementation timetable. The municipalities determine their own specifications and applications, on the basis of which schools then design their own curricula” (p.22).

	<p>precisely. In Finland, the most significant degree of leadership delegation can be found in the vocational sector. The size of the school affects greatly the way in which tasks are delegated. In small schools, the significance of task delegation is different from that in larger schools because the civil service post structures in them differ from each other”(p. 27).</p>		
<p>Rights and Responsibilities</p>	<ul style="list-style-type: none"> - “The principal is in charge of the institution’s total budget and monitors it. Within an institution, training managers can also be responsible for finances and can set up budgets for the areas he or she is in charge of, and can be responsible for monitoring them. Very strict bookkeeping is required from all schooling providers; it is checked by outside auditors” (p. 21) - “In everyday school work, principals have a responsibility for cooperation at a contractual level, while cooperation is often 	<ul style="list-style-type: none"> - “Municipal authority is stipulated by the municipal ordinance of any particular municipality. Decisions on financing of municipal schools as well as on curriculum issues are often made by a relevant board. School principals are consulted as experts but the final decision is made in conformity with the municipal ordinance. An upper-level body has the right to assume the power to make decisions” (p. 25). 	<ul style="list-style-type: none"> -

	<p>implemented by teachers, guidance counsellors and special needs teachers. The municipality size has an important impact on cooperation practice: in big cities the education provider arranges for regular cooperation between the subordinate school principals. In small municipalities, with perhaps only one principal, partnerships are sometimes built across municipal borders (p. 28).</p>		
Monitoring/Accountability	<ul style="list-style-type: none"> - “<i>Raising the quality of education</i>. Evaluation was stipulated by law in 1999; this obligates schools and educational institutions to perform self-evaluation. Also, a national system for evaluating learning outcomes was established” (p. 15). 	<ul style="list-style-type: none"> - “According to the regulations each school shall have a principal. Municipalities determine how they organise leadership and whom they appoint as principal. Each municipality makes its own decisions concerning professional development, evaluation and dismissal of their principals. Consultation with school staff when selecting a principal varies from one schooling provider to another.” (p. 23) - “In Finland, neither principals nor teachers are evaluated 	<ul style="list-style-type: none"> - “Evaluation of schooling and self-evaluation in schools are basic tools in present-day monitoring of schooling performance. In 2004, three quarters of the basic and upper secondary schooling providers had an evaluation system that was specified to some extent. In these cases, 90% of teachers had participated in the design of the evaluation system. Seventy-two per cent of the initial vocational education and training providers had a functioning evaluation system or model.

		<p>quantitatively. Neither is there a separate inspection system; on the contrary, quality assessment relies on the high educational attainment of principals and teachers and local evaluations” (p.35).</p> <p>–</p>	<p>The use of ready-to-use quality evaluation models (for example, EFQM) is considerably more common in vocational schooling than in comprehensive and upper secondary schooling. In this context, a quality system does not denote pupil assessment” (p.19).</p> <p>– “There is no general evaluation system for school leadership; possible punitive measures are regulated by labour legislation and collective labour agreements” (p. 22).</p> <p>– “No external instrument has been developed for measuring a good principal; in Finland, trust is laid upon high-standard teacher education, principal training and continuing professional education taking place in the world of work” (p. 25).</p>
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Hungary

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels where the shift of power will be occurring.	<ul style="list-style-type: none"> – “The <i>administration of public education</i> is highly decentralised, and the responsibilities are shared between several actors. Horizontally, the responsibility at the national level is shared by the Ministry of Education and Culture, which assumes the direct responsibility for educational matters, and certain other Ministries – vertically, the responsibility is shared between the central (national), regional, local and institutional levels, i.e. there are four levels of control. At local and regional level, the administration of education is integrated into the general system of public administration that, at this level, are organized on the basis of local governments. The influence of the regional level is rather weak, but the scope of local and institutional responsibilities is very broad” (p. 5). – “ The administration of public education is highly decentralised, and the responsibilities are shared 	–	

between several actors.

- Horizontally, the responsibility at the national level is shared by the Ministry of Education, which assumes the direct responsibility for educational matters, and certain other Ministries – vertically, the responsibility is shared between the central (national), regional, local⁴ and institutional levels, i.e. there are four levels of control.
- At local and regional level, the administration of education is integrated into the general system of public administration, i.e. in other words there is no organisationally separate educational administration.
- At local and regional level of public administration (including educational administration) is based on the system of local governments, thus is under the control of politically autonomous, elected bodies. The local governments do not receive direct orders from the central government.
- The role of the regional level is rather weak, while the scope of responsibilities at the local and institutional level is fairly wide.
- The number of local authorities (local governments) is very high, while their average size is small (Balázs-Halász, 2000)” (p. 18).

- “The Act on Public Education defines what the responsibilities of a head of a public education institution are. The leader of such an institution is responsible for the efficient and legal functioning of the institution, for economical administration, he exercises

	<p>employer rights, and he makes decisions regarding matters related to the institution, which are not assigned by law or collective contract (public employees regulation) to somebody else's jurisdiction. He conciliates issues regarding employments, working conditions according to legal provisions. Further on the leader of an educational institution is also responsible for the work of teachers, for the proper functioning of the institution's controlling, assessment, evaluation, and quality management programme, for taking measures for child and youth protection, for organizing activities, for providing health and safety conditions suitable for education, for preventing children's accidents, for providing regular health check for the students" (p. 24).</p>		
<p>Empowered Actors Which actor groups are to be empowered by the decentralization?"</p>	<ul style="list-style-type: none"> - "In the decentralised education administration system, the independence of schools is large; the latitude of <i>maintainers</i> (in case of most schools it is the local government) is average: its influence is developed mainly through financing, when complements state normative grants with sources indispensable for schools. The extent of the 	<ul style="list-style-type: none"> - "According to legislations, within the institute the <i>school board</i> has an important role, as a tutorial and interest reconciliation forum. "With the 1996 modification of the Act on Public Education was formed the institution of school level reconciliation, the school board, its composition and responsibilities. The number of the maintainer's representative 	<ul style="list-style-type: none"> - "There can be said that the school leader is exposed to cross fire. While supporters and the financing system are putting pressure from above for a more economic, efficient function, the adaptation to an ever-changing environment is impeded from below every aspect of public servant being of the pedagogues. From these

	<p>contributions from the revenues of school maintainers very much depends on the size of the settlement. The professional leading role of the local governments is developed in the way that approves documents necessary for the institute's function. Although, the maintainer could evaluate the performance of the school through the quality management systems prescribed by the law, practice indicates that it is very rare. In Hungary, there are no compulsory inspectorates, maintainers are able to attend these assignments with the aid of accredited experts" (p. 6).</p> <p>– "On local and county level, the public education administration fully integrated into public administration system, there is no independent educational administration or inspectorate. In the decentralised public education governance system, school's independence is large; the area of movement of local government is average: its influence is developed mainly through financing, when complements state normative with sources indispensable for schools. Its professional leading role is developed in the way that approves documents necessary for the institute's function. Capacity planning materializes on this level:</p>	<p>diminished to one, their place was taken by the representatives of pupils. Ceased the previously compulsory character of establishing the body. Its most important jurisdiction is that is compulsory to ask its opinion when accepting pedagogical programmes (Halász-Palotás, 2003). The body has the right to express its opinion but its function and real sphere of authority mainly depends on certain institute's inner function. In consequence, the leader indirectly – while preparing and excepting documents that determine the inner function -, and directly – taking into account the opinion of the school board in certain cases while deciding – may have a major role in determining the responsibilities of this body. "Although legislation changes continuously widen the jurisdiction of the school board, this body without any tradition in our country, at present only in few institutes has the role it deserves. Regrettably, a still present phenomenon is that most of the pedagogues does not like if "outsider" (and parents are still regarded outsiders) has the opportunity to interfere in the school's life. Parents can be withheld by the ear of reprisal in</p>	<p>succeed – that person can become a successful principal – who can increase the school's and pedagogue's area of action by drawing in additional sources" (p. 29).</p> <p>– "Under such circumstances (taking into account things mentioned above about employing public servants) leaders face lack of motivation. The fact that the leader instructs or can instruct is not an obvious item of the school's functioning. The school as institution lacks hierarchy, - because of unfulfilled achievement requirements- it can not be considered as something positive. One of our interviewees stated that: "school leaders nowadays can not instruct, they can only demand." They would need to improve their motivation and communicative competence in order to succeed and use their authority given by their position"(p. 28).</p> <p>– "While the legal number of lessons per week in Hungary is between 40-42, in public education the compulsory number of lessons is between 20-23 (irrespective of school</p>
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	<p>the maintainer decides about school openings and closings respectively, about development. Regarding the relation between school leader and local government, the latter nominates the school principal, but becomes principal the person supported by the education body” (p. 30).</p> <p>– “Regarding <i>distributed leadership</i>, <i>deputy school heads</i> have an important role, who, regardless the size, type of schools, number of students and inner regulations, can have different number and different scope of duties. Institute leaders can decide in what ways and manner they delegate assignments for deputy principals. Examining the number and duties of deputy principals, can be said that in bigger and multi profiled – for example grammar school and secondary vocational school, multi professional trainings from ISCED 1 to 3 a, b level – institutes deputy school heads are responsible for the functioning of a level and in these schools we find economical directors, who is one of the deputies of the leader. Schools that function with member institutes, the leaders of these member institutes work in deputy school head position. Schools that have colleges, the leader of the college are mostly</p>	<p>opinion forming”. (Halász-Palotás, 2003)” (p. 32).</p>	<p>level, type of institution or subject, while not differentiating between the different extra amounts of time). The education law increased the compulsory number of lessons by two lessons in some teaching jobs in 2006. According to law regulations it is compulsory for school teachers to spend the required number of lessons in the school only that is why some of them reduce their work to the level of a lecturer. (OPEK, 2004:58) The occasional tasks which are not included in their duties fall on occasional leader decisions. The unequal division of labour (some work a lot) leads to unfavourable erosion processes, which must be solved by the leader” (p. 28).</p> <p>– “As it turned out from previous chapters, the institutional and legislative environment assures grate autonomy to certain educational institutes and many of them were able to live with this autonomy. “It was continued the learning process started more than a decade ago during which more and more characters were able to find their place within the</p>
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deputy principal. Where the pupils of educational institutes or a part of them is pupil of an independent college, the legislation disposes about the relation between leaders of school and college.” (p. 34).

decentralized leading conditions” (Halász-Palotás, 2003). In the same time, the problem is that the process remained unequal: “while certain characters’ problem solving capacity greatly improved the others’ had hardly changed” (Halász-Palotás, 2003). The cause of this can be found in the fact that while the principle regulation gave sphere of movement to introduction of all kind of innovation for achieving performance, the financial problems became a barrier; motivation is diminished by the lack of performance assessment and undefined responsibility for performance. (Practically the leader’s inner motivation is the driving force)” (p. 33).

- “Examining the structure can be said that, characteristic to institutes is the *flat structure*. The attendance of assignments belonging to middle-level management represents a problem in many schools. One of the main reasons is that the teaching staffs are not motivated to attend these assignments; the incentives are missing (as we have dealt with

in subchapter 3.3). One other reason is that, however principals are considered employees of teachers, their possibilities to sanction and instruct are very limited. Because of these, one of the most important assignments of school leaders is to convince the middle-leadership about the importance of the development targets, for which beside leader charisma is necessary to obtain material sources. "A major part of school principals (65%) regarded the group of middle management, heads of classes and heads of professional teams of teachers teaching the same subjects, as one that has to be developed" This situation is greatly improved by the *quality management system* introduced in most of the institutes, according to the law." (p. 34).

- "The low number of applicants, aging and the decreasing number of young candidates can be explained with the unattractiveness of the principal's position and the closing of the position in front of the young. The cause can only be supposed:

□ The competencies necessary for a

			<p>school leader (fund raising, networking) are not necessarily the same as competencies gained, as a teacher requires intuition, has many stress factors in it, which can be retentive for the potential candidates. Regarding the financial part, there is only a slight difference in the salaries. (See the chapter about compensation).</p> <ul style="list-style-type: none"> □ From the principal position there is no real advancement, no career (but this is also true for the teacher position as well). □ The limitation in decision making (many responsibilities, few appliances): the scope of duties is extremely large, regards every aspect of school management. The fulfilment of the parents' demands, the practical realization of local concepts put a real weight on school principals. Nevertheless, the principal's field of movement and decision-making are limited not only by laws and decrees, but also by the preconceptions set up during the years." (p. 62).
<p>Function and Mandate the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment)</p>	<ul style="list-style-type: none"> - "Because of the institutional autonomy, the <i>teaching staff</i> has the right for decision in important scope of duties (the acceptance of the school educational programme, the organizational and operational statutes, the school rules and the quality management programme). 		<ul style="list-style-type: none"> - "The deficit of the accountability in connection with professional evaluation stimulates school leaders to determine schools success, through survival and financial security. In order to do this, successful school principals use

The teaching staff with a large area of jurisdiction and the existence of a leader with a wide range of tasks but a smaller area of jurisdiction seem characteristic, which motivates leaders to constant matching while creating strategic documents, making decisions regarding operating” (p. 7).

- “Regarding distributed leadership, *deputy school heads* have an important role, who, regardless the size, type of schools, number of students and inner regulations, can have different number and different scope of duties. Institute leaders can decide in what ways and manner they delegate assignments for deputy school heads. For the inner management of the institute, principals rely more and more on their deputies, in numerous schools the fulfilment of strategic assignments is delegated to vice-principals. Examining the structure it can be stated that flat structure is the characteristic of schools. The attendance of assignments belonging to *middle-level management* represents a problem in many schools. One of the main reasons is that teaching staffs are not motivated to attend these tasks; the incentives are missing” (p. 7).

a major part of their working time to obtain the necessary resources: they apply, discuss, travel, network – a major part of their time is spent outside the school’s walls. The accepted leading role becomes an outside-oriented management role, thus having less time to actually lead, stay in contact with school staff, development of the institute and institutional members – in one word, the leader role. They consciously rely more and more on assistant-principals in leading the school as an institute, managing the inner functions, leader roles regarding teachers and work division alongside management and leader roles.” (p. 44).

	<ul style="list-style-type: none"> - “The Act on Public Education disposes of defining the main tasks of the school principal. His duties include: leading the teaching staff, managing and controlling the educational work, making decisions which are responsibilities of the teaching staff, organizing their carrying out and controlling. Besides these the tasks of a leader include cooperation with the school board, with labour unions, student unions, with parents’ associations (communities), managing child and youth protection measures, activities for preventing children’s, students’ accidents, assuring human and material resources necessary for the proper functioning of the educational institution based on funds at his disposal” (p. 24). 		
<p>Rights and Responsibilities the types of decisions that are allowed to be made, meaning whether the decisions are final and binding versus consultative or advisory</p>	<ul style="list-style-type: none"> - “The model of Hungarian public school governance developed in the 90’s was greatly decentralized. Schools are very autonomous, the school defines its educational programme, its curriculum (based on the National Core Curriculum and on frame-curricula). The school head makes decisions about the appointment or replacement of teachers, about salaries-higher than those of public employees and together they make decisions about 		

	<p>the teachers' professional development. They freely decide on enrolling students (the only limit is that primary schools have to enrol students living in the school area)."(p.23).</p>		
<p>Monitoring/Accountability monitoring and accountability rules accompanying decentralization reforms</p>	<p>– “The <i>national competence assessment (OKM)</i> since 2001 and the new type of secondary school leaving examination introduced in 2005 provide feedback for schools about student- and through students about the institution's performance. The OKM organized by the Ministry of Education and Culture carried out standard performance measurement in the main subject matters, four times: in 2001, in 2003, in 2004 and in 2006, each time on a different level (5th and 9th grades, 6th and 10th, and twice 6th, 8th and 10th). The main objective of these surveys is to develop the school's evaluation culture, creating new means and methods for institutional development politics. In order to manage performance challenges, the <i>new standard system for the secondary school-leaving examination</i> introduced in 2005 provides further opportunities.” (p.27).</p>		<p>– “The PISA survey made Hungarian education face a more unfavourable achievement rate than it was believed publicly. As an influence of the research, the education system started to focus on developing the main competences instead of cognition in teaching. The fact, that competence-based education has important consequences to organizational techniques and methods used in Hungarian schools, is not really apperceived yet within the teacher staff. The competence assessment since 2001 and the new type of secondary school-leaving examination introduced in 2005 provide feedback for schools about student-, and through students about the institutional performance. Temporarily, it's exclusively the school's choice why and how to make use of the information” (p. 6).</p>

			<ul style="list-style-type: none"> <li>– “The results of the examination are not public but the institutions concerned are aware of them; the possible bad results have no external consequences regarding the institution. It is the school’s choice, the leader’s choice in the first place how to use the results of the OKM and secondary school leaving examination in the institution. One option would be the quality development programme – these programmes had to be improved after introducing the new secondary school-leaving examination system. The processing of the competence assessment results would be an important tool in the school quality improvement politics.” (p. 27). <li>– “In Hungary, there are no compulsory inspectorates, maintainers are able to attend these assignments with the aid of <i>accredited experts</i>. They can freely choose the expert they would like to work with. There can be said that trough this a “private” inspectorate system develops. That tightly fits to the legislator’s effort that stresses
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			<p>out the importance of local decision-making” (p. 32).</p> <ul style="list-style-type: none"> – “According to the above mentioned, it is hard to interpret in the Hungarian system the harmony between possibilities of action of schools and leaders, sphere of movement and responsibility for pupils performance. Only lately, the standardized measurement of pupil performance started and the feed back mechanisms towards institutes are not formed yet. Maintainers – as said before – put forward the economic indicators in spite of pedagogical performance. The wide autonomy of educational content and form definition goes together with lack of responsibilities for results; so a lot depends on the ability of the leader on how well can convince the institute to developments that lead to result improvement and changes. Because of the causes enumerated in the previous parts (financing public employee status inner operational rules, motivational problems), even really innovative and motivated leaders have a hard job” (p.
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			<p>33).</p> <ul style="list-style-type: none"> - “Although the governmental decree that regulates the public education leader training in details describes the requirements of qualification, did not happen yet a policy initiation for directed leader competencies development. There is no study or survey so far that would determine the competencies belonging to a successful leadership job, thus the training programmes of leaders and the advancement in the training cannot be assessed. In several bigger cities that put a stress upon institute assessment appeared that the “local policy” is oriented (also) toward leaders, tries to measure competencies and results but we cannot talk about overall steps in this matter.” (p. 38). - “Practically, there are no consequences in case of professional performance: most of the schools maintained by local governments, do not evaluate pedagogues’ work from the point of view of professionalism (such an evaluation was effectuated by 38% of local governments –
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			Halász-Lannert, 2003), but where this evaluation is effectuated, they do not sanction the malperforming school leaders” (p. 44).
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Ireland

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels where the shift of power will be occurring.		<ul style="list-style-type: none"> – “Because of the relatively scattered population in many rural areas, and the historical legacy of a denominational school system, almost three quarters of primary schools in Ireland have fewer than eight teachers i.e. they have fewer than one teacher per grade. Only schools with eight mainstream teachers or more are authorised to appoint an administrative school principal whose duties do not include full responsibility for teaching a class. In schools with fewer than eight teachers, the principal combines the dual role of class teacher with the role of principal. This has major implications for such principals, who have full-time teaching responsibility as well as the leadership and management responsibilities associated with principalship” (p. 10). – “In all primary schools and in virtually all secondary schools, a Board of Management is set up by 	<ul style="list-style-type: none"> – “The effect is of a devolution of educational responsibility and decision-making from central sources (i.e. Department of Education and Science) to local (i.e. school) level, without a concomitant devolution of resources. The issue of resources, expertise and structures to enable schools to comply fully with recent legislation will have to be addressed as will the need to provide training, support and legal advice for Boards of Management, principals and others responsible for ensuring compliance with recent Legislation” (p. 28). – “In 2003, a report by HayGroup Management Consultants outlined the challenges in the role of the primary principals as follows: <i>Principals face a range of challenges in effectively delivering the key elements of the role Some of these challenges</i>

		<p>the Patron or by the Trustees. Essentially, the Board of Management is the legal employer of all school staff and carries considerable responsibilities as laid down in the Education Act (1998) and other legislation (see Chapter 3 and Appendix 2). At primary level, each Board is composed of two nominees of the Patron, two parents (a mother and a father) elected by the body of parents of pupils in the school, a teacher elected by teachers in the school, and the school principal. This Core Board then selects and invites two further members from the wider school community (neither parents nor teachers in the school) to act on the Board. The Chairperson, and all members of the Board are formally appointed by the Patron. At post-primary level Boards of Management are constituted differently in different sectors. For example, the Articles of Management for voluntary secondary schools state that teachers elect two members from the teaching body of the school; parents of pupils in the school elect two members and the Trustees nominate four members. As in the primary sector, the Trustees nominate the Chairperson and formally appoint all members to the Board. In other</p>	<p><i>derive from a lack of clarity about the various elements in the role and other</i> <i>derive from a lack of support for Principals in a variety of ways.</i> Dealing with these challenges in an effective way requires a range of leadership and other competencies. These are the kinds of competency that would normally be seen in leadership and senior management positions and require high levels of inter-personal and organisational Skills” (p. 28).</p>
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post-primary schools, the Board broadly consists of parents, teachers and nominees of the Trustees and in some cases, members of the local community. In the case of schools under the auspices of the Vocational Education Committees, (VEC) the Board of Management is a sub-committee of the VEC” (p. 12).

- “The Education Act of 1998 provides the main legislative framework for Irish primary, post-primary, adult and continuing education and for vocational education and training. This act makes formal provision for the education “of every person in the State, including any person with a disability or who has other special educational needs”. It sets out the functions and responsibilities of all key partners in the schooling system. It legislates for the establishment of Boards of Management for all schools. It requires schools to engage in the preparation of school plans. Schools are required to promote parent associations. Accountability procedures are laid down. Attention is paid to the rights of parents and pupils” (p. 13).
- “In comparison with most other

		<p>OECD countries, decision-making in the Irish education system has traditionally been highly centralised. Most of the major policy decisions relating to education are made by the DES in consultation with the social partners, and reflect legislative developments, and economic and social priorities. While policy development and decision-making are centralised, the implementation of policy is a matter for each school or Vocational Education Committee (VEC) within a framework of accountability and legislative compliance. The DES continues to deal directly with all primary schools and with voluntary secondary schools and community and comprehensive schools” (p. 33).</p>	
<p>Empowered Actors Which actor groups are to be empowered by the decentralization?”</p>	<ul style="list-style-type: none"> – “The leadership role of the principal is a relatively new phenomenon and is described as the wider, more visionary aspect of managing a school. In recent focus group discussions (<i>LDS Focus Group discussion on the Strategic Plan</i> May 2006) teachers indicated that they regard their principals as leaders as well as managers. In many instances, principals are also viewed as colleagues and fellow teachers. The leadership function of the principal is described as “seeing 	<ul style="list-style-type: none"> – “At primary level the Patron or Patron Body takes responsibility for issues pertaining to school ownership and the underlying ethos and philosophy of the school. Boards of Management oversee and take responsibility for issues pertaining to finance, employment and compliance while the principal takes responsibility for the day-to-day running of the school” (p. 18). – “At post primary level the 	<ul style="list-style-type: none"> – “Almost three quarters of principal teachers at primary level are “teaching principals” i.e. they combine the dual roles of class teacher and principal. This dual role is very demanding and has been a cause of concern within the profession, especially in recent years. Following representation on behalf of teaching principals and arising from the recommendations of the Working Group on the Role of

the bigger picture”, “having a vision for the school” and “being involved in strategic issues” (p. 19).

governance structures impact on school leadership in different ways, depending on whether a school is under the auspices of the VEC or belonging to the Community and Comprehensive sector or the Voluntary Secondary sector” (p.18).

- “Reference has already been made to the large number of small primary schools in Ireland. A school must have at least 14 teachers to have an entitlement to the post of assistant principal. Since only around 10% of primary schools fall into this category, the vast majority of primary schools do not have assistant principal posts” (p. 35).

the Primary School Principal, provision is now made for release time for teaching principals for the purpose of undertaking ‘administrative, leadership and management functions within the school’. Provision for release time is based on the number of mainstream teachers on the school staff and ranges from fourteen days per year in the smallest (one to three teacher) schools to twenty-two days per year for the principal of a seven-teacher school. (DES circular 20/02)” (p. 20).

- “The role of the principal is becoming increasingly complex. The publication of this report is a timely opportunity to highlight the challenges for principals and to begin the articulation of a concept of school leadership and principalship that is relevant to the Irish education system. The present lack of clarity leads to the perception that principals must be responsible for a wide range of issues, while principals themselves, in the absence of formal structures and supports, assume additional responsibilities leading to

			<p>stress, burn-out and ineffectiveness in their role” (p. 33).</p> <ul style="list-style-type: none"> - “A number of studies carried out in the Irish context have highlighted the tensions between the relative weights given to different leadership responsibilities in schools. Increasingly, principals find it very difficult to give the amount of time they would like to leadership and educational issues. Research studies have shown that principals and deputy principals are habitually burdened with an administrative workload that absorbs most of their time and energy” (p. 36).
<p>Function and Mandate the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment</p>	<ul style="list-style-type: none"> - “Leadership: Create, communicate and deliver a vision for the school, taking account of the concerns and aspirations of all the stakeholders in the school Education: Deliver high standards of teaching and learning through personal teaching standards and the development, monitoring and coaching of teaching standards of others. Resource Management Plan, manage and evaluate the use of the physical resources of the school 		<ul style="list-style-type: none"> -

Human Resource Management

Select, coach, develop and hold accountable the human resources of the school

Administration

Comply effectively with the various reporting, recording and data management obligations to which the school is subject

Policy Formulation

Research, draft and present policy documents and statements as required by legislation and policy provisions

External Relationships

Create channels of communication to support and facilitate effective relationships with external parties which impact on overall school effectiveness” (p. 21)

- “ The principal teacher has responsibility for building good relationships among staff, pupils and the wider community. S/he is expected to promote policies, practices and interpersonal relationships which respect the values and sensitivities of all members of the school community. S/he inspires confidence and promotes an atmosphere of trust and interdependency among the education partners” (p. 22).

- “The principal teacher as leader of the school community must enable that community to function effectively by developing teamwork and by inspiring the team to work collaboratively towards common

goals and ongoing improvements. The principal ensures the effective distribution of leadership throughout the school. The transformational aspect of her/his leadership has a direct impact on individual, team and school performance. It affects school culture, and has a direct impact on feelings, attitudes and beliefs. It encourages the school community to work towards common goals through collaborative structures and team Building”(p. 22).

- “Instructional leadership (more recently referred to as learner-centred leadership) is one of the most crucial factors in determining the overall success of the school and in providing a quality education for the children. The role is more than a management and administrative function. It requires a professional and educational leadership, which is unique to education and schooling. Instructional leadership incorporates:

- Managing the curriculum, curricular change, curricular planning, pupil attainment and assessing and recording pupil progress.
- Developing and promoting a culture for learning within the whole school community.
- Creating the conditions for optimum

learning through the provision of support, adequate facilities and resources both human and physical Creating structures for staff development.

General strategic planning.

The principal is pivotal in creating a shared vision for the curriculum in the school and in providing dynamic and inspirational curriculum leadership. This instructional leadership is what makes the role of principal unique, as it requires the specialist skills of a teacher, as well as those which are required for leadership in other contexts. The instructional aspect of the leadership role is critical in determining the success and effectiveness of the school and in providing quality education for the children” (p. 22).

– “Organisational leadership involves being skilful in organisational and strategic management. School leaders are required to make decisions, plan, organise, co-ordinate, schedule and delegate” (p 23).

– “Section 22 of the 1998 Education Act 1998 sets out the functions of the principal, stating that s/he has responsibility for instruction and is obliged to:

encourage and foster learning in students
 regularly evaluate students and periodically report the results of the evaluation to the students and their parents
 promote co-operation between the school and the community which it serves

carry out the duties assigned by the Board, subject to the terms of any collective agreement and contract of employment” (p. 24).

– “Section 23 outlines additional obligations for the principal, stating that s/he should:

a) *be responsible for the day-to-day management of the school, including guidance and direction of the teachers and other staff of the school, and be accountable to the board for that management*

b) *provide leadership to the teachers and other staff and the students of the school.*

c) *be responsible for the creation, together with the board, parents of students and the teachers, of a school environment which is supportive of learning among the students and which promotes the professional development of the teachers. (Section 23 Education Act 1998)*

d) *under the direction of the board and, in consultation with the teachers, the parents and, to the extent appropriate to their age and experience, the students, set objectives for the school and monitor the achievement of those objectives and*

e) *encourage the involvement of parents of students in the school in the education of those students and in the achievement of the objectives of the school. (p. 25).*

<p>Rights and Responsibilities the types of decisions that are allowed to be made, meaning whether the decisions are final and binding versus consultative or advisory</p>	<ul style="list-style-type: none"> - “The roles and responsibility of school principals are well summarised in the Report of the Public Service Benchmarking Body, (Department of Finance, 2002) as follows: <ul style="list-style-type: none"> □□ <i>Principals hold prime responsibility for the successful running of the schools and management of its resources, including budget. To this end they must motivate, lead by example and guide staff to ensure that pupils are educated to the best of their abilities. Teaching principals must balance teaching requirements of their particular class with the responsibility of managing the whole school.</i> □□ <i>Principals lead a team of staff, which includes Teachers, secretaries, caretakers, substitute teachers, special needs Teachers and student Teachers. The Principal is key to setting long-term strategies for the school and ensuring its future success.</i> □□ <i>High levels of communication / interpersonal skills to influence and persuade both within and outside the classroom are crucial. Principals must ensure the school has a team of motivated and valued staff. Principals need to work with and influence, on behalf of the school, the Board of Management, Parent Committees, and the Department of Education and Science. Principals are often required to intervene fairly in disputes between Teachers, parents and</i> 	<ul style="list-style-type: none"> - “The Education Act (1998), along with the Articles of Management (1989), Deeds of Trust (1971), Vocational Education (amendment) Act 2001, Boards of Management of National Schools – Constitution of Boards and Rules of Procedure (DES, 2003b), and Deeds of Variation (1997) outline the statutory duties, rights and responsibilities of the Board of Management. Section 15 of the Education Act 1998 states: <p><i>It shall be the duty of a board to manage the school on behalf of the patron and for the benefit of the students and their parents and to provide or cause to be provided an appropriate education for each student at the school for which that board has responsibility”</i> (p. 25).</p> 	<ul style="list-style-type: none"> - “Circular P16/73 similarly outlines the relationship of the primary principal to his/her Board of Management. Thus there are clear articulations of the management structures of primary and post-primary schools. Nevertheless, in practice it can be the case that principals assume too much authority and responsibility, or, conversely, are prevented from discharging their statutory responsibilities. Factors that can influence the principal’s role and the level of responsibility include: <ul style="list-style-type: none"> o School sector and level o School size (determines number of staff / teaching duties etc.) o Governance structures (trustees’ / patron’s level of engagement) o School status o Historical context. <p>Interestingly, while all teachers have a contract of employment, and local contracts are provided for those who hold posts of responsibility, there is no agreed contract for school principals” (p. 28).</p> <ul style="list-style-type: none"> - “Some of the most frequently cited challenges facing school leadership in Ireland relate to work overload at both primary and post-primary level and the difficulties of the teaching
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	<p><i>pupils.</i>” (p. 24).</p> <ul style="list-style-type: none"> – “The most significant piece of legislation, providing the regulatory framework for Irish primary and second-level education, is the Education Act (1998), which includes a clear definition of the functions of a school and the roles and responsibilities of the school principal. The act places very strong responsibilities and duties on the principal and the Board of Management: <p><i>The Principal... and the teachers.....under the direction of the Principal, shall have responsibility, in accordance with this Act, for the instruction provided to students in the school and shall contribute, generally, to the education and personal development of students in that school.</i> (p. 24).</p> 		<p>principal at primary level. Work overload has been documented in a number of recent documents including the JMB Survey of Secondary School Principals conducted in 2005 (The Workload of Principals) and the NAPD survey conducted in the same year. Over 90% of principals in the JMB survey stated that dealing with legislation has had a significant effect on their work. The biggest challenges stated by principals in the JMB survey are:-</p> <ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Time Management <input type="checkbox"/> <input type="checkbox"/> Administration <input type="checkbox"/> <input type="checkbox"/> Personnel management” (p. 32).
<p>Monitoring/Accountability monitoring and accountability rules accompanying decentralization reforms</p>	<ul style="list-style-type: none"> – “In Ireland, there has been a growing recognition that quality in schools is best achieved when a range of measures work together to improve learning and teaching, and where everybody involved in the education system is focused on improvement. Schools themselves are responsible for some of these measures; others are organised by the DES or other agencies. At all levels of the school system, external evaluation by the inspectorate makes an important contribution to quality assurance, while system- 	<ul style="list-style-type: none"> – “Assessment of student learning at both primary and post primary level is a matter for on-going consideration and review. There has been no national testing in Ireland at primary level since the Primary Certificate examination was abolished in 1967. Schools take responsibility for assessing their own students and reporting their progress to parents” (p. 39). 	

	<p>wide evaluations, sometimes undertaken in co operation with other countries, provide valuable data and assist in policy development. The role of the DES's schools Inspectorate is outlined in the Education Act, 1998. The Inspectorate is closely involved with many of the initiatives to improve the quality of teaching and learning at first and second levels" (p. 13).</p> <ul style="list-style-type: none"> - "A recent innovation in relation to quality assurance has been the introduction of Whole School Evaluation (WSE). Whole School Evaluation is a process whereby a team of Inspectors from the DES spends a few days in a school evaluating the overall work of the school under the following themes:- <ol style="list-style-type: none"> 1) Quality of school management 2) Quality of school planning 3) Quality of curriculum provision 4) Quality of learning and teaching in subjects 5) Quality of support for students. <p>At post-primary level, subject inspections are also undertaken within the framework of the WSE process. Subject Inspections are also carried out independently of WSE, where the Inspectorate focuses only on specific subject areas. A school may have subject inspections and/or WSE" (p. 13).</p> <ul style="list-style-type: none"> - "Students usually commence the Junior Cycle at age 12. A state 		
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	<p>examination, the Junior Certificate, is taken after three years. The principal objective of the Junior Cycle is for students to complete broad, balanced and coherent courses of study in a variety of curricular areas, and to allow them to achieve levels of competence that will enable them to proceed to Senior Cycle education” (p. 15).</p> <p>– “The Senior Cycle caters for students in the 15 to 18 year age group. Transition Year, which has been one of the major innovations in Irish education, is an option which is now firmly embedded in the system. It follows the Junior Cycle and provides an opportunity for students to experience a wide range of educational inputs, including work experience, over the course of a year that is free from formal examinations. The aim of Transition Year is to educate students for maturity with an emphasis on personal development, social awareness and skills for life. During the final two years of Senior Cycle students take one of three programmes, each leading to a State Examination: the traditional (or established) Leaving Certificate, the Leaving Certificate Vocational Programme (LCVP) or the Leaving Certificate Applied (LCA)” (p. 15).</p>		
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	<ul style="list-style-type: none"> - “Students generally take between five and eight subjects for the established Leaving Certificate examination. The results from their best six subjects are converted into points which are the basis of entry to third level colleges” (p. 15). - “As mentioned elsewhere in this document, schools are also becoming increasingly more accountable for student performance through the process of whole school evaluation and inspection. The publication of these reports on the DES website is an indication of the accountability to which the DES itself is subject. The tension between traditional autonomy and imperatives for accountability is evident in the following statement: <i>“... schools are complex institutions in which change can only come about through internal acceptance by staff and management both of the school's strengths and of the need for action in those areas of activity where further development is desirable.”</i> (p.34). - “Schools are required, under the provisions of the Education Act (1998), to engage in the process of school planning. The principal is responsible, with the staff and the broader school community, including parents, for defining key educational goals and outcomes, 		
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	<p>which are appropriate to the needs, aptitudes, interests and abilities of the pupils within the school. Such planning includes establishing an effective system for monitoring and assessing pupil performance” (p. 34).</p>		
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Korea

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels where the shift of power will be occurring.		<ul style="list-style-type: none"> - “Educational administrative organization of Korea, in a parallel axis to the general administrative levels, is formed by a three-tier structure of the central, the macro-regional, and the local. The Ministry of Education and Human Resource Development is in the central level” (p. 26). - “Since the adoption of the local-self governance in educational administration in the early 1990s, Korea has been under a process of shifting from the traditionally centralized system to a decentralized one. As a part of the effort for change, authority and responsibility of higher office are entrusted to lower ones within the hierarchy, from the Ministry of Education and Human Resources Development, trickling all the way down to the school site. In this context, both authority and responsibility of the school principal are currently being strengthened” (p. 57). 	<ul style="list-style-type: none"> - “Macro-regional organ for educational administration...operate based upon the principle of educational self-governance. The metropolitan and provincial offices of education perform the functions of opening and closing institutions, managing the curriculum, and establishing school regulations” (p. 26) - “The 180 local offices of education are educational administrative organs subordinate to the metropolitan and provincial offices of education and are established at the basic units of self-governance, i.e., city, county and ward. Main functions of the local offices of education include guidance and supervision over the management of public and private kindergartens, elementary schools and middle schools” (p. 26-27). - In terms of distribution of

			<p>authority and responsibilities between the central and the regional organs of educational administration, centralizing tendency still remains very strong. Under the banner of realizing the 'small and efficient government,' the Korean government has worked to reduce the size of the central administrative organs since the late 1990s. Stimulated by such efforts at downsizing, the Ministry of Education and Human Resources Development has also reduced the size of its organization and its staffs, and transferred many of its former functions to the regional organs of educational administration. As a part of such attempts, the Ministry of Education and Human Resources Development has passed on its major administrative decision-making authorities including budget planning to the regional organs of educational administration. However, the traditionally strong centralizing tendency has not receded easily and the centralized control remains pronounced in such core areas as finance, personnel and organizational supervision. Particularly, over 80% of te</p>
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			<p>regional educational expenditure is supplied by the central government, testifying the ongoing local dependence upon the central administration” (p. 27).</p>
<p>Empowered Actors Which actor groups are to be empowered by the decentralization?”</p>	<p>– “Distribution of school affairs plays the crucial role within the entire structure of school management. School affairs refers to te overall chores and duties required for school management. Although the school principal is ultimately responsible for school affairs, the principal cannot take care of all the school affairs alone, so that they are distributed to other staff, such as the vice principal, chief teachers, teachers, administrative workers, and other staff” (p. 48).</p>	<p>– “Financial support for national and public schools is entirely dependent upon the government. In terms of school-based financial management, decision-making power in all school finance matters except the personnel and facility cost has been delegated to individual schools since the implementation of the integrated accounting system in 2001. As a result of the spontaneous efforts of individual schools, school income was supplemented by collecting fees and commissions at school level. These collected funds were placed under the direct supervision and management of schools, therefore, the scope of the decision-making power at the school level is expanding. However, such increase still remains insignificant since, as aforementioned, 80% of the local school budget is still supplied by the central government. It is safe to say that the financial decision-making power over national and public schools is still in the hands of the government” (p. 43).</p> <p>– “ The educational reform measures announced on May 31, 1995</p>	<p>–</p>

		included an attempt to realize school-based educational self-governance through the school-based management system. The school-based management system refers to the practice of delegating much of the authority for school management to individual schools, so that the principal can manage the school autonomously” (p. 46)	
Function and Mandate the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment	<ul style="list-style-type: none"> – “The role, responsibility, and authority of a school principal are defined in entirety by Article No. 20 of the Elementary and Secondary School Education Law. The role of principal is supervision of school affairs, guidance and supervision of school staff, and the education of students” (p. 38). – “School administrators organize and manage school curriculum, students guidance, manage the personnel affairs of teachers, and support in-service training and research activities of the teachers. They value organizing and managing school curriculum, supervising school achievement, supervising school budget and accounting, and supporting in-service training and research activities of the teachers more than other tasks” (p.56). 	<ul style="list-style-type: none"> – “Although in principle, the founder of a school (state, city, province, and school corporation) reserves the personnel management authority for that school in Korea, for the purpose of making school management effective an efficient, personnel matters for existing employees are delegated to principals, that is appointing and dismissing teachers to and from school posts, appointing and dismissing temporary teachers, and deciding promotion of teachers, are delegated to the school principal (p. 40). – 	<ul style="list-style-type: none"> – “Korean educational administration system is very centralized. Hence, the school principal’s decision-making authority within the school is likewise limited. Although the principal decides the goal of each school, the Ministry of Education and Human Resources Development and the metropolitan and provincial offices of education are basically in charge of school’s financial management and personnel selection. The school curriculum is determined and produced at the national level, so that the principal can organize and manage the curriculum only within the scope defined by central Ministry” (p. 36)
Rights and Responsibilities the types of decisions that are allowed to be made, meaning whether the		<ul style="list-style-type: none"> – “The school principal is the top manager of a school, who is authorized by the state to supervise and direct the school 	

decisions are final and binding versus consultative or advisory

staff, educational activities facilities, and school affairs in terms of both professional task and administrative status. The principal is positioned at the central axis of school management, which is affected by various environmental factors, such as the principal's own needs and attitudes, expectations of students, teachers, parents, and higher-ranking administrators, demographic changes, the economic situation, and the flow of information" (p. 38).

- "The principal's authority of the curriculum, teacher selection, evaluation and budget is generally in a harmonious relation with the principal's management accountability. Most elementary and secondary national or public schools adopt the national curriculum and select teachers based upon the national certificate under the authority of the metropolitan and provincial offices of education, and under the authority of the board of trustees in the case of private schools. Therefore, the school principals have authority over personnel management only insofar as the teacher's job performance is concerned" (p.47).

- “The strengthening of the authority and responsibility of the principal is being more specified by the adoption of the autonomous school-based management. With the introduction of the school accounting system, the principal’s autonomous authority over the school budget has been secured to a certain extent. Simultaneously with the strengthened authority, the principal’s accountability for school management is also strongly increased” (p. 57-58).

- “It is being considered necessary that the educational administrative system should move away from the traditional centralized one toward the site-based school management, and there have been efforts that reflect such an understanding. Examples are institutionalization of school council, adoption of the site-based accounting, and strengthening of the principal authority in organizing and managing school curriculum. Still, however, many administrative matters are managed under the leadership of the educational authorities in a top-down manner, and the practical authority of the principals remains limited. In the case of public schools, the principal’s authority in employing

		<p>teachers and selecting students is very limited” (p. 106).</p>	
<p>Monitoring/Accountability monitoring and accountability rules accompanying decentralization reforms</p>	<ul style="list-style-type: none"> - “Korea implemented the school-based management administered by the principal in the mid-1990s. The school-based management was devised to insure autonomy of individual schools in their educational activities and at the same time, to hold the school accountable for outcomes. The mechanisms to verify individual school’s accountability include school evaluation, comprehensive consulting and comprehensive inspection. Among them, school evaluation and comprehensive consulting are mainly aimed at verifying the quality and efficacy of school education” (p. 61). 	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> - “The only accountability mechanism visible in the schools of Korea is school evaluation. However, even in school evaluation, school achievement cannot be employed as the criterion to assess accountability. For school evaluation is just an evaluation mechanism for the input- and process-centered accountability, not an outcome centered one” (p. 47). - “However, Korea has not yet been able to come up with a mechanism to hold the principal directly accountable for school education. All in all, the school evaluated as excellent receives a monetary reward, yet its principal receives none, while the principal of the school evaluated as substandard is subjected to neither any disciplinary action, nor any disadvantage. Mostly, the latter type of schools is subjected to consultative review. The

			principals make use of the evaluation result as a guideline or reference material for improving school management “ (p. 63).
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The Netherlands

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels the shift of power will be occurring.	<ul style="list-style-type: none"> – “Decentralisation is an important principle in the government’s policy. To an ever increasing extent schools and their management are enabled to make their own decisions. However, the freedom to make decisions is accompanied by accountability and the necessity to achieve good results” (p. 29). – “In order to allow schools more autonomy and authority, in personnel policy for example, it was essential to re-position certain important actors on this stage to achieve this. • The Education participation Act will be changed (1-1-2007) to strengthen the position in the school of personnel, pupils and parents. • The Vocational Education was passed (1-8-2006). This stipulated the quality of teaching staff. • The Supervision of Education Act was introduced (1-9-2002). This Act gives the Education Inspectorate the authority to 	<ul style="list-style-type: none"> – “A distinctive feature of the Dutch educational system is that it combines a central educational policy with the decentralised administration and management of the institutions. The Ministry of Education, Culture and Science, on behalf of the central government, controls education through legislation while keeping in mind the provision of the Constitution. The Ministry’s primary responsibility for education is to structure and finance the system, the Education Inspectorate, the central examinations and student support (allowances to assist in meeting expenses in secondary education and grants for vocational and higher education. All school are governed by a legally recognised, competent authority or school board. This is the body that is responsible for implementing legislation and regulations in 	

assess, based on stipulated quality aspects.
• The Education Number Act was introduced (2001). This Act makes it possible to follow students throughout their time at school and therefore gain better policy information concerning the results of education.” (p. 29).

- “These acts are the foundation on which the new system is built and that allow the schools much greater freedom to strive to achieve their own objectives and at the same time they become accountable to the Minister and to society. Schools are now themselves responsible for the content, type and results of the education they provide. They are also expected to introduce a system of self-evaluation and so meet the quality criteria with which they are expected to comply. If they are not successful; then the Inspectorate or the Minister will be required to intervene” (p. 29).

schools. Much of the authority formerly held by the central government has now been transferred to school boards. Central government is becoming more and more responsible only for more general or framework legislation and for ensuring and monitoring the quality of education. It creates the necessary framework for good education. The school board or other competent authorities now have more freedom in the sense that they can employ their resources (people and means) in the way they think best. They do, however, remain accountable for their performance and policies” (p. 23).

- “There is an enormous variety of governing bodies within primary and secondary education (Education Council 2004). Basic education has various types of legal forms, both for private and public education. In private education the recognised authority is a non-profit making legal entity: an association or an institution. One special variant is the combined board (when an institute maintains both public and private schools, or a variety of private schools from different background). Public schools have

		<p>the right to choose between 6 different types of legal forms: the municipal executive, integral management, a governing committee, a legal person governed by public law, a foundation for public education and a body designated for this purpose in a joint agreement.” (p. 23).</p>	
<p>Empowered Actors Which actor groups are to be empowered by the decentralization?”</p>	<p>– “In primary education the management structure of an increasing number of schools consists of one layer (SCO, 2006, Regioplan, 2000). In schools where there is still only one layer of management this consists of a director and possibly a deputy director. The director has integral accountability for one school. There does not seem to be a clearly defined job description for the deputy-director but commonly most deputies find that, in addition to their management duties they are also expected to teach (often a substantial amount) and that many of their duties are shared with the director and there are very few for which they themselves are responsible In schools in which two management layers are distinguished these usually involve a general manager (director and deputy director) supported by</p>	<p>– “One of the Trade Unions indicated that the government policy aimed at de-regulation and increasing autonomy transfers too many duties and responsibility to school managements. School leaders, and certainly the teachers, should be allowed to be more involved in policy developments within the school. The school board and the management are, according to this Union, responsible for the wider view: accommodation materials, the timetable, the curriculum and the work climate. Teachers are responsible for working out the educational contents (based on management’s more general plan) to suit the needs of the vocational group. To be able to achieve these teachers should be given more autonomy allowing them to make full use of their professional skills. It is essential that management</p>	

	<p>teachers with management duties. In many cases shared leadership involves a middle management that consists of building or ICT co-ordinators and internal mentors. In some cases leadership is a two-person team (duo-job)” (p. 32).</p>	<p>gives teachers the scope to develop an annual learning plan and to make an annual general assessment, mainly of the financial aspects, of this plan. In this way the professionals in the school will be given the opportunity to participate in the educational policy and also personnel and organisational policy” (p. 41).</p>	
<p>Function and Mandate the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment</p>	<ul style="list-style-type: none"> - “Block rate funding means that the institutes must have a considerable amount of financial knowledge within the organisation. The school leader must have this knowledge himself or it must be available through other layers in the management structure of the school or the board of governors.” (p. 36). - “When considering the accountability for the content and design of the curriculum it is apparent that there are differences and similarities among the sectors. The most important similarity is that schools and institutes are free to plan the education they provide and there are no pedagogic/ didactic stipulations. The schools are also free to choose their teaching methods and educational aids. There are, however, regulations for all sectors that determine the teaching time that must be provided but these 	<p>–</p>	<p>–</p>

	<p>do not contain instructions about the use of the time e.g. the proportion of time spent on actual teaching and the time used for processing the formation. The schools and institutions are free to choose: teachers are the professionals who know what type of instruction or work is best for which pupil in his or her group at any given time. It should, however, be stated that the Inspectorate for primary and secondary education does examine the quality of teaching and can make a negative judgement if the school does not tune the education offered to meet the needs of each pupil or finds the teaching method too general. The results of such an inspection are included in the Inspectorate's school report which is open for public perusal" (p. 36).</p>		
<p>Rights and Responsibilities the types of decisions that are allowed to be made, meaning whether the decisions are final and binding versus consultative or advisory</p>	<ul style="list-style-type: none"> - "From interviews and other research activities (Regioplan, 2000) it is apparent that the content of a school leader job depends on the type of management structure chosen. In primary education the director can be given a mandate by the management for all types of: educational duties (integral) personnel policy, financial policy, quality control, accommodation, following municipal policy for disadvantaged children, large scale school development etc. The school leader implements the assignments 	<ul style="list-style-type: none"> - "Legislation and regulation do not set any requirements for roles and duties of school leaders. Until recently (1-8-2006) such requirements did exist for primary education. But with the introduction of the Decree governing legal status PO per 1-8-2006, the job description of directors no longer applied" (p. 34) - "The lack of legal stipulations means that there is complete freedom about the way tasks are 	

	<p>but the management remains accountable. In addition to management duties more than half of these directors are also expected to spend some (limited) time teaching. Many of the directors delegate management duties to groups of teachers.” (p. 32)</p>	<p>implemented and the accompanying accountability. Professional organisation in (founding) education have accepted the responsibility to support and professionalize the professional group” (p. 35).</p>	
<p>Monitoring/Accountability monitoring and accountability rules accompanying decentralization reforms</p>	<ul style="list-style-type: none"> - “To be able to work well within the policy context both schools and management will have to develop their capacity to make the most effective use of the scope they have been given. They, themselves will have to determine their own performance. The school itself will have to change if this goal is to be achieved They will need to acquire their own management information, formulate objectives with those involved in, and with the, aims of the school concerning the quality of education and will have to adopt a realistic and responsible attitude towards pupils, parents and society” (p. 29). - “Although self-regulation is now taking a more prominent place in all the sectors, in general the government remains responsible for ensuring the quality of the teachers. The Minister is accountable for the quality of education. It is the 	<ul style="list-style-type: none"> - “In July 2005 the Minister of Education, Culture and Science compiled a policy document over good leadership/management in education and included the accompanying plans to implement this. The core of this message is that education management should be arranged in such a way to ensure that those providing the actual teaching are allowed sufficient freedom to provide high quality education. The attitude of the management should be to enable parents, pupils, teachers, municipality and businesses to influence the educational policy of a school. It is important to realise that external accountability will be accepted as being trustworthy only when internal accountability is effective. In the document a distinction is made between management and internal supervision... In primary and 	<ul style="list-style-type: none"> - “It is not standard for the Inspectorate to examine the way in which management and supervision occur during a school visit. That usually depends on the results achieved by the school’s pupils and on crucial indicators such as quality assurance and the educational learning process. According to the inspectorate the background for this approach is based on the following statement: if the school’s quality assurance is up to standard then the school leadership is also up to standard and the educational achievements of the pupils are also satisfactory. However, the reverse is not always true; good educational performances do not mean that the school leadership and quality assurance is also good. One possible explanation for this is

	<p>management of schools and institutions that implement the personnel policy (selection, appointment, promotion and sometimes even dismissal. Since the introduction of the BIO Act on 1-8-2006, schools now have qualification requirements and must enable their staff to maintain and increase their qualifications. In many cases the school leader has been given a mandate from the management to implement personnel policy for teachers and support staff. In almost all schools the school leader is involved in supporting the professional development of teachers and providing feedback” (p. 36).</p> <ul style="list-style-type: none"> - “Inspection frameworks go into more detail as to the Inspectorate’s methods and the content of its inspections The inspectorate provides information about the kind of inspections it carries out, the frequency (yearly, two- or four-yearly or more often according to the quality found), the reports published by the Inspectorate are based on their findings and the relationship between these reports and the digital school dossiers and school report cards. The quality assurance systems used by the schools (self-evaluation) are an important item when monitoring 	<p>secondary education the school is offered a choice of: either a supervisory board or a division of management and supervisory functions. Supervision must be transparent” (p. 23).</p> <ul style="list-style-type: none"> - “One very significant development for the entire field of education is the “OCW deregulates” project. Legislation sometimes contains some very detailed instructions about the way in which funding needs to account for. The teachers and pupils in a school are also obliged to provide information about the educational process for the public or politicians. This obligation to provide information results in administrative burdens for schools. The government has now initiated a way to reduce these administrative burdens. One important instrument to achieve this is to have fewer and simpler regulations. The possibility to harmonise various educational acts is also being investigated” (p. 30). 	<p>that schools in a stable situation (usually the same team/few changes in the student population etc. do not always have the same quality assurance level) According to them there is no necessity to invest in quality, “why should they invest in quality assurance?” There is a risk here because external factors change and then a well-functioning quality system is extremely important” (p. 38).</p>
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	<p>schools; these are a means of promoting school development. This can contribute to proportional supervision: the more relevant and reliable data a school can make available the less intensive supervision needs to be” (p. 48).</p> <ul style="list-style-type: none"> - “When making its assessment the inspectorate, in addition to self evaluation by the schools, makes use of information and data that is supplied by primary and secondary education once every four years (school plan). In primary education this plan includes an annual syllabus, quality plan and a list of school holidays and in secondary education in addition to the syllabus there is also the verification of exam results, advice, yield cards and programmes for testing and termination and examination results.” (p. 48). - “The school report is published publicly. The reports can be found on the Inspectorate’s site. In this way the report and the quality card to which it is linked (a diagram of the assessment) fulfil not only a function in the vertical external accountability but it also increases the transparency for participants, pupils’ parents and other interested parties in the school’s environment” (p. 48). 		
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	<ul style="list-style-type: none">- “The school leader plays an important part, particularly in accountability for learning results. This is internal and external accountability for the total yield (of an educational institution or training) and is less concerned with the results of individual pupils. That is quite different when compiling the education report in basic education and advising about the second stage in secondary education. In this situation the school leader is involved, often supported by the relevant Teachers” (p. 52).		
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New Zealand

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels where the shift of power will be occurring.	<ul style="list-style-type: none"> - “The current regulation and governance of schools in New Zealand is a direct result of the „Tomorrow’s Schools’ reforms legislated in the Education Act (1989) and implemented from October 1989. Before this administrative restructuring, New Zealand primary schools were supported by regional education boards in each major district, staffed by full-time administrators and professional support staff. Each secondary school had their own board of governors, albeit with more restricted powers than school boards today. The 1989 reforms eliminated all intermediate administrative and support structures such as the regional education boards, and introduced a board of trustees for each state school as the school’s governance body. The school’s principal is designated as the chief executive of the board of trustees” (p. 14)” - “There is no single framework for the development of education policy. The Education Act (1989) established self-managing schools and deliberately reduced 	<ul style="list-style-type: none"> - “The Ministry of Education is responsible for national education policy and provides the bulk of funding for public schools. The Education Review Office, a separate government agency, is mandated with assuring the quality of schools. It does this through a nationwide review cycle in which every school is reviewed once in three years, unless there is sufficient cause for concern for it to be reviewed more frequently. The New Zealand Qualifications Authority has the responsibility for national qualifications, including those for senior secondary school students” (p. 14). 	

the size and power of the central bureaucracy. A 2001 amendment to the Education Act increased the power of the Ministry of Education to intervene in failing schools but largely stayed true to the concept of self-managing schools. The development and review of the curriculum, the development and dissemination of the Schooling Strategy, and the Education Development Initiative are examples of how three national education policies have been developed and implemented in recent years. These examples are described further below” (p. 15).

- “The 1989 education reforms introduced „self-managing schools’ to New Zealand. Chief among the changes legislated in 1989 was the establishment of a board of trustees for each school. From that time boards have been charged with setting the direction of a school within the parameters of regulation. Boards are responsible for appointing principals and are held accountable for a school's performance by the Education Review Office and the Ministry of Education. As such the board of trustees is an integral component of a school's leadership. The principal is a full member of the board of trustees and along with other school leaders is responsible for implementing the direction set by the board.” (p. 18).

<p>Empowered Actors Which actor groups are to be empowered by the decentralization?"</p>	<ul style="list-style-type: none"> - “As described in previous sections of this paper, in 1989 New Zealand schools assumed a range of responsibilities previously held by the Department of Education. Throughout the 1990s, in addition to implementing the national curriculum, school leaders had to learn how to develop and manage budgets, they had to become employers, property managers and chief executives to governing bodies. Along with these responsibilities came a range of accountabilities – to the Ministry of Education, the Education Review Office and the local community – and a diversity of compliance requirements. Principals who had the skills to manage an organisation were highly sought after. More recently, school leaders have been conceptualised as professional leaders developing their schools into reflective learning communities. Some have expressed concern that school leaders recruited for their management skills, and still responsible for school management, have been challenged by the strengthened expectations around leadership of learning and achievement” (p. 22). - “Each school board is responsible for appointing its principal. Boards, often by delegation to the principal, are also responsible for determining the configuration of other leadership positions within the school and for appointing 		
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people to those positions. Professional development for school leaders is decided by the school. The board of trustees is responsible for principal appraisal and may choose to manage this process internally or contract the services of an external appraiser for part of the process. Boards have the power to dismiss principals with or without notice in the case of serious misconduct, and after following a prescribed process in the case of incompetence” (p. 25).

- “Teachers are selected and appointed by the board, usually by delegation to the principal. Teacher professional development programmes will commonly reflect government priorities (for example, the current focus on improving the teaching of numeracy and literacy), needs identified through the school's performance management process, and the school's strategic goals. Each school is required to have a teacher performance management system in place through which each teacher's practice is appraised” (p. 25)

- “Every New Zealand school, regardless of size or level, is governed by a board of trustees. Boards are comprised of elected members of the school community, the principal, a staff representative and, in the case of secondary schools, a student representative. Boards provide strategic guidance, and a monitoring framework

	<p>through which to assess the school’s progress towards strategic directions. School management, under the leadership of the principal, is accountable to the board for the performance of the school. Boards, in turn, work in partnership with the government and are accountable to both the government and the community of which their school is a part. Board meetings are public meetings which anyone may attend. Should the board decide that a particular matter – usually relating to student discipline or personnel – needs to be discussed privately, it can move into a 'public excluded' section of the meeting for which separate, confidential minutes are kept” (p. 26).</p> <p>– “In comparison with other countries New Zealand schools have substantial autonomy, and school leaders have a high degree of control over many aspects of the school and its programmes. Private (independent) school leaders have even more autonomy” (p. 29).</p>		
<p>Function and Mandate the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment)</p>	<p>– “Documents prepared to support the implementation of 1989 education reforms identified a much clearer focus on the role of the principal as one of three „basic changes at the heart of the reforms. One such document suggested the principal now became the school’s 'professional leader' with three major functions:</p> <ul style="list-style-type: none"> <input type="checkbox"/> an executive function – contributing to and 	<p>– “The Education Act 1989 states that boards will control the management of the school (section 75) and that principals are the chief executive of the board, with responsibility for the day-to-day management of the school (section 76). Section 60 of the act allows the</p>	

	<p>implementing the policy of the board, to achieve the objectives of the school's charter</p> <ul style="list-style-type: none"> □ an instructional function – leading the staff of the school in implementing the school's programmes □ a reporting function – reporting on the achievements of the school” (p. 18). <p>– “The principal is generally considered the foremost school leader in every New Zealand school. Principals are responsible for far more than the leadership of teaching and learning; they are responsible for the day-to-day management of every aspect of the school including personnel, finance, property, health and safety, and delivery of the national curriculum. Depending on the size of the school, the principal might be assisted by an associate principal, one or more deputy principals and in some cases also by one or more assistant principals. A small number of schools have co-principals” (p. 20).</p> <p>– “Schools are responsible for developing their own timetables. In primary schools, language and mathematics programmes are given more time than other areas of the curriculum, reflecting the priority outlined in NAG 1” (p. 24).</p> <p>– “The board and principal have a high degree of autonomy and control over personnel selection, and have</p>	<p>Minister of Education to periodically produce National Education Guidelines as a framework for schools' operations. The current National Education Guidelines have three parts:</p> <ul style="list-style-type: none"> □ The National Education Goals (the NEGS) – are statements of what the government considers to be desirable outcomes for students. School boards must take these into account when preparing their charters and developing their plans (Appendix 3). □ The National Curriculum Framework (the Curriculum) – includes both the values and policy goals underpinning the curriculum, and the National Curriculum Statements which outline the skills and knowledge students should acquire, and which describe achievement objectives for students within each strand of the curriculum. □ The National Administration Guidelines (the NAGS) – are broad regulations about teaching and assessment, staff, finance and property, health and safety that the board must observe in governing the school” (p. 21). <p>– “There is a national curriculum for all New Zealand students to the end of Year 10 (student age</p>	
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	<p>responsibility for personnel appraisal. Schools are free to decide the role descriptions and tasks associated with positions, and to indicate the skill sets they require” (p. 29).</p> <ul style="list-style-type: none"> - “School leaders have a high degree of autonomy in the management of their budget. Teacher salaries are paid by the Ministry of Education for staffing entitlement, but all other costs of running a school are met from a school's budget. School finances must be annually audited and the results of that audit made public” (p. 29). 	<p>14-15). State schools are required to follow the national curriculum; private schools are not. The national curriculum at these levels includes English, mathematics, science, social studies, the arts, technology, physical education and health. There is a Māori medium national curriculum, Te Marautanga, which parallels the English national curriculum and includes te reo Māori, pangarau, putaiao, nga tikanga a iwi, nga toi, hangarau and hauora. Within the curriculum, learning objectives are set out in strands and at progressive levels. Schools are expected to develop learning programmes that meet learning objectives and which reflect students needs, local circumstances and take into account staff skills” (p. 24).</p>	
<p>Rights and Responsibilities the types of decisions that are allowed to be made, meaning whether the decisions are final and binding versus consultative or advisory</p>	<ul style="list-style-type: none"> - “Professional Standards for primary principals and for secondary and area school principals are a formally mandated statement of principals' current responsibilities. They were promulgated by the Ministry of Education in 1998 and incorporated into the employment agreements of all principals. They currently form part of the principals 	<ul style="list-style-type: none"> - “The division of responsibility between the board of trustees (governance body) and the management team (principal and senior leadership) is not clear cut. There is no statutory definition of the respective roles of governance or management” (p. 27). 	<p>-</p>

	<p>collective agreements and promulgated individual employment agreements. The standards are used in most schools as the basis of the principal's job description and schools are also encouraged to use them in the principal appraisal process” (p. 18)</p> <p>– <i>“Professional Leadership</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> understands current approaches to teaching and learning <input type="checkbox"/> provides professional direction to the work of others <input type="checkbox"/> analyses and uses student assessment and other evaluative data <input type="checkbox"/> understands and applies effective management practices <input type="checkbox"/> fulfils the role of chief executive to the board <input type="checkbox"/> reflects on own performance and demonstrates commitment to improve <p><i>Strategic Management</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> understands the impact of changes in cultural, social and economic context, and reflects those changes in strategic planning <input type="checkbox"/> works to develop a shared vision for the school <input type="checkbox"/> effectively manages resources <p><i>Staff Management</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> manages the staff to support delivery of the curriculum, implementation of the charter and improved learning outcomes for students <input type="checkbox"/> establishes procedures and practices to maintain and improve staff effectiveness <input type="checkbox"/> motivates and supports staff to improve the quality of teaching and learning 	<p>– “Publicly funded state schools in New Zealand are not allowed to select their students and must enrol any student from 6-16 who wishes to attend. Schools with an enrolment scheme must decline to enrol any student from outside their zone unless that student has gained a place through a ballot “ (p. 28).</p>	
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Relationship Management

- fosters relationships between the school and its community
- creates a safe and supportive teaching and learning environment (secondary only)
- understands and is responsive to diverse concerns and needs
- communicates effectively to a range of audiences
- manages conflict effectively and works to achieve solutions
- represents the school and acts to achieve its objectives

Financial and Asset Management

- uses resources effectively to support improved student learning
- manages an effective budget planning system in association with the board of trustees and works within available resources
- works with the board of trustees on controlling, monitoring and reporting on the use of finances and assets

Statutory and Reporting Requirements

- ensures compliance with relevant statutes and legislation, and meets monitoring and reporting requirements” (p. 19).

– “Under the National Administration Guidelines, (NAGs), boards of trustees of state schools carry responsibilities in six areas:

- student achievement, particularly for identifying students at risk and addressing barriers to

	<p>achievement (NAG 1)</p> <ul style="list-style-type: none"> <input type="checkbox"/> strategic planning and school self-review (NAG 2) <input type="checkbox"/> personnel (NAG 3) <input type="checkbox"/> finance and property (NAG 4) <input type="checkbox"/> health and safety, including emotional safety (NAG 5) <input type="checkbox"/> compliance with all relevant legislation (NAG 6).” (p. 26). 		
<p>Monitoring/Accountability monitoring and accountability rules accompanying decentralization reforms</p>	<ul style="list-style-type: none"> – “The 2001 amendment made little change to the substantive powers of the principal established by the 1989 legislation, but it increased the power of the Ministry of Education to intervene in schools deemed to be at risk. In summary, the main changes introduced in 2001 were: <ul style="list-style-type: none"> <input type="checkbox"/> new powers for the Ministry to intervene where a school is deemed to be „at risk' <input type="checkbox"/> new planning and reporting requirements, requiring all state schools to set annual targets for improvements in student achievement <input type="checkbox"/> new expectations on schools to focus on and follow through with national initiatives <input type="checkbox"/> a new Teachers Council, with powers to investigate complaints against teachers and principals, where the matter has not been dealt with by the board of trustees to the satisfaction of the 	<ul style="list-style-type: none"> – “New Zealand has no national testing of students until Year 11 (age 15-16). However, there are increasingly widely used assessment tools and banks of assessment resources developed through government contracts that schools are encouraged to use to assess the progress of younger students” (p. 40). 	

	<p>complainant</p> <p><input type="checkbox"/> increased possibilities in governance arrangements, beyond the „one board/one school“ model of the 1989 legislation.” (p. 21).</p> <ul style="list-style-type: none"> – “Professional Standards for Principals form another part of the regulatory framework. These were developed by the Ministry of Education in conjunction with principals' professional associations and with other education sector input as part of collective agreements. Professional standards form part of performance management systems in schools. The introduction of professional standards was part of the Ministry of Education's strategy for developing and maintaining the quality of teaching and leadership, and improving learning outcomes for students. The professional standards reflect government's interest in ensuring that students have opportunities to learn from high quality professional teachers and that schools are led and managed by high quality professionals” (p. 21). – “A key feature of the 1989 education reforms was to give school communities a more meaningful role in schools, as boards of trustees consist of a majority of parent trustees. Schools are accountable to their communities as well as to the government for the results their students achieve. This 		
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	<p>has brought about a change in the relationship between schools and their communities. Rather than leading the debate about what constitutes a good education, school leaders now find themselves having to respond to community demands for improved achievement. There is an increasing expectation that schools will regularly monitor every student's progress in all curriculum areas and will report individually to students' families and in aggregate to the school community” (p. 22).</p> <ul style="list-style-type: none"> - “As well as accountabilities to local communities, schools are accountable for their achievements to the Ministry of Education through the annual planning and reporting cycle, and to the Education Review Office through the three yearly review cycle. Secondary schools are also accountable to the National Qualifications Authority for their implementation of national qualifications, particularly in terms of the quality of internal assessments” (p. 22). - “From 2002 New Zealand has progressively implemented the National Certificate of Educational Achievement (NCEA), a new, standards-based assessment system for senior secondary school students. While teachers support the changes, there is pressure on school 		
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	<p>managers to implement new systems within their budgets. The NCEA has also provided new measures of student achievements, fueling community demands for improved achievement” (p.23).</p> <ul style="list-style-type: none"> - “One of a board's key roles is to establish a strategic focus for the school and articulate that focus and direction in a strategic plan. Strategic planning became compulsory for all state schools through an amendment to the NAGs in 1999. Since 2003, schools have been required to document their strategic planning in an annually updated school „charter“, and through reporting mechanisms to demonstrate that the goals and targets, including student achievement targets within the strategic plan, have been addressed” (p. 26). - “In 2003, New Zealand started progressively to implement a new national assessment system for senior secondary students, coordinated by the New Zealand Qualifications Authority. The National Certificate of Educational Achievement (NCEA) is a standards based assessment system within the New Zealand Qualifications Framework. The new qualification has been the subject of substantial debate among educationalists, students and parents. There were some widespread concerns about implementation of a standards based assessment system but these appear to be reducing as NCEA 		
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	<p>becomes embedded” (p.37).</p> <ul style="list-style-type: none"> – “Students in New Zealand primary schools are assessed using a range of assessment tools to inform teaching and measure achievement. From time to time whether national testing should be introduced in primary schools is debated at a political level. Over the past 10 years, the Ministry of Education has invested heavily in developing a range of robust assessment tools and exemplars to assist teachers with formative and summative assessment and to enable them to compare student progress with national norms” (p. 37). – “The Education Review Office (ERO) is a government department whose purpose is to evaluate and report publicly on the education and care of students in schools (including private schools) and early childhood services. ERO’s findings inform decisions and choices made by parents, teachers, managers, trustees and others, at the individual school and early childhood level and at the national level by Government policy makers” (p. 38). – “Where the performance of a school or centre is poor, ERO makes recommendations to the school’s trustees for improvement and may return 12 months later to assess progress. ERO’s framework for reviews is based on three 		
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	<p>strands: school specific priorities, government priorities, and legislative compliance issues. Schools are encouraged to review their own performance and to demonstrate to ERO that they have self-review mechanisms in place” (p. 38).</p> <ul style="list-style-type: none"> - “School leaders are held publicly accountable for the performance of their school through ERO review reports which, once they are confirmed, are made available to anyone who wants to read them. Both current and past reports are available online providing any prospective employer with access to a detailed history of a school leaders' performance to date” - “The Education Review Office (ERO) is the external body responsible for monitoring management of students' behaviour, learning and outcomes. The ERO publishes <i>Evaluation indicators for education reviews in schools</i>² which contain evaluation indicators in a range of areas, including student achievement, student engagement with learning, quality of teaching, assessing and feeding-back, student well-being and linking home and school” (p. 39) 		
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Norway

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels where the shift of power will be occurring.		<ul style="list-style-type: none"> - “In Norway each school has a principal who is the authority responsible for the pupils in school hours, acting on behalf of the parents. The principal’s authority is delegated from the school owner, which in political terms means the mayor, on behalf of the politically elected assembly in counties or municipalities or the chairman of the board in a private school. Administratively the exercising of authority is assigned to the chief municipal executive in each county authority and municipality, who in turn either delegates the power to a person with school-based competence, the chief municipal education officer, sector manager or person with a similar title, or directly to a principal for a school” (p. 12). - “On 1 May 2004 the responsibility for negotiating terms for teaching personnel was transferred from 	<ul style="list-style-type: none"> - The school authorities and school leadership in Norway are part of a governance structure – national, regional and local – that is the same for the whole country across the various sectors. The entire school sector operates in line with common legislation. The Education Act and the national curriculum have been defined on a national basis, and agreements between employers and employees are negotiated for the country as a whole. These common framework conditions mean that authority is delegated to county authorities and municipalities, i.e. the level elected by the people in the Norwegian governance structure. However, local systems may vary considerably” (p. 12).

		<p>the State to the municipalities, after which documents from the Parliament and the Government referred to the municipalities as <i>school owners</i>. The municipality has been assigned responsibility for schools within frameworks stipulated by the Government, which entails local politicians being jointly responsible for the development of schools in the municipalities. The new management system is partly based on a desire for a clearer assignment of responsibility and greater local freedom of action” (p. 24).</p> <ul style="list-style-type: none"> – “The municipalities and the county authorities are responsible for running the 10-year compulsory schooling and upper secondary education and training respectively, both of which are mainly financed through the unrestricted funds allocated to the municipalities and county authorities” (p. 27). 	
<p>Empowered Actors Which actor groups are to be empowered by the decentralization?”</p>		<ul style="list-style-type: none"> – “The Norwegian 10-year compulsory education is regulated through a specific Act which currently covers education in these schools and in upper secondary schools and also includes that part of trade and vocational training that is carried 	<ul style="list-style-type: none"> – “The Ministry of Education and Research – assisted by the Norwegian Directorate for Education and Training, including the county governors in each county – has the overall responsibility for all areas of education including pre-school

		<p>out in companies. The Act was adopted in 1998 by the merger of several laws that previously regulated minor parts of primary and lower secondary education. The legislation is gradually being characterised by a clearer framework which gives the municipalities and county authorities – as the bodies responsible for primary and lower secondary schools and upper secondary education and training respectively – greater freedom to make their own decisions on the organisation and running of primary and lower secondary schooling. In the most recent reform of these schools – initiated in 2006 – the curricula have also become less detailed” (p. 15).</p> <ul style="list-style-type: none"> – “This means that in general each municipality and county authority decides the powers that are to be delegated to the individual school. Such delegation will therefore affect both the content and the empowerment of the school leader role and the teacher role, which can consequently vary to some extent among the 431 municipalities and 19 county authorities. This presents challenges when general replies are required to some of the questions that have been asked by 	<p>provisions. Municipal authorities manage all aspects of compulsory education, county authorities are responsible for upper secondary education and training,</p>
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this report” (p. 16).

- “The Norwegian Directorate for Education and Training has the responsibility for the national curriculum, assessment/examinations and supervision/control, and for the development of primary and secondary education. The Directorate is developing the new national curricula for primary and secondary education based on the principles proposed in the White Paper *Culture for learning* submitted to the Parliament in 2004. The increased emphasis on basic skills and knowledge mentioned above, greater diversity with regard to working methods and organisation, and education that is better adapted to each pupil are essential elements in the new curricula and in the Knowledge Promotion Reform” (p. 16).

- “In the White Paper entitled *Culture for learning* (cf. Introduction), an explicit connection is made between learning and leadership, and the difference in roles and responsibilities between teachers and leaders is highlighted. In this document the term school leadership is applied to those in a **formal** leadership position at local

schools” (p. 19).

- “The Local Government Act of 1992 paved the way for a high degree of self-governance on the part of the municipalities and county authorities. The development has shifted from several detailed laws for various levels and types of school to more general and less specific provisions in an integrated body of legislation, cf. 2.3. This also applies to provisions that regulate the role and responsibility of school leaders. The different school leader positions were previously regulated through common instructions laid down by the Government for the various positions, whereas currently there is only the provision that states that there must be an administrative and professional leader for each school. The Act has also been amended to make it possible to appoint a principal who is responsible for several schools. The scope and content of the tasks for all school leader positions are decided on a local basis” (p. 20).
- “Local rules concerning empowerments that are delegated to the principals of individual schools are developed in different

ways and are adopted in various bodies. In general there has been a tendency to transfer increasingly greater powers from political bodies to the administration in municipalities and county authorities. Union representatives for the employees are to varying degrees included in the work of shaping authorisations for schools and school leaders” (p. 20).

- “The survey on school leaders (Møller et al., 2006) shows that school owners appear to have increased their support for principals more than the results from the 2001 survey indicated, but only 33% partly or completely agree that allocations to schools have high priority in their municipality/county. More than half of all the principals who filled in the form work in so-called two-level municipalities. Of those working in such municipalities, 20% state that their leaders do not have school-related competence, approximately half reply that school-related competence can be found in staff functions, while 20% have leaders with line responsibility who also have school-related competence” (p. 25).

		<ul style="list-style-type: none"> - “It appears that Norwegian school leaders experience considerable freedom in their role. But at the same time the possibilities are limited since tasks exceed capacity. Adequate resources of time and competence constitute a prerequisite for a good balance between autonomy and accountability. Some of them also feel that there is a discrepancy between expectations and the financial resources they have at their disposal” (p. 31). 	
<p>Function and Mandate the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment</p>	<ul style="list-style-type: none"> - “School leaders are faced with the challenge of implementing the Knowledge Promotion Reform in schools. The reform ascribes them the prime responsibility for ensuring that the individual teacher becomes familiar with the entire national curriculum and with the reasons and intentions that form the basis of the separate subject curricula. They must also assess the competence-building measures required to meet the challenges of the Knowledge Promotion Reform. It is expected that arrangements will be made to allow systematic work to be performed by the entire staff, and that changes to practice will be monitored” (p. 21). 	<ul style="list-style-type: none"> - “School principals have been given greater responsibility and there is a noticeable increase in the number who have signed leadership agreements with the municipalities. Among those who have such an agreement as a basis for follow-up, the majority confirm that the agreement contains monitoring of economy and budget responsibility. There is also a high percentage who verify that the leadership agreement includes educational goals for the school. In relative terms it is less common to include personal goals for the individual principal in the leadership agreement. This result must also be viewed in connection with the content of the employee appraisal interviews that show that municipalities/counties that are 	<ul style="list-style-type: none"> - “The Norwegian Directorate for Education and Training (established 2004) is the executive agency for the Ministry of Education and Research. In this capacity the Directorate has the overall responsibility for monitoring education and the governance of the education sector, as well as for implementing Acts of Parliament and regulations. The Directorate is also responsible for managing the Norwegian Support System for Special Education (Statped), state-owned schools and the educational direction of the National Education Centres” (p. 15).

organised as two-level models particularly monitor the economy, while follow-up of pedagogical development efforts is more predominant in municipalities/counties with a sectoral form of organisation. The difference concerning monitoring the economy is significantly in the two-level model's favour, while the difference in follow-up of pupil performance is significantly in the sector model's favour" (p. 25).

- "In Norway the national curricula are determined by the central authorities. School owners are responsible for work at the local level and for implementing the national curriculum. The former is to some extent carried out by municipalities – for example a municipality may draw up and suggest municipal curricula that specify goals for each year of education. However, this work is often delegated to the individual school, which in practice makes it the school leader's responsibility" (p. 27).
- "School owners are responsible for appointing teachers, but in practice this takes place in cooperation between school owners and leaders at the

		individual school. In some municipalities the schools are obliged to employ redundant teachers” (p. 27).	
Rights and Responsibilities the types of decisions that are allowed to be made, meaning whether the decisions are final and binding versus consultative or advisory	<ul style="list-style-type: none"> - “The first paragraph of Section 9 of the Education Act states that each school shall have sound professional, educational and administrative management and that the instruction given in the school shall be led by the school leader. School leaders are to keep informed about the daily activities in the schools and are to ensure the further development of these activities. The person appointed as school leader must have pedagogical competence and the necessary leadership skills, and can be appointed for a certain period of years. The <i>agreements</i> stipulate a minimum level for the period of leadership as well as the leader’s salary, rights and obligations” (p. 20). - “School principals have been given greater responsibility and there is a noticeable increase in the number who have signed leadership agreements with the municipalities. Among those who have such an agreement as a basis for follow-up, the majority confirm that the agreement contains monitoring of economy and budget responsibility. 	<ul style="list-style-type: none"> - “Those who exercise formal authority are leaders at different levels in the education sector. When the term school leadership is used, it includes the person with the highest authority but is extended to cover all those employed in leadership positions at various levels. In a school there are many who are able to assume the role of leader, but it must always be made clear how formally the responsibility has been assigned” (p. 12). - “A change of this type results in altered responsibilities and tasks for school leaders. School principals are assigned the total responsibility for the school’s operation and they report to the chief municipal executive. In many cases this has led to the disappearance of support functions – for example the pedagogical guidance service. It is also anticipated that principals will become involved in and promote municipal fellowship in areas that cross traditional sectors and political sectoral concepts, and that focus on professional 	

There is also a high percentage who verify that the leadership agreement includes educational goals for the school. In relative terms it is less common to include personal goals for the individual principal in the leadership agreement. This result must also be viewed in connection with the content of the employee appraisal interviews that show that municipalities/counties that are organised as two-level models particularly monitor the economy, while follow-up of pedagogical development efforts is more predominant in municipalities/counties with a sectoral form of organisation. The difference concerning monitoring the economy is significantly in the two-level model's favour, while the difference in follow-up of pupil performance is significantly in the sector model's favour" (p. 25).

- "Although most school leaders express a wish to give priority to pedagogical leadership, it can appear as if this work loses out in competition with administrative tasks. At some schools the problem is solved by the leadership group sharing areas of responsibility" (p. 33)

skills will give way to coherence and strategic thought. To a large extent communication takes place through goal documents and result reporting" (p. 25).

- "The school leader role/school principal role varies depending on whether the principal reports directly to the most senior leader in the municipality/county authority or to the chief municipal education officer. Both governance structures entail responsibility concerning financial management and the budget. The difference can particularly be seen in the support functions related to salary payments, staff appointments, personnel work, the continuing education of the staff etc. There has been little focus in any of the governance structures on results connected to pupils' performance (for example in the form of grades and/or test results)" (p. 29).
- "School owners recognise the importance of school leadership and often wish to strengthen this function. Many municipalities allocate resources to schools and the school principals prepare their budgets within this frame in cooperation with employee representatives. This makes it

possible to assign higher priority to funds for school leadership and other administrative support networks, but it is a matter of balancing such funds with those for other significant areas. The Norwegian Association of School Leaders describes this as a “dilemma of conscience” for school leaders, and experience shows that a suggested increase in resources for leadership often “loses” to tasks that are directly geared towards pupils” (p. 32).

- “The distribution of responsibility between government and municipal levels indicates that such processes and routines are compiled locally. The Knowledge Promotion Reform gives great freedom at local level for organising the school day and for local adaptation of the distribution of lessons among subjects and disciplines. Emphasis is placed on developing good routines for the transition between the various grades. The introduction of programme subjects at lower secondary level is intended to provide a better link between compulsory schooling and upper secondary education and training, to promote better adapted tuition, and to give the opportunity for practical activity or in-depth

		subject study” (p. 42).	
Monitoring/Accountability monitoring and accountability rules accompanying decentralization reforms	<ul style="list-style-type: none"> – “A national quality assessment system was introduced in 2004 which included national tests for assessing students' basic skills in reading, writing, mathematics and English as well as surveys for mapping the learning environment in schools. Results at school and municipal level are published together with development resources at www.skoleporten.no” (p. 17). – “The Government has recently launched accountability as a system of quality control for schools where the schools’ average results on national tests in reading, mathematics and English are published on a website. The improvement of schools was the Government’s rationale for such publication, but the newspapers immediately started ranking the schools through informal league tables” (p. 23). – “The National System for Quality Assessment constitutes a key element in the Knowledge Promotion Reform. Together with new curricula containing clearer 	<ul style="list-style-type: none"> – “It is a weakness that in spite of long-term broad initiatives it is not <i>known</i> whether school leaders in Norway are good. At local level however, some municipalities and county authorities have quality systems that ensure that they have good information about their school leaders. But there is a wide variation in the education options offered to school leaders and there are differing opinions as to what provides the greatest impact both on the individual school leader, on the school as an organisation and workplace and not least on the learning outcomes for the individual pupil. There is no systematic documentation of these efforts” (p. 64). 	

	<p>performance goals, national assessment is intended to contribute to creating a better balance between political and professional governance. Politicians define goals, and school leaders and teachers are given considerable freedom to shape their Practice” (p. 30).</p> <ul style="list-style-type: none"> - In addition to the recent implementation of a national system for evaluation, schools, municipalities and counties develop and carry out local tests and surveys to map different aspects of quality in schools. Private firms are also commonly employed to develop baseline reports for schools” (p. 40). 		
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Portugal

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels where the shift of power will be occurring.	<ul style="list-style-type: none"> – “Since 1998 the administration and management of state schools below Higher Education has been governed by the Regulation on School Autonomy, Administration and Management outlined in Decree-Law No. 115-A/98 passed on 4th May. The phasing-in period for the new law was until the end of the academic year 1999/2000. Amongst the changes brought about by its introduction was the reorganisation of the network of school and teaching establishments to create groups of schools defined as organisational entities with their own powers of administration and management at pre-school or compulsory level around a common pedagogical project” (p. 16). 		<p>-“The Plan for the Autonomy, Administration and Management of Schools, passed in 1998, allows for the creation, on the initiative of the municipalities, of local education councils as participatory structures for various bodies and social partners. Their role is to articulate educational policy along with other social policy, such as socio-educational support, the organisation of activities to complement the school curriculum and the school transport network. The following year, the law defining the framework for the transfer of powers to local authorities provided for the creation of Local Education Councils by the municipalities. In 2003 their name was changed to Municipal Education Councils and their powers, composition and operation were defined” (p.</p>

			<p>15).</p> <ul style="list-style-type: none"> - “The Municipal Education Council is a consultative and coordinating body at municipal level whose basic role is to promote the coordination of local educational policy, proposing action for educational stakeholders and social partners, through analysing and overseeing the functioning of the educational system and proposing any changes necessary to improve performance. They thereby constitute agents regulating the functioning of the system.” (p. 15). - “There are five levels of intervention in the creation, coordination, implementation and evaluation of educational policy that can be identified in the administration of the public educational system. The main agents on these levels are, respectively (i) the Government, via the Ministry of Education, its bodies and central services, (ii) the Government of the autonomous regions of Madeira and Azores, via the respective Regional Education Department, (iii) the Regional Education
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			<p>Directorates, (iv) the Local Authorities and (v) Schools, via their management and administrative bodies. They share responsibilities in the process of configuring the system regarding issues and areas such as: * the attribution and management of financial resources; * the creation/definition and implementation of the curriculum and academic assessment: the definition of syllabus, methodologies and pedagogical processes, organisation of school time, assessment and exam processes, support and curriculum complement activities, extra-curricular activities; * human resource management: recruitment, training, evaluation, promotion/progression and dismissal of teaching and non-teaching staff, including those people in school management positions; * the management of school-community relations: the management of student movement and numbers, school-family interaction, school-company relations, inter-school cooperation, relations between the school and local authority,</p>
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			accountability” (p. 26).
Empowered Actors Which actor groups are to be empowered by the decentralization?”	<ul style="list-style-type: none"> – “The area where schools have more autonomy and freedom to act, and effectively do so because of organisational imperatives, is the internal organisation of school time and human resources and matters including setting up timetables, distribution of taught and non-taught teacher services, and the management of educational premises and facilities. The responsibilities and powers in these areas are divided between the School Assembly/School Grouping, who discuss and approve the general principles and guidelines which are laid down in the educational project and internal regulations and constitute the terms for the definition of criteria for pedagogical and organisational guidelines that are approved by Pedagogical Council. These terms indicate the boundaries and conditions of implementation of the means and material, human and financial resources that are the responsibility of the Executive”(p. 25). 	<ul style="list-style-type: none"> – “The School Assembly is the body for the participation and representation of the educational community which includes students (in the case of upper-secondary education), teachers, non-teaching staff, parents and guardians, the local authority and socio-economic-cultural interests. It is responsible for the definition of activity guidelines for Schools and School Groupings. Its make-up is defined in the internal regulations; however the number of people on it can never exceed 20. It must meet once every term and, extraordinarily, whenever the respective president wishes or at the request of a third of its members or the President of the Executive Council/Head teacher. Among the nationally defined duties of this management body are: the approval, monitoring and evaluation of the educational project and its respective implementation, the approval of 	<ul style="list-style-type: none"> – “The Executive is the body of administration and management in all of the working areas of the School or the School Grouping. If set out in the internal regulations, the Executive has the option of being a collegiate body, in the shape of executive council or a uninominal body, in the shape of a head teacher. The head teacher option was chosen by so few schools that, on a national level, the phenomenon is statistically irrelevant. The number of representatives that make up the Executive can vary depending on the breadth of educational provision afforded by the School or School Grouping, in terms of the cycles and levels of teaching. Normally, this body, in its collegiate form, is made up of one president and two vice-presidents” (p. 23).

		<p>the internal regulations and the issue of an opinion on the activity plan, definition of the budget guidelines and the issue of an opinion on the report and accounts of annual management, appreciation of the results of the internal evaluation of the School or the School Grouping and the promotion of the relationships with the surrounding community” (p.23).</p> <p>–</p>	
<p>Function and Mandate the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment</p>	<p>– “Apart from internal assessment, which is undertaken by the class teacher in conjunction with the teachers council in the case of the 1st cycle of Compulsory Education, and by the class council under teacher proposal in the 2nd and 3rd cycles of Compulsory Education and Upper-Secondary Education, there is external assessment which consists of the taking of exams on a national level for certain subjects that are considered to be more core to the respective curriculum plans. Exams are organised by the central services of the Ministry of Education on dates that are stipulated annually. The final classification is a combination of the results of internal assessment and exams” (p. 28)</p>	<p>– “As a result of the decentralisation of central government local authorities have been granted powers to finance education in the following areas: meeting the cost of constructing and maintaining facilities, the running costs of nursery and First Cycle compulsory education schools, along with costs relating to school transport and sporting and extracurricular activities” (p. 19).</p> <p>– “The duties of the Executive include: the drawing up and submission of proposals for the internal regulations and proposal for contracts of autonomy for the appreciation and approval of the School Assembly/School Grouping, draw up and approve the</p>	<p>– “Curriculum plans, as well as syllabus content, the respective learning objectives and timetables are defined on a national level with certain guidance given for the distribution of teaching and the organisation of the teaching timetable. In the area of management units autonomy the criteria for the realisation of these duties are the responsibility of the Pedagogical Councils” (p. 27).</p>

– “One of the ways that the work and performance of school leaders is assessed is through elections in the case of those seeking re-election and a new mandate” (p. 30).

annual activity plan and write periodic and final reports for them, define the working regime of the School/School Grouping, draw up the budget project, perform pedagogical and administrative management, taking into account the principles defined by the Pedagogical Council, in the following areas: creation of classes, drawing up timetables, distribution of teaching and non-teaching services implementation of activities in the field of social school action and protocols with other schools, particularly in the training field.” (p. 23)

– “The Pedagogical Council is the body that provides the coordination and educational guidance for the Management Unit. How it is made up is defined in the internal regulations based on certain nationally-defined conditions and criteria. It cannot have more than 20 members and has to include representatives from guidance and educational support services, from parent and guardian associations, from the upper-secondary student body, from non-teaching staff and those involved in educational development projects. By inference the President of the Executive Council is a member of this body. The duties of the

		<p>Pedagogical Council include: drawing up the proposal for the school education project, presenting proposals for annual activity plan and giving an opinion on the respective project, giving an opinion on proposals for the internal regulations and the celebration of contracts of autonomy, drawing up training plans and updating teaching and non-teaching staff, in coordination with the respective school association training centre, and monitoring its implementation, defining the general criteria in the fields of information and school and career guidance, pedagogical assistance and student assessment, submitting proposals, defining general criteria for the organisation of timetables, adoption of schoolbooks, contracting teaching staff, management and curriculum development, special types of school education and pedagogical innovation” (p. 24).</p> <ul style="list-style-type: none">- “The Administrative Council is the decision-making body in the administrative-financial field and is made up of the President of the Executive Council/Head teacher, who presides, the head of school administration services and by one of the Vice-Presidents of the Executive Council/Head teacher”s	
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		<p>Assistant. Its duties are: to approve the annual budget project, draw up the report on management accounts, authorise expenditure and respective payment, check the payment of income and verify the legality of financial management and ensure the inventory of all assets is kept up to date” (p. 24).</p> <p>– “The Establishment Coordinator is a member of the permanent teaching staff and is responsible for the coordination of each teaching establishment that is part of the school grouping. This position does not exist in the establishment that is the headquarters of the grouping, or in those establishments that have fewer than three teachers. It is the responsibility of the Establishment Coordinator to: coordinate the establishment’s educational activities in conjunction with the Executive, implement and ensure implementation of the decisions taken by the executive and perform the duties delegated to it, transmit information in relation to teaching and non-teaching staff and students, promote and encourage the participation of parents and guardian, local agents and authority in educational activities.” (p. 24)</p>	
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<p>Monitoring/Accountability monitoring and accountability rules accompanying decentralization reforms</p>	<ul style="list-style-type: none"> - “The General Inspectorate for Education (IGE) provides an autonomous audit of the education system, with the prime purpose of guaranteeing quality and protecting the interests of all stakeholders. It carries out technical, pedagogical, administrative, financial and property audits with regards to legal requirements, procedural efficiency, quality of service, achievement of objectives and results and efficient use of resources” (p. 14). - 		<ul style="list-style-type: none"> - “Although the attributed levels of control are relatively rudimentary in relation to the planning and management of the curriculum and syllabus, selection, recruitment and evaluation of teaching staff, autonomy and financial management, the lack of accountability mechanisms seems to be accepted overall and considered normal by the various educational players. However, the current trend is towards the consolidation of a culture of evaluation and accountability that has translated into the evaluation of teachers, non-teaching staff and school leaders in relation to the objectives that need to be achieved.” (p. 25).
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Slovenia

Category	Ranking		
	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels where the shift of power will be occurring.	<ul style="list-style-type: none"> – “One of the priorities in the Ministry of Education and Sport is also to give schools more autonomy. In order to promote it some regulations will cease to be defined by the Ministry and will be given into schools’ own jurisdiction. Some examples: rules defining disciplinary behaviours, rules related to students’ rights and responsibilities, etc. Appointment of head teachers has also been changed. It is not anymore required that the Minister approves the appointment; he/she can only send his/her opinion about the candidate to the school council” (p. 38). 	<ul style="list-style-type: none"> – “The municipalities are founders of public elementary schools. The salaries and material costs are allocated from the state budget while the maintenance and above standard expenses are covered by the municipalities” (p. 24). – 	<ul style="list-style-type: none"> –
Empowered Actors Which actor groups are to be empowered by the decentralization?”	<ul style="list-style-type: none"> – “Head teacher is fully responsible for the leadership of a school. He/she is responsible for legal issues and has to implement tasks and duties that are adopted by the School Council. Annual school plan embraces the curriculum implementation, financial issues, enrolment policy and elective part of the program” (p. 28). 	<ul style="list-style-type: none"> – “The systemisation of posts for a school is on the basis of Head teacher’s proposal adopted by Ministry of Education and Sport. The work of schools is monitored by School Inspection and other inspections. School Council is the highest level in school governance. Its composition is defined by the Organization and 	<ul style="list-style-type: none"> – “Over last years, the role of head teachers has becoming more managerial and less devoted to instructional leadership. The tensions have not been resolved at the national level and are left to head teachers” (p. 29).

		<p>Financing of Education Act. It consists of three parts: 3 parents' representatives, 3 teachers' representative and 3 representatives from the local community (for elementary schools) or 2 representatives of a founder and 1 representative of local community for upper secondary schools. This composition was defined in 2006 and aims at equal representation of all stakeholders" (p. 28).</p> <ul style="list-style-type: none"> - "School Council decides about complaints of employees or parents. Head teacher must implement all resolutions agreed by School Council that are in accordance with the legislation." (p. 28) 	
<p>Function and Mandate the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment</p>	<ul style="list-style-type: none"> - "In Slovenia, elementary schools (which provide basic, compulsory education) are led by Head teachers who besides exercising pedagogical leadership also manage the schools. Head teachers (or directors in case of upper secondary school centres) are autonomous in: <ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> The selection of staff <input type="checkbox"/> <input type="checkbox"/> Allocation of resources for material costs <input type="checkbox"/> <input type="checkbox"/> Buying the equipment for school <input type="checkbox"/> <input type="checkbox"/> Designing the content of elective part of the program 	<ul style="list-style-type: none"> - "Enrolment to elementary school is based on catchment areas, geographically assigned zones from which schools draw their student population" (p. 27). 	<ul style="list-style-type: none"> - "Funds earmarked for salaries, the portion of funds for indirect labour-related costs and the portion of funds earmarked for investments in the sphere of basic education are provided by the state in the central government budget. Municipalities therefore have no competencies in the sphere of employment. The rules of job classification, which determine the number and type of posts in a school, and each new placement, are subject to approval

	<ul style="list-style-type: none"> □□ Designing the program that is above the standard □□ Organisation of school work □□ Ensuring the quality of educational processes □□ Cooperation with the environment” (p. 22). <ul style="list-style-type: none"> – “The timetable, allocation of instruction time to teachers is head teachers' duty. The Minister defines the school year in the school calendar. The timetable is designed by the head teacher or he/she can authorize a person to design the timetable which has to b in accordance with legally defined maximum weekly workload for students and teachers” (p.25). – “School leaders allocate instruction time among teachers (they try to find the best solutions for teachers and for schools), organise timetable (or delegate it to someone within school, usually to their deputies), organise examinations, organise extracurricular activities (or delegate it to someone within school) and ensure that subject teams provide annual teaching plans based on national guidelines” (p. 33). 		<p>by the minister for education and sports” (p. 17).</p> <ul style="list-style-type: none"> – “In general, curriculum is rather prescribed so that teachers and head teachers do not have much influence on number of hours for individual subjects, number of students' instructional time, etc. This does not differ very much between different parts of the system or between different sectors” (p. 33).
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<p>Rights and Responsibilities the types of decisions that are allowed to be made, meaning whether the decisions are final and binding versus consultative or advisory</p>	<ul style="list-style-type: none"> - “Head teachers as school leaders autonomously lead schools on the basis of duties and competencies/authority that the state defined through various Acts and Rules. The most important legal documents are Institutes Act and Organisation and Financing of Education Act. Beside, the school governance is defined and operationalised through many Rules. The teaching/pedagogical workload is normatively defined by the Act” (p. 22). - “Head teachers play the major role in defining school policy of professional development because they are responsible for organisation of teachers' work (supply teachers when teachers participate in training during working days) and for allocating the budget for teacher training” (p. 36). 	<ul style="list-style-type: none"> - “National Curriculum is mainly defined at the state level and approved by professional council for general, professional education or council for adult education. Schools are flexible and therefore different in the area of elective subjects and streams” (p.25). - “A head teacher develop such plans in agreement with teachers and in accordance with national priorities (i.e. matura, changes in curriculum) but the policy of professional development is mainly dependent on individual schools and so is need identification. Therefore, tensions may exist in individual schools and/or at individual teachers' level” (p. 35). 	
<p>Monitoring/Accountability monitoring and accountability rules accompanying decentralization reforms</p>	<ul style="list-style-type: none"> - “The issues of accountability and social equity are expressed through introduction of external examinations (external exam at the end of elementary school and matura at the end of secondary general and technical professional school) and related to enrolment in higher levels 	<ul style="list-style-type: none"> - “Generally speaking, there is a balance between Head teachers’ autonomy and transparency and accountability, although the autonomy is well framed by the legal framework. Through the plans and 	<ul style="list-style-type: none"> -

	<p>of education. The results of external examinations and matura serve as a selection criterion in oversubscribed schools. The Head teacher is hold accountable for results by the School Council” (p. 23).</p> <ul style="list-style-type: none"> - “According to Article 48 of Organisation and Financing of Education Act the school council adopts school annual plan and the report about its realisation. As a consequence, the head teachers are accountable to the school councils. They are also accountable to the school councils for developing and reporting about financial operations in schools. In practice some schools must present school plans and reports to local communities and to regional units of Board of Education but this depends on the environment. Different evidence is provided, such as: students' academic achievement, number of rewards and sanctions, pupils'/students' presence rate, number of in serdeputy training for teaching staff, etc. Financial report is provided in accordance with national regulations. From 2006 the Regulation on criteria for assessing head teachers’ performance has been enforced” (p. 32). 	<p>reports submitted to the School Council the requirement for transparency is met. So far, it is difficult to claim that head teachers are held accountable for student performance” (p. 29).</p>	
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Spain

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels where the shift of power will be occurring.			<ul style="list-style-type: none"> – “The actions of the school leadership are largely determined by legislative development. The reports from Eurydice, the education indicators and the national and international evaluations, as well as numerous studies, have shown that school autonomy in Spain is one of the lowest among OECD countries” (p.38). – “The responsibility of head teachers in Spanish schools only comes close to that of their colleagues in the OECD in the area of budget, although it is not equal. In the area of organisation and pedagogical autonomy they have much less responsibility. In appointing teachers and, especially, in remuneration issues, our head teachers have a very limited degree of autonomy. The

			correlation of this index with student performance is higher in the OECD where there is a greater degree of autonomy. “ (p. 42).
Empowered Actors Which actor groups are to be empowered by the decentralization?”	<ul style="list-style-type: none"> – “School leaders may have considerable influence in the context of their schools, bearing in mind they have autonomy to develop the curriculum and their leadership is recognised as they were elected on the basis of a defined action programme. They can thus contribute to change by undertaking and promoting reviews of the curriculum, modifying teaching methods, developing new approaches on the use of materials and promoting different ways of evaluating students” learning. They can also have an influence on teachers” job satisfaction and on getting them to adopt and use innovative working practices” (p. 7). 		<ul style="list-style-type: none"> – “The ongoing development of school autonomy has progressed on curricular issues and now wants to promote organisational autonomy. From this perspective, it seems schools might receive greater means in the distribution of economic resources and personnel. These options provide new opportunities, but the authority to take part in the teacher selection processes or in the student admissions is very limited” (p. 41). –
Function and Mandate the functions that are being decentralized (i.e., curriculum, personnel, finance, assessment	<ul style="list-style-type: none"> – “The distribution of leadership tasks within schools is normally as follows: the head of studies focuses on the academic processes, organisation and 		<ul style="list-style-type: none"> – “School leaders are not directly involved in the professional development of teachers as they do not take part in the selection process,

	<p>disciplinary matters, the school administrator on the administrative and financial processes and the head teacher on institutional and external relations and on the coordination of the leadership team” (p.7).</p> <p>– “As a result of the current reality of the education system, schools and school leaders are expected to:</p> <ul style="list-style-type: none"> □ Develop programmes which facilitate a seamless transition between schools as well as stages of education. □ Delimit and develop organisational specifics depending on whether the schools and the teachers belong to the general or to the special system of education. □□Undertake and promote the European demands and the educational objectives established. □ Develop intercultural education programmes, attending to the needs of diversity and the development of values. □ Develop proposals for their own schools, where appropriate, which incorporate the general identifiers and the particularities of the context”(p. 6-7) 		<p>the training system or in promoting teachers. Some autonomous communities consult school leaders when they have to establish training plans for teachers or promote specific training plans for schools” (p. 48).</p>
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Rights and Responsibilities the types of decisions that are allowed to be made, meaning whether the decisions are final and binding versus consultative or advisory		<ul style="list-style-type: none"> – “The Organic Law on Education establishes as one of its main principles the "autonomy to establish and to adapt the organizational and curricular performances" within the framework of its competences (art. 1 i). This pedagogic autonomy (art. 120) is materialized in the ability of schools to elaborate and develop their educational project (art. 1219) and in a reinforcement of the leadership of the managerial team, to whom its development is entrusted (art. 132.c)” (p. 49). 	
Monitoring/Accountability monitoring and accountability rules accompanying decentralization reforms	<ul style="list-style-type: none"> – “The last legislation passed (LOE) has increased the interest of schools in improving the school results and other variables of quality. Thus, some of them take part in programmes designed to promote in-school evaluation, homogenise studies and education processes, create and develop plans for quality and drive learning improvement projects. (p. 7) 	<ul style="list-style-type: none"> – “The reality in Spain is that there is no tradition or practical experience in school accountability, which countries in northern Europe would recognise as such. It should be mentioned, however, that schools are obliged to prepare the annual general plan for the school, which is evaluated and approved by the school council, comprising the leadership team, teachers, 	

	<ul style="list-style-type: none"> - “Besides external evaluation, schools usually produce an annual report of activities linked to the Annual General Plan which shows the results of the evaluation processes carried out as planned. Only some autonomous communities promote periodic evaluation programmes that are accompanied by improvement plans 	<p>parents, administrative staff, students and a representative of the town council. This governance body is also competent to analyse and evaluate the general running of the school, the improvements in school performance and the results of the internal and external evaluations in which the school takes part” (p. 8).</p> <ul style="list-style-type: none"> - “The incorporation of regular, external school evaluations is relatively recent. On certain occasions, the inspectorate has carried out evaluations of samples of schools (for example, the EVA Plan). Likewise, the Institute of Evaluation has been carrying out studies and evaluations in primary and secondary schools on curricular programmes and school performance since 1995. It has also taken part in international programmes (for example, PISA and TIMSS)” (p. 43). 	
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Sweden

Ranking			
Category	Evidence of "Moving"	Evidence of "Strolling"	Evidence of "Sinking"
Administrative Levels	<ul style="list-style-type: none"> – “The government has retained overall responsibility in defining the national objectives and guidelines of education and curriculum, and the municipalities have freedom to determine how they want to accomplish this” (p. 6). 		
Empowered Actors	<ul style="list-style-type: none"> – “The principal has overall responsibility for translating national and local objectives into concrete teaching objectives” (p. 18). – “Teachers have a high degree of autonomy for the selection of teaching methods and for student assessment” (p. 18). – “In a Swedish compulsory school there is also a committee in which the school leaders regularly meet representatives of the teachers, the parents and the students. In this committee the principal has to inform the different parties and discuss with them about issues that are important to them, like changes of the structure of the geographical borders of the school management area, about the budget of the school, about the overall time planning of the school year, issues of bullying etc.. In some compulsory schools this committee is used as a real decision-making body, in 		

	<p>some other compulsory schools it is only a formal meeting where information is given” (p. 18).</p> <ul style="list-style-type: none"> - “In compulsory schools students are by law guaranteed influence in the school. Teachers are requested to involve their students in the planning of the education flow and school leaders are expected to involve the students in the decision-making process at the school” (p. 19). 		
Function and Mandate	<ul style="list-style-type: none"> - The principal has the overall responsibility for what is going on at the school. The organisation as a whole shall be ordered in such a way that it works in such a direction that the national goals and aims are fulfilled. There are in the curriculum even more detailed instructions concerning the students working conditions, for example that the principal has to supervise that teachers support the students, that teaching materials of good quality is chosen, that coordination of teaching occurs, that the students health care works, that bullying is fought, that cooperation with parents works and so on” (p. 17). - “Principals are responsible for the development of their school, the students’ results and the school’s success in achieving its goals, as well as for ensuring the quality of the teaching provided. The principal’s role includes responsibility for financial management, personnel management, the work organisation, environment, educational development 	<ul style="list-style-type: none"> - “Decisions concerning curricula are decided by the government. Syllabuses are laid out for different subjects and decisions concerning these matters are taken by The National Agency for Education. One important aim of these national steering documents is to bring out a good and equivalent education in all Swedish schools” (p. 24). - “Although Sweden has a highly decentralised structure of its schools, where responsibility for the buildings, the learning materials, the appointment of teachers and school leaders, the food services, transports, the health services, the socio-psychological support, the planning of time, the use of money all are placed at the municipality and school level, the responsibility for the selection of content of school 	

	<p>and quality improvement” (p. 18).</p> <ul style="list-style-type: none"> – “The principal selects the teachers to work at the school (in response to open advertisements) and is able to negotiate individual employment and salary conditions within the limits set by local and national collective bargaining arrangements” (p. 18). 	<p>work still remains at the national level. The syllabuses for the different subjects that are taught at school are developed by The National Agency for Education. For the compulsory school the government decides on the curriculum of the different subjects. For the upper secondary school The National Agency for Education makes these decisions. The school leaders in Sweden do not have any role in the curriculum development at the national level” (p. 27).</p>	
Rights and Responsibilities	<p>“The principal gets directives from both the state level - laws and other national steering documents intentions are to develop an equivalent Swedish school - and from the local level. The local steering documents consist for example of instructions about how to handle budget and economy, routines for information, different kind of policy-programmes which are valid for all activities run by the municipality. As principal you can choose whether you would like to spend some of your working time teaching classes or not. Most principals do not use this possibility mainly because of all meetings inside and outside school that they have to participate in. They have problems to set a regular time with classes every week and they do not want to disfavour their students.” (p. 17).</p> <ul style="list-style-type: none"> – “The main role of the school leaders is to stimulate learning among both teachers 	<ul style="list-style-type: none"> – “Within the objectives and framework established by Government and Parliament, the individual municipality may determine how its schools are to be run. A local school plan describing the funding, organization, development and evaluation of school activities shall be adopted. Using the approved curriculum, national objectives and the local school plan, the principal of each school draws up a local work plan. This shall be done in consultation with the schools teachers and other personnel” (p. 7). 	

and students. The school leaders expect the teachers to test different teaching and learning methods so that the learning results of the student can be improved. It is the responsibility of the school leader to organise evaluation at the school. School leaders have to supervise the assessment that the teachers do of the quality of knowledge among the students. School leaders are not expected to prescribe working methods which shall be used at the school. They are expected to inform others about the quality of the school, both about learning results and about what variation of teaching that exists there. School leaders are also expected to propose improvement activities among the teachers, such as what they need to read and use for reflections so that they can make the learning better among the students” (p. 25).

- “School leaders in the Swedish schools are also responsible for the quality of the student care services. They therefore meet different ideas in their education on how it is possible to organise the student care work in the school and how they can approach different specialities in other parts of the Swedish municipality to be able to solve problems that turn up at their school” (p. 41).

Monitoring/Accountability	<ul style="list-style-type: none"> - “In some subjects of the compulsory school – Swedish, Mathematics and English – there are national tests in school year 5 and 9. In school year 5 the tests are optional but in school year 9 they are compulsory” (p. 24). - “School leaders are continuously evaluated by the director of education of the municipality or by the school board if they work at a free standing school” (p. 35). 	<ul style="list-style-type: none"> - “The quality of local evaluations is highly varied. In some schools a team of teachers and some parents go together and make a small study of the work in the school. The evaluation team may base their written document on interviews that have been held with different people at the school, teachers as well as students. In other schools the base of the evaluation may be questionnaire data, collected among parents, students and teachers. There are no standardized ways of making these local evaluations. Although there are many ways to do it, in some schools there are no local evaluation done at all” (p. 23). 	<ul style="list-style-type: none"> - “Although many municipalities try to keep the evaluation results inside its schools, the comparisons between schools have become more fact based than before. Some of the schools become more proud of themselves than before. Some of them are of course perceived as not as good as the others. Even if this hurts the teachers and school leaders of these schools, it seems as if these schools usually react on the bad results as a challenge. They are stimulated to improve themselves and they are eager to show other schools that the results were only something temporary” (p. 24)
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