Exploring principal capacity to lead reform of teaching and learning quality in Thailand☆

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ABSTRACT

In 1999 Thailand passed an ambitious national educational law that paved the way for major reforms in teaching, learning and school management. Despite the ambitious vision of reform embedded in this law, recent studies suggest that implementation progress has been slow, uneven, and lacking deep penetration onto classrooms. Carried out ten years after the launch of the reform law, the current research sought to expand on these earlier studies by examining the capacity of Thailand's principals to lead reforms in teaching and learning. The study developed a national profile of principal instructional leadership using a Thai Form of the *Principal Instructional Management Rating Scale* (Hallinger, 1994). The overall profile of 1195 primary and secondary school principals suggested a moderate level of engagement in two dimensions (*Creating a School Mission* and *Developing a Positive School Learning Climate*) and a lower level of activity on the dimension, *Managing the Instructional Program*. The results provide preliminary evidence which suggests that a more systematic human resource strategy is needed in order to ensure that Thailand's key school leaders have the knowledge, skills and motivation needed to support changes in teaching and learning envisioned in the nation's education reforms.

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The 1990s were a decade of active education reform throughout much of the world (Carnoy, 2003; Hanushek and Woessmann, 2007). This was also the case in East Asia where national governments were intent on increasing economic competitiveness by enhancing the quality of education (Cheng, 1999; Hanushek and Woessmann, 2007; Mok, 2006; Psacharaopoulos and Patrinos, 2002). Thailand's passage of a *National Education Act* in 1999 offers a prime example of both the rationale and nature of recent education reforms adopted in this region of the world.

The economic crisis of 1997 had highlighted gaps in the capacity of Thailand's education system to produce citizens capable of meeting the challenges of globalization. Policy commentary from this period reflects this perspective.

Mr. Amaret Sila-on and NEC [National Education Commission] Secretary-General Rung Kaewdang were in complete agreement that Thailand's decline in global competitiveness was mainly due to poor quality of education and graft. The IMD's (International Institute for Management Development) study said Thailand's education system did not live up to global economic challenges compared to that of Singapore. (Bangkok Post, 1998, p. 3)

The *National Education Act* provided a new legal framework for education in Thailand (Kaewdang, 1998; ONEC, 1999). It sought simultaneously to restructure the education system and reshape the modal teaching and learning methods employed by schools in order to produce more active, capable, and independent learners (Fry, 2002; Kaewdang, 1998; ONEC, 1999; Thongthew, 1999). This visionary legislation represented a transformational change that would challenge the capacity of the nation's educators over the next decade (Barron-Gutty and Chupradit, 2009; Gamage and Sooksomchitra, 2004; Hallinger, 2004; Hallinger and Lee, 2011). This was noted by the Secretary General of Thailand's Office of Basic Education Commission (OBEC) 10 years after passage of the *National Education Act*:

The reforms undertaken at the national level cannot be accomplished without active involvement and leadership from our school principals. Without skillful leadership and active support from the principal, how can teachers hope to make these changes in curriculum and teaching? But our principals need motivation as well as more skills to lead these changes in their schools. (Varavarn, 2008)

Although implementation of these reforms called for more active instructional leadership from Thailand's principals, they had neither been selected, trained nor socialized with this focus in mind (Gamage and Sooksomchitra, 2004; Hallinger, 2004). This sets the context for the present study which examined the instructional leadership capacity of Thailand's school principals during this decade of education reform. The research sought to assess the extent to which the instructional leadership capacity of Thai principals has met the requirements of education reform policies related to change in teaching and learning. In order to address this broad goal, the report is organized around the following research questions.

1. What is the overall pattern of instructional leadership exercised by Thailand's principals?
2. Are there differences in the pattern of instructional leadership exercised by Thailand's principals at different school levels?
3. Are there differences in the pattern of instructional leadership exercised by Thailand's principals across its four main geographic regions?
4. To what extent do the patterns of instructional leadership practice reported by Thailand's principals match the requirements of the nation's education reform policies related to change in teaching and learning?

In order to address these questions, we surveyed a national sample of 1195 school principals from all regions of Thailand. Using a short form of the *PIMRS-Thai Form* (Hallinger, 1982/1994), we obtained self-report perceptions from the principals on three dimensions of instructional leadership: *Creating a School Mission*, *Managing the Instructional Program* and *Developing a Positive School Learning Climate*. Our analysis first sought to develop an 'instructional leadership profile' of Thailand's principals, and then to examine the results in light of the capabilities required to support change in teaching and learning in Thailand's schools.

This study complements an earlier mixed methods study in which we analyzed principals' perceptions of nation-wide progress in implementing key education reforms arising from passage of the *National Education Act* in 1999 (Hallinger and Lee, 2011). The earlier study concluded that reform implementation had been slow, uneven and yet to impact substantially the teaching and learning process in a majority of the nation's classrooms. The current study focuses more specifically on analyzing the capacity of Thailand's principals to provide the pedagogical leadership needed to transform Thailand's classrooms in line with vision embedded in the *National Education Act*. This research also responds to the need voiced by scholars for stronger empirical data on educational leadership and management from non-Western contexts (e.g., Cheng, 1995; Hallinger and Leithwood, 1996; Walker and Dimmock, 2002).

1. Global and 'local' perspectives on instructional leadership

In this section of the paper we discuss instructional leadership from both international and Thai perspectives. First we review the evolution of instructional leadership from a largely North American construct into a phenomenon of global interest and relevance. This includes a presentation of the conceptual framework underlying the instrument employed in this study. In the second section, we situate our discussion of instructional leadership in the current policy context of Thailand.

1.1. Evolution of instructional leadership in research and practice

During the first half of the 20th century, practical wisdom shared by principals, school superintendents, teachers and parents in the United States conveyed the belief that 'good schools have good principals'. Perhaps the definitive expression of this belief was captured by Lipham (1961) in a book, aptly titled, *Effective Principal, Effective School*.

> In summarizing findings on the principal's role in the school, this monograph assumes that the principal is a pivotal figure in the school and is the one who most affects the quality of teacher performance and student achievement. The author concludes that the studies reviewed demonstrate that the principal is a key factor in the success of the school. (Lipham, 1961, p. 3)

Despite this conclusion, Lipham (1961) also acknowledged that the 'studies' which he reviewed consisted largely of opinion surveys and case studies as opposed to more broad-based, 'scientific' empirical inquiry. Several years later, Edwin Bridges captured the continuing tension that pervaded expositions about instructional leadership during this period.

> Of the seven major task areas for which principals have responsibility, curriculum and instruction has generated the most sound and fury. On the one hand, the principal has been exhorted to exert instructional leadership, while on the other hand, he has been told flatly that such a role is beyond his or any other human being's capacity. The problem with these disputations is that the exponents of a given position have neither defined sharply what is signified by the concept of instructional leadership nor made their assumptions explicit. (Bridges, 1967, p. 136)

The next significant point in the historical evolution of this construct appeared with the advent of the 'effective schools era' in the early 1980s (Edmonds, 1979). Ron Edmonds and others identified 'strong instructional leadership by the principal' as a hallmark of unusually effective, urban elementary schools in the United States. Building on the effective schools research as well as other empirical studies of school leadership, in 1982 Steven Bossert and his colleagues (Bossert et al., 1982) published a seminal literature review. They proposed an 'instructional management' framework that subsequently became a valuable lens used by other scholars for conceptualizing and studying the relationship between leadership and learning (e.g., Hallinger and Heck, 1996; Leithwood, 2005; Robinson, 2006).

Other scholars were also engaged in the concurrent development of conceptual frameworks and research instruments that focused explicitly on instructional leadership (e.g., Blase and Blase, 2000; Hallinger and Murphy, 1985; Heck et al., 1990; Leithwood et al., 1990; van de Grift, 1990; Villanova et al., 1981). For example, in one widely disseminated conceptual framework, Hallinger and Murphy (1985) proposed three dimensions as comprising the instructional leadership role of the principal: *Defining the School's Mission*, *Managing the Instructional Program*, and *Promoting a Positive School Learning Climate* (see Fig. 1). They further delineated these three dimensions into 10 specific instructional leadership functions.

Two functions, Framing the School's Goals and Communicating the School's Goals, comprise the first of the three dimensions, *Defining the School's Mission*. These concern the principal's role in working with staff to ensure that the school has a clear mission and that the mission is focused on academic progress of its students. Note that this dimension does not assume that the principal defines the school's mission alone. Instead, it proposes that the principal is responsible for ensuring that such a mission exists, for communicating it widely to staff, and ensuring that there is a shared purpose underlying staff efforts to improve teaching and learning.

The second dimension is *Managing the Instructional Program*. This incorporates three leadership functions: Supervising and
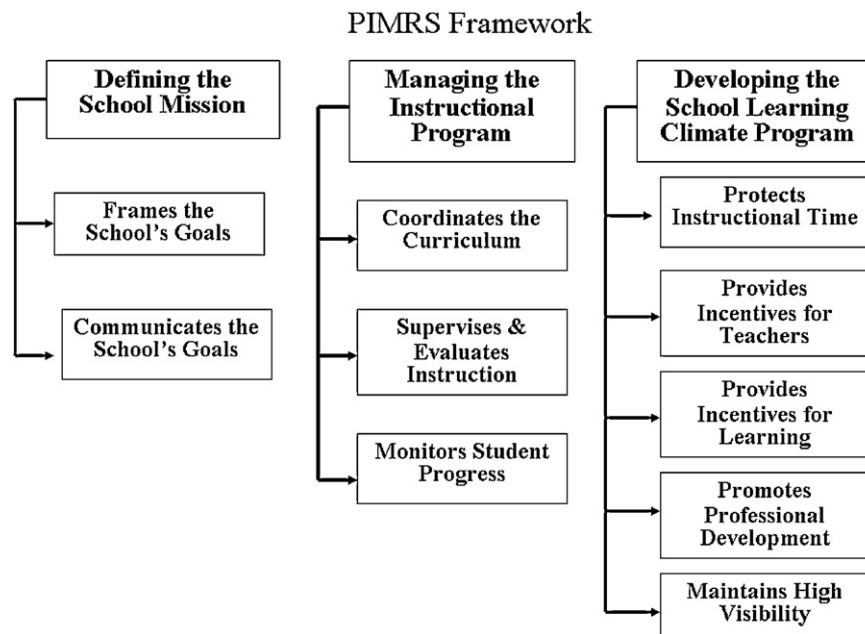
PIMRS Framework

Fig. 1. PIMRS Conceptual Framework.

Evaluating Instruction, Coordinating the Curriculum, Monitoring Student Progress. This dimension focuses on the role of the principal in "managing the technical core" or what others have referred to as first-order changes in the school (Cuban, 1988). Again, it is proposed that the principal oversees this function, but is not the only person involved in monitoring and developing the school's instructional program.

The third dimension, *Promoting a Positive School Learning Climate* includes several functions: Protecting Instructional Time, Promoting Teacher Professional Development, Maintaining High Visibility, Providing Incentives for Teachers, and Providing Incentives for Learning. This dimension is broader in scope and intent than the second dimension and overlaps with dimensions associated with transformational leadership (Hallinger, 2005, 2011a, 2011b; Leithwood and Jantzi, 2000). It conforms to the notion that successful schools create an "academic press" through the development of high standards and expectations, and a culture that supports and rewards continuous learning and improvement (Bossert et al., 1982; Hallinger and Murphy, 1985).

The development and dissemination of research-based frameworks and tools subsequently facilitated a new generation of empirical research on principal instructional leadership (Hallinger, 2011a, 2011b; Hallinger and Heck, 1996; Murphy and Hallinger, 1992). This signaled the gradual evolution of instructional leadership from an artifact of practical wisdom into a research-based construct. Findings from these and other studies highlighted the potential of this construct for contributing to the profession's understanding of how principal leadership contributes to student learning (Hallinger, 2011a, 2011b; Hallinger and Heck, 1996; Marks and Printy, 2003; Robinson, 2006). Thus, fifteen years after publication of the Bossert framework, Hallinger and Heck (1996) observed that instructional leadership had become the most prevalent perspective adopted by researchers engaged in the study of school leadership in North America. Thirty years later Hallinger (2011a) identified more than 135 doctoral dissertations alone that had engaged in the empirical study of the principal's instructional leadership role.

We emphasize that prior to the turn of the millennium interest in instructional leadership was a largely North American phenomenon (Blase and Blase, 2000; Hallinger, 2011b; Murphy and Hallinger, 1992).[1] It is only in the past decade that the terms 'instructional leadership' and 'leadership for learning' have gradually gained broader international currency. This was evident in publications that began to appear in the UK (e.g., Bell et al., 2003; MacBeath and Cheng, 2008; Southworth, 2002), continental Europe (Krüger et al., 2007; Witziers et al., 2003), and Australia/New Zealand (Mulford and Silins, 2003; Robinson, 2006) after the turn of the millennium. This reflected a growing global interest in understanding the ways in which school leaders contribute to school improvement and student learning (Hallinger, 2005, 2011b; Leithwood, 2005; Marks and Printy, 2003; Robinson, 2006). Thus, we conclude that 50 years after publication of *Effective Principal, Effective School* (Lipham, 1961), instructional leadership has gained increasing global acceptance both as a normative expectation in the principalship and as a construct in research on educational leadership and management.

1.2. Instructional leadership in Thailand

Larry Cuban (1988) earlier proposed that school principals must fulfill three key leadership roles: political, managerial and instructional. Cuban observed that although normative rhetoric in the profession in the USA tended to elevate the instructional role of principals above others (e.g., Bridges, 1967; Lipham, 1961), descriptions of principal practice supported the view that successful principals maintain a balance among all three roles (e.g., Dwyer et al., 1983). Cuban even went so far to assert that that there is a *DNA* in the principalship that presses occupants towards the political and managerial roles, and away from the instructional role. Although Cuban's analysis was explicitly oriented to the American principalship, it provides a relevant frame for our exploration of instructional leadership in Thailand.

Thailand's education system has traditionally given the greatest weight to the managerial and political dimensions of the principal's role (Gamage and Sooksomchitra, 2004; Hallinger, 2004; Hallinger et al., 1994; Ratchaneeladdajit, 1997; Sumetapan, 1988; Wongtrakool, 1995). Thai principals are civil servants who

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[1] Van de Grift's (1990) research in the Netherlands was a notable exception to this trend.

function as line managers within the hierarchy of a highly centralized, national system of education (Taraseina, 1993). Ministry of Education officials have historically viewed the principal as a locally situated guardian of the nation's education policies as well as its cultural values (Hallinger, 2004; Kaewkertfa, 1990; National Identity Office, 1991; Taraseina, 1993). Thus, principals have traditionally been cast as implementers of government policy, rather than as initiators, innovators, or leaders (Fry, 2002; Hallinger, 2004; Hallinger and Kantamara, 2001; Hallinger and Lee, 2011; Ratchaneeladdajit, 1997; Sumetapan, 1988; Taraseina, 1993). Moreover, we note that in contrast with the USA, Thai education has never featured a normative tradition of instructional leadership, even in professional rhetoric (Kaewkertfa, 1990; Hallinger, 2004; Hallinger et al., 1994; Poovatanikul, 1993; Ratchaneeladdajit, 1997; Taraseina, 1993).

We wish to suggest that in Thailand, and some other East Asian countries (e.g., Malaysia, Vietnam, China), the identity of principals as government officers represents a critically important 'genetic strand' in the *DNA* shaping their behavior towards the managerial and political roles (Hallinger, 2004; Hallinger and Kantamara, 2001; Kaewkertfa, 1990; Lohwithee, 2010; Maxcy et al., 2010). This is consistent with findings from a recent international comparative study of principal time allocation undertaken by the authors. This study found that principals in less economically developed countries tend to spend less time on management of curriculum and instruction and more time on organization and management roles. This trend was further accentuated if the national culture gave greater emphasis to status differentiation in social relations, as is the case in Thailand (Lee and Hallinger, in press).

The relative role emphases noted above have been reflected in the Ministry of Education's formal training requirements for principals. Starting in the early 1980s, incoming principals were required to participate in formal preparation and training programs. These programs were offered through a central training organization, the Institute for the Development of Educational Administrators (IDEA), which operates as a unit of the Ministry of Education (IDEA, 1992/2007).

Consistent with government policy, the curriculum offered by the IDEA to incoming school administrators has over the course of the ensuing years focused primarily on disseminating knowledge of government policies and procedures. Focus on the capacities needed to lead learning and school improvement has been sporadic and generally limited to one-off project-related work-shops. There is no comprehensive curriculum or conceptual framework linking training and development to school improve-ment. In sum, few, if any of the training programs broadly offered to Thai principals would meet the design requirements needed for putting knowledge into practice (e.g., needs assess-ment, identification of relevant content, goal-setting, training, coaching, follow-up).

This was the policy context that shaped the role of Thai principals prior to the passage of the *National Education Act* in 1999. As noted earlier, this legislation focused explicitly on reshaping the modal methods of teaching and learning employed in Thai schools. The following quote from a former Minister of Education offers insight into the thinking that lay behind the reform act.

> [S]tudents should not be blamed for poor academic perfor-mance. The fault lay instead with the learning process… [S]chools and parents should… create a learning atmosphere to encourage students to think analytically. Schools spend too much time teaching by rote and doing multiple choice tests. (Dr. Sippanondha Ketudat, quoted by Bunnag, 1997, p. 2)

The *National Education Act* set ambitious educational goals and provided a new legal framework for education in Thailand (Fry, 2002; ONEC, 1999; Thongthew, 1999). Its substantive thrusts were to decentralize authority, engage local initiative in the management of educational services, support the integration of 'local wisdom' in the curriculum, empower principals, teachers and parents, create a more active learning environment for pupils, and refocus the system from *quantity of graduates* to *quality of learning* (Fry, 2002; Hallinger, 2004; Kaewdang, 1998; Mounier and Tangchuang, 2009; ONEC, 1999). The following quotation conveys the highly ambitious and urgent vision of reform stated by the Secretary General of the Office of the National Education Commission in 2000.[2]

> Thailand has passed an Education Reform Law. Learning by rote will next year be eliminated from all primary and secondary schools and be replaced with student-centered learning… Any teachers found failing to change their teaching style would be listed and provided with video-tapes showing new teaching techniques. If they still failed to improve, they would be sent for intensive training. (Dr. Rung Kaewdang as quoted in Bunnag, 2000, p. 5)

Although, this quotation no doubt oversimplifies the complex education reform strategy formulated by ONEC (Fry, 2002; Kaewdang, 1998; Thongthew, 1999), it establishes the fact that virtually overnight the *National Education Act* changed the policy context in which Thailand's 35,000 principals were operating. New policies shifting authority towards the local management of schools envisioned a more proactive role for principals and school management teams, with a more clearly defined focus on supporting changes in classroom teaching and learning (Hallinger, 2004; Wongwanich and Wiratchai, 2004). In sum, the *National Education Act* brought about a sea-change that would place new demands on Thailand's principals to adapt their role behavior with a greater emphasis on instructional leadership.

Various scholars have sought to assess the impact of Thailand's education reforms on schools and classrooms during the ensuing decade (e.g., Barron-Gutty and Chupradit, 2009; Fry, 2002; Hallinger and Lee, 2011; Kantamara et al., 2006; Mounier and Tangchuang, 2009; Wongwanich and Wiratchai, 2004). Consis-tent with studies conducted in other countries (Fullan, 2007), progress has been slower than expected by policy reformers. For example, in a recently published evaluation of Thailand's progress in reform implementation, the authors (2011) concluded as follows.

> We interpret our results as largely consistent with these [other] empirical studies of education reform implementation in Thailand. Our findings similarly suggest evidence of progress, but a lack of deep penetration of the reforms in a large percentage of schools. Thus, all three studies describe the pattern of implementation as variable across teachers, and partial or surface in the nature of impact. In sum, we conclude that the picture of reform progress offered here is one of slow progress with a record of mixed success. (Hallinger and Lee, 2011, pp. 155–156)

It is notable that these evaluation studies all centered first and foremost on changes in teaching and learning. In the above-quoted study, the authors reported that Thai principals viewed changes in teaching and learning as the most important reforms embedded in the *National Education Act* of 1999. For example, principals reported on their schools' ongoing attempts to implement changes such as student-centered learning, coopera-tive learning, brain-based learning, localized curriculum content,

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[2] The Office of the National Education Commission (ONEC) was responsible for policy formulation.

and use of technology in teaching and learning in their schools (Hallinger and Lee, 2011).

As noted earlier, the international literature is quite clear that skillful instructional leadership from the principal is an important contributor to school improvement (e.g., Robinson, 2006). It is within this context that we posed the following research question: "Are Thailand's principals exercising the type of instructional leadership needed to initiate and support successful change in teaching and learning?" This sets the stage for the current study which was conducted in 2008, a decade after adoption of Thailand's national education reforms.

2. Method

In early 2008, Thailand's Office of Basic Education Commission of the Ministry of Education developed a five-day training program focusing school-based management and educational quality for delivery to 1500+ principals throughout all regions of Thailand. In addition to conducting one of the workshops, the lead author used this as an opportunity to collect the data presented in this report. In this section, we describe the procedures used for data collection and analysis.

2.1. Data collection

We begin by describing the procedures for data collection. Then we discuss the sample and measurement properties of the research instrument.

2.1.1. Procedures

The workshop program at which data were collected took place at five different locations in the four major geographic regions of Thailand over a two-month period in 2008. On the evening prior to the formal opening of the first session of each of 15 training programs, the organizers met with the group of 120 principals. During the orientation session, following an overview of the workshop program the lead author provided the principals with a leadership survey for completion.

We were aware that collecting data in the context of the MOE-mandated training program could exacerbate a tendency for the principals to present a self-flattering profile in their responses. Therefore, we took several steps to mitigate this potential issue. First, the researcher[3] emphasized that the research was being conducted to develop the first 'nation-wide portrait' of principal instructional leadership in Thailand. He further stressed that completion of the survey was both voluntary and anonymous, and that raw data would not be provided to the Ministry. Accordingly, participants were *not* asked to provide any identifying information that could compromise the anonymity of their responses. Thus, the results *could not* be used for the assessment of particular principals. Finally, participants were instructed to return the questionnaires by depositing them in a closed box located in a central location either the same evening or the following morning.

2.1.2. Instrument

The research employed the *PIMRS-Thai Form* (Hallinger, 1982/1994). The *Principal Instructional Management Rating Scale* (Hallinger, 1982/1994) was developed as a tool designed to enable accurate measurement of instructional leadership practice. The instrument was based upon Hallinger and Murphy's (1985) conceptual framework presented earlier in Fig. 1. The instrument has been employed by school systems as well as by more than 200 researchers in published studies and doctoral dissertations focusing on principal instructional leadership (Hallinger, 2011a).

For each item on the *PIMRS*, the rater assesses the frequency with which the principal enacts a particular instructional leadership behavior or practice (see Appendix A). Each item is rated on a Likert-type scale ranging from (1) almost never to (5) almost always. The *PIMRS-Thai Form* had yielded *alpha* reliability estimates greater than .90 on tests of internal consistency in a previous study of secondary school principals in Thailand (Hallinger et al., 1994; Taraseina, 1993).

In the current study, due to time constraints, the researchers employed a shortened version of the *PIMRS-Thai Form* consisting of 20 items (see Appendix A). These items were selected to assess the three dimensions of instructional leadership, rather than the 10 functions. Cronbach's test of internal consistency yielded *alpha* reliability scores as follows: *Creating a School Mission*, .784; *Managing the Instructional Program*, .785; *Developing a Positive School Learning Climate*, .856.[4] While these were lower than estimates obtained in Taraseina's (1993) validation study for the full scale, they met a sufficient standard for this research.

2.1.3. Sample

The sample for this study consisted of principals who were selected to participate[5] in OBEC's training project in February and March 2008. OBEC's priority was to engage a large nationally representative group of principals in the training project. Thus, they sought the participation of principals representing medium to large schools from multiple school levels (i.e., K-12, primary, secondary) as well as the four geographic regions of the country.[6]

The *PIMRS* was administered to principals at 15 workshops. A total of 1195 of the 1605 principals who attended these 15 workshops completed the *PIMRS-Thai Form*, a response rate of 74%. Since the survey was anonymous, we have no way of comparing the profile of the 1195 respondents with the profile of 1605 participants. The sample was comprised of principals from Primary Schools (38%), Lower and Upper Secondary Schools (41%), and K-12 Schools (21%). Their distribution by the four geographic regions of Thailand was: North (17%), South (16%), Northeast (38%), and Central (29%). Approximately 70 percent of the principals had more than 10 years of experience (see Table 1).

When comparing the sample (3.2%) to the population of 36,890 Thai principals, we found that primary school principals were under-represented and secondary school principals were somewhat over-represented.[7] Another criterion on which the sample differed from the population was that it included few principals of small schools and few first year principals. Despite these limitations, we note that the sample is quite representative of the full population of Thai principals in terms of regional distribution.

2.2. Data analysis

Data were entered from the completed surveys and rechecked for accuracy by the lead researcher. Missing data represented less

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[3] The lead researcher, who was in attendance at each of the workshops speaks Thai fluently and was able to communicate the purposes of the research directly to the principals.

[4] The three leadership dimensions demonstrated significant intercorrelations, ranging from .634 to .686. While these are moderately high, we found that the variance inflation factor (VIF) was not substantially greater than 1 and the tolerance statistics were higher than .5. Thus, we concluded that multicollinearity was not a major issue.

[5] Participation in the workshop program was mandatory for those selected.

[6] In Thailand the four geographic regions are formally designated units of governmental organization. Thus, government ministries services are formally organized in terms of these four regions of the country.

[7] It should be noted that our survey form did not distinguish between lower secondary and secondary schools. Thus, the designation of schools as 'secondary schools' may appear to over-represent secondary schools in the population of Thailand's public school system.

	Frequency	Percentage
School level		
Primary schools	454	38.0
Secondary schools	491	41.1
K-12 schools	250	20.9
School region		
North	204	17.1
South	189	15.8
Northeast	456	38.2
Central	346	29.0
Years of experience as principal		
1 year	14	1.2
2–4 years	281	23.5
5–9 years	73	6.1
10–15 years	363	30.4
More than 15 years	464	38.8

Note: N = 1195 principals.

than 1% of the expected data. Missing data were imputed using the expectation-maximization (EM) algorithm on the total sample (*n* = 1195).

Three main analytic strategies were employed to address the three research questions. First we used descriptive statistics to develop profiles of the principals on the three instructional leadership dimensions. These describe the national profile of Thai principals on the three instructional leadership dimensions with breakdowns by school level and region. Next, for the second and third research questions, we sought to understand if there were differences in the pattern of instructional leadership reported by principals from different school levels and regions. We employed MANOVA, supported by discriminant function analysis. However, our initial analyses using descriptive statistics revealed that the data were non-normally distributed (e.g., skewed towards the higher end of the rating response scale; see Appendix A). We employed bootstrapping to compensate for this feature of the data. This involved resampling and replacing the original dataset 1000 times prior to rerunning the MANOVA and follow-up discriminant function analysis.

Due to limitations of MANOVA in detecting measurement error, we also conducted a confirmatory analysis using multi-group latent mean analysis, a form of structural equation modeling. This test is better able to take into account measurement error (Aiken et al., 1994; Cole et al., 1993; Hancock, 1997). Using AMOS 19, we tested configural, metric, scalar, and factor variance invariance for both types of groups (i.e., three groups by school level and four groups by geographic region). A similar bootstrapping process as described earlier was also applied. A bias-corrected method (for latent mean analysis) was used to adjust the parameter estimates, standard errors, and effect sizes.

3. Results

3.1. Overall profile of principal instructional leadership

In the first step in data analysis we developed an overall profile of the principals' instructional leadership practice on the three PIMRS dimensions. The 1195 principals reported a fairly high level of engagement in instructional leadership on two of the dimensions: *Creating a School Mission* (mean = 4.04, SD = .52) and *Developing a Positive School Learning Climate* (mean = 4.09, SD = .49). This was higher than their results for *Managing the Instructional Program* (mean = 3.80, SD = .53). At this point, we wish to note that these mean scores are somewhat higher than expected, and we shall return to their interpretation later in Section 4.

We further examined variation in the three dimensions of leadership capacity by focusing on the school contexts in which they worked. Fig. 2 illustrates patterns of variation by school level and region. There were between-group differences in each of the three dimensions of leadership capacity by school level and region. The statistical significance of these patterns was subsequently examined through MANOVA and latent mean analysis.

3.2. Analysis of instructional leadership by school level

Application of MANOVA with bootstrapping revealed significant differences in the pattern of association for the three instructional leadership dimensions and school level (Pillai's trace, Wilks' lambda, Hotelling's trace, and Roy's largest root all indicated *p* < .001).[8] Tests of between-subjects effects in the MANOVA test also showed significant differences for school level and principal engagement in *Creating a School Mission* (*p* = .002) and *Developing a Positive School Learning Climate* (*p* < .001). Thus, school level appeared to be associated with principal's instructional leadership practice, at least on these two dimensions.

Discriminant function analysis supported findings from the MANOVA test.[9] More specifically, secondary school principals appeared significantly more active than their counterparts in primary schools and K-12 schools in terms of behavior intended to *Create a School Mission* and *Develop a Positive School Learning Climate*. This test also confirmed the finding of no significant difference among principals at different school levels on *Managing the Instructional Program*.

In order to further verify this result, we used multi-group latent mean analysis with bootstrapping (Aiken et al., 1994; Cole et al., 1993; Hancock, 1997). A series of invariance tests for the three groups of principals by school level indicated the data met requirements for configural invariance, metric invariance, scalar invariance, and factor variance invariance. Details of the tests for invariance are presented in Appendix B.

The latent mean model indicated an acceptable overall model fit (see Hu and Bentler, 1999): X^2 (567) = 1406, CFI = .903, TLI = .902, RMSEA = .035, and SRMR = .053. Moreover, as presented in Table 2, this test again confirmed the MANOVA results. Secondary school principals showed stronger capacity on both *Developing a Positive School Learning Climate* (.143, *p* < .001) and *Creating a School Mission* (.123, *p* = .001). The effect sizes (Cohen's *d*) in Table 2 further reinforce this conclusion of significant and substantial differences between primary and secondary school principals on the dimensions *Developing a Positive School Learning Climate* (.616) and *Creating a School Mission* (.477), but no differences on *Managing the Instructional Program*. Similarly, secondary school principals showed stronger capacity than K-12 school principals on both *Developing a Positive School Learning Climate* (.158, *p* < .001) and *Creating a School Mission* (.107, *p* = .014), but no differences on *Managing the Instructional Program*.[10] Thus all three tests yielded similar conclusions concerning the pattern of principal instructional leadership at different school levels.

3.3. Analysis of instructional leadership by region

Next MANOVA with bootstrapping was used to explore patterns of instructional leadership in each of Thailand's four geographic

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[8] Box's test of equality of covariance matrices and Levene's test indicated that the assumption of homogeneity of variance was met.

[9] Developing a *Positive School Learning Climate* made a greater contribution than *Creating a School Mission* in differentiating the three groups by school level. These relationships were significant (Wilks's lambda = .941, d.f. (6), *p* = .000).

[10] To investigate this, we conducted two latent mean analyses in which primary and K-12 schools are the reference groups, respectively, in each of the two analyses.
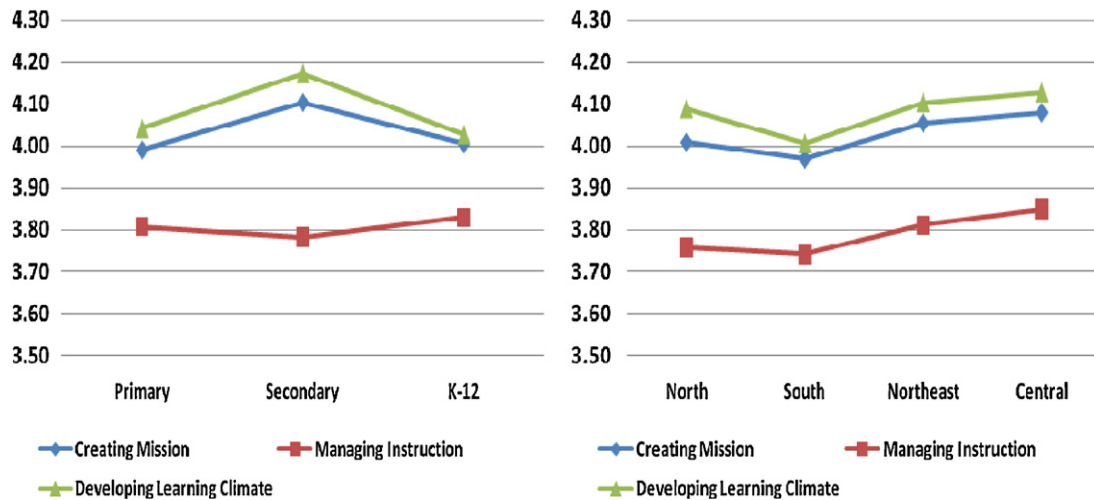
Fig. 2. The three dimensions of instructional leadership by school level and region. *Note*: *N* = 1195 principals.

Table 2
Latent mean comparison of instructional leadership: primary vs. secondary school principals.[a]

Leadership dimension	Estimate	SE	Sig.	Mean[b]	Mean-bias	SE[b]	SE-bias	Effect size[c]
Creating mission	.122	.037	.001	.123	.001	.038	.001	.477
Managing instruction	−.20	.031	.524	−.019	.001	.032	.001	−.103
Developing learning climate	.141	.034	<.001	.143	.002	.036	.001	.616

Note: *N* = 1195 principals.
[a] The reference group is primary vs. secondary school principals.
[b] Bias was corrected through bootstrapping.
[c] Effect sizes were also calculated using corrected estimates.

regions. Although three different statistical tests (Pillai's trace, Wilks' lambda, and Hotelling's trace all indicated *p* = .207) indicated no significant differences between regions, Roy's largest root indicated otherwise (*p* = .032).[11] This is because Roy's largest root usually shows "the maximum possible between-group difference" (Field, 2005, p. 592).

Given this result, we further scrutinized the possibility of group differences by reference to the parameter estimates of school region on each leadership dimension. Results from the MANOVA test suggested that principals in the Central region were more active on all three dimensions of instructional leadership than principals in the South. However, there were no significant differences among principals from other regions of Thailand (see Table 3). Follow-up multi-group latent mean analysis further confirmed this particular result.[12]

4. Discussion

Earlier empirical research had suggested that Thailand's progress in implementing education policy reforms aimed at improving the quality of teaching and learning over the past decade has been slow, uneven, and in many cases lacking deep penetration into classrooms (Barron-Gutty and Chupradit, 2009; Hallinger and Lee, 2011; Mounier and Tangchuang, 2009;

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[11] The follow-up discriminant function analysis was not conducted because the result of MANOVA was not significant.
[12] Following another set of invariance tests (see Appendix C for details), multi-group latent mean analysis by school region yielded an acceptable overall model fit (RMSEM = .030; CFI = .907; TLI = .908; SRMR = .062). Again, principals in the Central region showed significantly higher parameter estimates and effect sizes in the three dimensions of instructional leadership, compared to their peers in the South: Creating a School Mission (estimate, .124; effect size, .482), Managing the Instructional Program (estimate, .093; effect size, .505), and Developing a Positive School Learning Climate (estimate, .130; effect size, .553). Biases in parameter estimates and standard errors were corrected by a bootstrap method (table not presented).

Wongwanich and Wiratchai, 2004). The current study was undertaken with the purpose of assessing the capacity of Thailand's principals to support the implementation of key education quality reforms in teaching and learning. In this final section we discuss the findings, review limitations of the study, and highlight relevant implications.

4.1. Interpretation of findings

First, we wish to revisit the relatively high overall mean scores derived from the self-report ratings of the principals on two of the three instructional leadership dimensions. Although the *PIMRS* is not a normed scale (Hallinger, 2011a), the self-report ratings reported here would suggest a high level of principal engagement in instructional leadership on the dimensions, *Creating a School Mission* and *Developing a Positive School Learning Climate*. This profile must however, be interpreted in light of the single source, self-report ratings obtained from the principals. Multiple sources of data on principal instructional leadership would have been preferable since self-report ratings of job performance are often subject to inflation. Thus, it is recommended that they be complemented through comparison to alternate sources of data (Latham and Wexley, 1981). Since it was not practical to collect teacher ratings in this study, reference to the results of prior *PIMRS* studies may aid in interpreting this self-report profile.

More than 15 role-set (Merton, 1957) studies have been conducted with the *PIMRS* over the past 30 years (Hallinger, 2011a). These studies consistently conclude that principal self-report ratings yield scores that are significantly and substantially higher than ratings obtained from their teachers (Hallinger, 2011a). Moreover, validation studies that compared teacher and principal ratings against additional non-perceptual data sources (e.g., school documents) support the conclusion that principal self-reports are indeed subject to inflation (e.g., Hallinger and Murphy, 1985; Taraseina, 1993).

Table 3
Parameter estimates based on bootstrapping (school region).

Dependent variable	Parameter	B	Bootstrap				
			Bias	S.E.	Sig.	95% confidence interval	
						Lower	Upper
Creating mission	Intercept	4.080	−.001	.028	.001	4.020	4.132
	North	−.071	.002	.046	.116	−.161	.024
	South	−.111	.000	.046	.017	−.203	−.016
	Northeast	−.025	.001	.038	.506	−.100	.048
	Central (ref. group)	0	0	0		0	0
Managing instruction	Intercept	3.848	.000	.027	.001	3.796	3.899
	North	−.091	.000	.048	.055	−.181	.004
	South	−.106	−.003	.045	.019	−.195	−.015
	Northeast	−.037	−.002	.037	.338	−.114	.034
	Central (ref. group)	0	0	0		0	0
Developing learning climate	Intercept	4.128	.000	.026	.001	4.078	4.176
	North	−.038	.001	.043	.360	−.125	.049
	South	−.121	.000	.043	.006	−.204	−.036
	Northeast	−.024	.000	.034	.477	−.091	.041
	Central (ref. group)	0	0	0		0	0

Note: *N* = 1195 principals. The bootstrap results are based on 1000 bootstrap samples; Sig. (2-tailed).

This pattern of results receives more explicit confirmation from three previous *PIMRS* studies carried out in Thailand (i.e., Poovatanikul, 1993; Ratchaneeladdajit, 1997; Taraseina, 1993). In each of these studies, principal self-report ratings were consistently and substantially higher than ratings obtained from teachers. Our reanalysis of the *PIMRS* data reported in these studies found that ratings obtained from teachers were, on average, *17% lower than self-report ratings of the principals on the three instructional leadership dimensions* (not tabled).

If we extrapolate this finding to the current study, it suggests that teacher ratings of our sample of principals would have yielded substantially lower scores across the three dimensions. For example, if we adjust our principal self-report ratings by the 17% figure mentioned above, it yields the following pattern of mean scores: *Creating Mission*: principals 4.04 and teachers 3.35; *Managing Instruction*: principals 3.80 and teachers 3.15; *Developing Climate*: principals 4.09 and teachers 3.39. Of course, we emphasize that these are only estimates and cannot be treated as substitutes for actual data. Nonetheless, they offer an alternative lens for interpreting the relatively high principal self-assessment scores. *More specifically, they suggest that a profile based upon data obtained from teachers would likely have yielded a substantially weaker overall profile of instructional leadership.*[13]

A second finding of interest concerned the significantly lower rating found *across all groups of principals* on the dimension *Managing the Instructional Program*. This dimension is comprised of instructional leadership functions (see Fig. 1) that deal most directly with the teaching and learning process (Bossert et al., 1982; Hallinger, 2011a; Hallinger and Murphy, 1985). Thus, we find that the even principals themselves report less active engagement in the dimension of instructional leadership that bears most centrally on implementation of education reforms in teaching and learning.

To aid in interpreting this finding, we again refer to the set of prior Thai role-set studies. These studies further reported that

principals and teachers demonstrated very high levels of agreement on the *pattern of relative performance* of the principals on the three dimensions. This suggests that in the current study teacher ratings would have been likely to produce a quite similar pattern of performance results across the three dimensions. Thus, for example, mean scores for *Creating Mission* and *Developing Climate* would be fairly similar, and substantially higher than *Managing Instruction*.

Taking these related sets of analyses together, the results indicate substantially lower levels of engagement by principals on *Managing the Instructional Program*. Indeed, the data suggest a moderately low level of engagement on tasks that fall within this dimension. This conclusion takes into account the historical level of ratings yielded by this instrument (see Hallinger, 2011a; Hallinger and Murphy, 1985).

This pattern of results raises a question concerning the adequacy of the principals' knowledge base for enacting this dimension of their role as instructional leader. As noted earlier, relatively few – if any – Thai principals would have received in-depth, skill-oriented training on this dimension in Ministry-sponsored administrative preparation programs. Moreover, as noted earlier, this highly experienced sample of principals (70% with more than 10 years of experience as principals) received their preparation for teaching and the principalship prior to the passage of the *National Education Act* in 1999. While some principals might have accessed knowledge in this domain in graduate degree programs, Thailand's higher education programs have not traditionally emphasized instructional leadership. Thus, we hypothesize that lack of principal knowledge as well as skill in this domain could be impacting their capacity to effectively support the implementation of education reforms in teaching and learning.

Third, our analyses of the instructional leadership practice of Thai principals by school level yielded some significant differences. Secondary school principals reported more active engagement on the dimensions *Creating a School Mission* and *Developing a Positive School Learning Climate* than their peers in primary and K-12 schools. As noted, however, this difference washed out, however, when it came to *Managing the Instructional Program*.

When viewed from the perspective of leadership research in the North America, this finding was actually rather surprising and could reflect other contextual differences. That is, traditionally the instructional leadership role in North America is more strongly associated with primary school principals than with secondary

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[13] Although we relied on only the three previous studies, the standard deviation of sample means (i.e., standard error of the mean) from the studies was .29 for principals and .35 for teachers. This indicates that there is less variability between the means of the different samples extracted from the population. In addition, the difference of standard error between principals and teachers was small (.06), suggesting that the variability of teachers' ratings of principals' instructional leadership appears similar to the variability of principals' self-report ratings of instructional leadership.

school principals (Cuban, 1988; Hallinger, 2011a, 2011b). It is generally accepted that secondary school principals must delegate more of their instructional leadership functions to middle level leaders. In Asia, however, secondary schools often attract higher quality candidates into administration. This can be due to perceptions of prestige, availability of resources, as well as differences in salary when compared with primary schools. The logic of this interpretation is supported when we consider that the higher self-ratings did not extend to the *Managing the Instructional Program*.

Fourth, with respect to regional differences, the findings suggested a mixed pattern. Principals from the Central region tended to demonstrate higher ratings across the three dimensions than principals from the South. In Thailand regional differences in resource input and performance output hold particular relevance for policymakers. Quality of facilities, ITC, teachers, and leadership all represent 'inputs' that impact on the potential effectiveness of schools (Carnoy, 2003; Hanushek and Woessmann, 2007; Lockheed and Levin, 1993; Psacharaopoulos and Patrinos, 2002). The central region of the country contains the main urban area of Bangkok. Schools in the Central region are widely perceived to be better resourced, even though a portion of the differential resources come from outside of the government's funding allocation. Thus, it is actually somewhat surprising that the finding of significantly stronger instructional leadership for principals from Central Thailand did not extend to regions other than the South.

4.2. Limitations

Given the opportunistic nature of this study and its post hoc research design, we do not wish to overstate the certainty of our results and interpretations. More specifically, three limitations require mention. First, our research design did not link the key variable of interest, principal instructional leadership, to any dependent measure such as extent of curriculum implementation, change in teaching practice, or growth in student learning. We have simply presented a national profile of principal instructional leadership and sought to interpret the results in light of the requirements of this reform context. Thus our attempt to link the pattern of principal instructional leadership revealed in the research to progress in Thailand's education reforms must be approached with caution. We have therefore, framed this research as a first step both in developing a comprehensive picture of principal capacity in Thailand, and in understanding their role in the implementation of education policy reforms.

Second, while the sample of principals was fairly representative of the full population of Thai principals in terms of school region, there appeared to be some degree of distortion with respect to school level. In this regard, caution needs to be exercised in interpreting results related to school level.

The third limitation lies in the study's sole reliance on principal self-report data. This led to some uncertainty with respect to interpreting the high ratings reported by the principals. Fortunately, as reported above, we were able to address this limitation through reference to earlier studies of instructional leadership in Thailand. While this approach enabled us to propose alternative interpretations of the results, we again emphasize that is not a substitute for actual data. Thus, readers should not accept our interpretations as firm conclusions.

4.3. Implications

Given these limitations, the current study was framed as an exploration rather than an evaluation of the capacity of Thailand's principals to contribute to its education reforms. With this caveat, several implications are nonetheless suggested by this empirical analysis. First, the study finds that Thailand's principals may not possess the instructional leadership capacity required to support effective implementation of changes in teaching and learning in their schools. Leadership capacity is increasingly seen as a necessary supporting condition for sustainable change and improvement in schools (e.g., Geijsel et al., 2001; Hallinger, 2011b; Hallinger and Heck, 2010; Leithwood and Jantzi, 2000; Mulford and Silins, 2003). For example, Fullan asserted: "It has become increasingly clear that leadership at all levels of the system is the key lever for reform, especially leaders who focus on capacity building and develop other leaders who can carry on" (2001, p. 21). Our data suggest the possibility that there may currently be insufficient instructional leadership capacity across the national education system in Thailand.

While this empirically derived conclusion is necessarily tentative, we suggest that it is highly consistent with the broader body of empirical and contextual information presented earlier. *Thailand's system of principal preparation, selection, training, evaluation and development is not aligned with the goal of developing instructional leadership capacity among its school leaders.* Neither preparation nor development programs are designed to support this perspective on the role and skills in its enactment. Principals are not selected on the basis of their expertise in curriculum and instruction, and continued employment and promotion decisions are wholly unrelated to demonstrated performance in this domain. We also note that 70% of the principals in our sample possessed more than 10 years of experience. Thus, they would have received much of their training and on-the-job socialization into their role as principals prior to the launch of Thailand's education reform effort in 1999.

It should be noted that this pattern of human resource development contrasts with the education systems in neighboring countries such as Singapore, Hong Kong and Malaysia with whom Thailand seeks to compete economically.[14] The education systems in these societies have over the past decade taken serious steps to develop more systematic approaches to developing leadership capacity in their education systems. Therefore, one recommendation from this study is for Thailand's system leaders to consider steps to upgrade the Ministry of Education's human resource infrastructure. Without firm action on this front, it is unlikely that Thailand's schools will possess the leadership capacity required for continuing development of the education system (see also Fry, 2002; Gamage and Sooksomchitra, 2004).

More specifically, the study suggests that steps need to be taken to redesign selection criteria as well as the training curriculum for school leaders in order to embed a stronger emphasis on instructional leadership. Training in change management, data-driven decision-making, coaching for improvement, high impact methods of teaching and learning, and uses of technology to support both instructional leadership and teaching should receive attention. We note that these areas are largely ignored in the current training programs required of Thailand's principals. In the absence of knowledge and skills in this domain, it is difficult to imagine how the principals can provide useful support to teachers in the implementation of reforms that focus on the quality of teaching and learning.

Finally, this research also implies a need for Thailand's Ministry of Education to obtain better data on factors that impact the implementation of its reforms. When the results of this analysis were presented to senior staff at OBEC, the Secretary General's response was, "This is the first time we've had data that provides a picture of principal leadership capacity across the country" (Varavarn, 2008). The profiles presented in this study offer an example of data that could be used to evaluate periodic progress in developing system capacity to support change.

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[14] See, for example, the first quotation in this paper in which senior Thai policymakers explicitly link educational progress in Thailand to Singapore.

Appendix A. Descriptive statistics of variables

Dimensions and items	Mean	SD	Skewness	C.R.	Kurtosis	C.R.
Create a school mission						
Develop a focused set of annual school-wide goals	4.08	.68	−.22	−1.90	−.06	−.28
Use data on student performance when developing the school's academic goals	4.20	.69	−.50	−4.34	.16	.67
Discuss the school's academic goals with teachers at faculty meetings	4.18	.67	−.65	−5.66	1.28	5.58
Ensure that the school's academic goals are reflected in highly visible displays in the school	3.66	.83	−.16	−1.37	−.25	−1.08
Refer to the school's academic goals when making curricular decisions with teachers	4.08	.69	−.22	−1.91	−.30	−1.30
Managing the instructional program						
Make clear who is responsible for coordinating the curriculum across grade levels	3.93	.82	−.44	−3.84	.20	.88
Participate actively in review of curricular materials	3.73	.72	.00	.03	−.28	−1.23
Meet individually with teachers to discuss student progress	3.85	.74	−.07	−.57	−.50	−2.19
Discuss academic performance results with the faculty to identify curricular strengths and weaknesses	3.85	.73	−.26	−2.22	−.04	−.19
Use tests and other performance measures to assess progress toward school goals	3.58	.79	−.02	−.16	−.43	−1.86
Visit classrooms to discuss school issues with teachers and students	3.87	.77	−.22	−1.88	−.34	−1.49
Develop a positive school learning climate						
Reinforce superior performance by teachers in staff meetings, newsletters, and/or memos	4.11	.73	−.15	−1.27	−.53	−2.30
Compliment teachers privately for their efforts or performance	4.14	.72	−.19	−1.64	−.57	−2.47
Actively support the use in the classroom of skills acquired during inservice training	4.12	.66	−.27	−2.34	−.77	−3.33
Obtain the participation of the whole staff in important inservice activities	4.20	.63	−.05	−.45	−.43	−1.88
Lead or attend teacher inservice activities concerned with instruction	4.13	.67	−.19	−1.64	−.25	−1.07
Set aside time at faculty meetings for teachers to share ideas or information from inservice activities	3.95	.70	−.24	−2.10	−.03	−.12
Use assemblies to honor students for academic accomplishments or for behavior or citizenship	4.14	.77	−.13	−1.10	−.38	−1.65
Recognize superior student achievement or improvement by seeing in the office the students with their work	4.03	.78	−.43	−3.72	.05	.22
Contact parents to communicate improved or exemplary student performance or contributions	4.01	.74	−.21	−1.79	−.61	−2.67

Note: N = 1195 principals. The non-normality of the data was detected through critical ratios (C.R.) using AMOS 19.

Appendix B. Tests for invariance across the groups by school level

		d.f.	TLI	RMSEA	CFI	SRMR
Model 1: Configural invariance (baseline)	1278.4	501	.897	.036	.910	.052
Model 2: Metric invariance	1321.2	533	.902	.035	.909	.053
Model 3: Metric & scalar invariance	1474.1	573	.896	.036	.895	.053
Model 4: Metric, scalar, & factor variance invariance	1483.8	579	.897	.036	.895	.059

Note: N = 1195 principals.

Appendix C. Tests for invariance across the groups by school region

		d.f.	TLI	RMSEA	CFI	SRMR
Model 1: Configural invariance (baseline)	1422.5	668	.900	.031	.912	.053
Model 2: Metric invariance	1485.5	717	.906	.030	.911	.062
Model 3: Metric & scalar invariance	1579.2	777	.909	.029	.907	.062
Model 4: Metric, scalar, & factor variance invariance	1591.6	786	.910	.029	.907	.062

Note: N = 1195 principals.

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