

Examining Schools' Distributed Instructional Leadership Capacity: Comparison of Elementary and Secondary Schools

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Abstract

The purpose of this study is to elucidate the fundamental differences between elementary and secondary schools in distributed instructional leadership practices by comparing results determined by the Comprehensive Assessment of Leadership for Learning (CALL) survey. The data set used in this study was derived from the 2011-1013 CALL survey: a 360-degree, on-line, formative assessment and feedback system for K-12 school leadership. A total number of 4311 voluntary teachers, school administrators and other school staff participated in this study. The analysis included three integral steps. First, descriptive statistics were carried out to explain how distributed instructional leadership was rated on the CALL survey. Second, an independent-samples t-test was employed to compare the mean scores of elementary and secondary schools on the CALL survey. Third, ratios of elementary and secondary school staff in the top scoring 20 percentile and bottom scoring 20 percentile were compared to each other. The results suggested that all five distributed-instructional leadership domains which were addressed in the CALL had very close mean scores, indicating that none of the broad leadership areas was being ignored and elementary and secondary schools differ only in terms of the leadership practices related to monitoring teaching and learning.

Keywords: CALL survey, distributed instructional leadership, elementary schools, leadership, principals, secondary schools

1. Introduction

1.1 Why to Assess School Leadership

Beginning in the early 1980s, "accountability" and "assessment" became buzzwords in the educational agenda of the US. Since then, the issue of creating academic standards for the educational system has gained more ground among education reformers and policy makers. The report, A Nation at Risk (ANAR), had a significant effect promulgating ideas about accountability and assessment across the nation. In the report, the importance of setting academic standards was highlighted many times. For example:

Our goal must be to develop the talents of all to their fullest. Attaining that goal requires that we expect and assist all students to work to the limits of their capabilities. We should expect schools to have genuinely high standards rather than minimum ones, and parents to support and encourage their children to make the most of their talents and abilities. (National Commission on Excellence in Education, 1983, p. 117)

Following this report, the issues of improving educational standards and ensuring that all schools and students achieve at proficient levels became important concerns for educators. Many initiatives have been taken to standardize the educational system in a way that educational outputs can be clearly measured and schools can be held accountable for those results. After ANAR, No Child Left Behind (NCLB) marked another turning point in 2001 by calling for schools to improve achievement by setting high standards for all students. Along with the ANAR report, supporters of NCLB also claimed that lowering standards would not help those students who come from disadvantaged family backgrounds, but rather hinder them, while setting measurable, high standards for all would help everyone to succeed better in the standardized tests. Under this premise, NCLB has required all K12 schools across the United States to have their students achieve at proficient levels on state standardized tests. This was implemented to ensure that teachers and school leaders could be held accountable for the quality of the instructional environment they provide. By setting standards, schools and

teachers could be held accountable for achieving at least at the proficient level. Thanks to this current movement toward an output-based and data-driven system, the issue of advancing effective achievement measures for student learning has been paid abundant attention. The focus on improving student outcomes eventually led to increased attention to the role of school leadership in promoting effective educational programming and developing the teaching capacity of schools. Researchers began to pay increased attention to which teacher and school leadership practices create proficient learning (see e.g., Capper & Frattura, 2008; Chenoweth, 2007; Kelley & Shaw, 2009; Leithwood, Day, Sammons, Harris, & Hopkins, 2006; Leithwood, Louis, Anderson, & Wahlstrom, 2004; Odden & Archibald, 2009; Robinson, Hohepa, & Lloyd, 2007). At this point, the issue of making sure that every school improves their leadership practices in line with effective leadership practices emerged as the next challenge for educational agenda. With the linkages established between school leaders' actions and quality of the instruction, the NCLB act required all states to establish systems to hold their school leaders accountable for the success of the instruction presented in their schools (Kelley & Halverson, 2012). Therefore, it became necessary to help schools to improve their leadership practices.

1.2 Need for Assessing Leadership as a Distributed Instructional Practice

To date, a number of studies have examined the role school leadership plays in improving teaching and learning. Much of the research on school leadership focuses on the role of the principal, but a number of researchers have noted that leadership in complex organizations such as schools is not carried out by a single individual. Instead, leadership tasks are distributed across the organization (Lee, Hallinger, & Walker, 2012; Spillane, Halverson & Diamond, 2001, 2004). These approaches highlight two important aspects of school leadership. First, beyond their managerial roles, school leaders are now also responsible for the quality of instruction presented in their schools. Second, leadership is not considered to be the actions of merely formal leaders within schools, but rather action committed by both formal and informal leaders (Lee et al., 2012) and "the interaction between leaders, followers, and the situations in which leadership tasks are executed (Spillane et al., 2004, p.10)".

As a result of the search for the most effective leadership practices, certain leadership practices have begun to emerge as helpful for improving student learning for all students (Cotton, 2003; Kelley & Shaw, 2009; Louis, Leithwood, Wahlstrom, & Anderson, 2010; Robinson et al., 2007; Marzano, Waters, & McNulty, 2005; Waters, Marzano & McNulty, 2003; Waters, Marzano & McNulty, 2004) and findings from these studies now enable researchers to develop evaluation tools that identify how many of the instructional leadership behaviors that have proven helpful for student learning are actually taking place in schools and how many current school leadership practices meet the demands of state and professional standards. To fulfill this objective, a group of researchers at UW/Madison has developed a leadership assessment tool, the Comprehensive Assessment of Leadership for Learning (CALL).

1.3 Comprehensive Assessment of Leadership for Learning (CALL)

The Comprehensive Assessment of Leadership for Learning (CALL) is a "360-degree, online, formative assessment and feedback system" for K12 school leadership (Halverson, Kelley, & Shaw, 2014; Kelley & Halverson, 2012, p.5). It was primarily intended for formative purposes (Halverson & Dikkers, 2011). First, CALL determines where schools are standing in terms of current leadership practices enacted in these schools. In order to do this, CALL items were built upon the best school leadership practices whose impact has proven effective for improving teaching and learning. Second, relying on the most prominent school leadership research, CALL provides school leaders with formative feedback. By doing so, it contributes to the improvement of the schools' leadership practices (Halverson, et al., 2014; Kelley & Halverson, 2012).

CALL measures five macro-level school leadership tasks. These are 1) Maintaining a focus on learning, 2) Monitoring teaching and learning, 3) Building nested learning communities, 4) Acquiring and allocating resources, and 5) Maintaining safe and effective learning environments. After identification through a comprehensive review of the research on effective school leadership, each of these macro-level tasks-domains- was measured under four or five subtasks –subdomains-. Under each subdomain, there were specific items focusing on micro-level leadership tasks which are supposed to be performed by effective leaders.

Previous measurement tools of school leadership considered school leadership as the sum of the actions performed by a single person: in most cases school principals. CALL, on the other hand, approaches leadership as the sum of the instructional leadership actions performed by multiple leaders - including formal and informal leaders - and as the interactions between them (Halverson, et al., 2014; Kelley & Halverson, 2012). Each CALL item centers on a specific leadership task which is thought to promote school improvement and student learning (Kelley, Kimball, Clifford, Dikkers, & Modeste, 2012). Through 115 of these items, CALL determines to what extent existing leadership practices mirror the defined effective leadership practices. CALL items reflect actual practices and participants choose from a range of options on a continuum, practices from the least effective to the most.

1.4 Leadership in Elementary versus Secondary Schools

Literature on school level differences suggests that we cannot treat elementary schools in the same way we treat secondary schools (Midgley, Maehr & Smith, 1990; Firestone, 1984). Firestone and Herriott (1982a) claimed that “the basic organizational structure at the secondary level may necessitate different approaches to improving effectiveness and even different definitions of effectiveness” (p.51). If we are to thoroughly understand the existing school leadership practices and if we are to provide school leaders with the most effective formative feedback, we also need to understand these differences between elementary and secondary schools. A number of studies have delved into school level differences. For instance, comparing schools in terms of “goal consensus” and “centralization of power,” research has consistently confirmed that different types of linkages are established among elementary and secondary school staff (Firestone & Herriot, 1982b, Herriot & Firestone, 1984). Interviewing teachers from elementary and secondary schools (middle and high schools) about the instructional goals of their schools, Firestone and Herriott found that elementary school teachers have a greater sense of common focus than their secondary school counterparts. Based on the different linkages or coupling patterns, elementary and secondary schools were pictured as “two different images” of the same kind: bureaucratic and loosely coupled (Firestone & Herriot, 1982b, p. 39, Herriot & Firestone, 1984)..

Elementary schools are different institutions with different leadership needs (Firestone & Herriott, 1982a). Herriot & Firestone, 1984 claimed that because of the rational nature of bureaucratic systems, elementary school principals engaged more in tracking daily work and communicating with staff, while secondary school principals focused more on resource allocation and external relationships. Louis et al. (2010) investigated how elementary and secondary schools differ on instructional leadership that takes place at these levels. First, they argued that actions of a principal to improve instruction are two types: “Instructional Climate” and “Instructional Action”. While Instructional Climate refers to creating a culture of professional growth and student learning, Instructional Action refers to the actions committed to realize the tone that was set. Based on the perceptions of 3,983 elementary and secondary school teachers surveyed, they compared the school principals who were scored at the top and bottom 20% in these two areas of instructional leadership actions. They did not find any differences between elementary and secondary schools in regard to Instructional Climate tasks. However, in terms of Instructional Actions, they found significantly more elementary school principals reporting in the top percentile than secondary school principals, and fewer elementary school principals in the bottom percentile. Consistent with these findings, Heck (1992) analyzed principals’ time allocation over some basic instructional leadership tasks and found that elementary school principals tend to spend more time than their secondary school counterparts. Their findings were meaningful especially for these tasks: “*observing classroom practices, promoting discussion about instructional issues, and emphasizing the use of test results for program improvement*” (p.30). The reason for why elementary school principal are inclined to exercising more instructional leadership was explained by Hallinger (2012) who suggested that secondary schools were often more crowded than elementary schools. Due to the large number of students, school principals at the secondary level dealt with more discipline problems and they less likely to find time for instructional issues. He further explained that unlike elementary schools, teachers at secondary schools are specialized in one particular subject matter. It was found that secondary school teachers showed less willingness for having a principal who supervise their teaching (Bellibas & Gedik, 2014).

The size and the complexity of secondary schools may also necessarily require other school staff (department chairs, master teachers and teacher teams) to be involved in leadership roles (Midgley et al., 1990). Especially because of the departmentalized nature of secondary schools, teacher involvement in instructional decisions becomes inevitable. Supporting this, Xie and Shen (2013) found that secondary level school teachers perceive themselves to be more involved in leadership roles, in curriculum and instruction related areas, whereas elementary teachers’ involvement is perceived to be higher in “setting discipline policy” (p.12). Comparing elementary and secondary schools, these findings reveal that different actors may become involved in different types of leadership roles at different rates (in different school levels). Consequently, this differentiation in teachers’ involvement in leadership roles is likely to have an impact on the big picture of how instructional leadership is evaluated in elementary and secondary schools.

Over all, studies about school level differences have clearly shown elementary schools and secondary schools to be unique institutions that have many different characteristics. In particular, how schools differ in regard to instructional leadership practices is very valuable in terms of shedding light onto today’s effective school leadership research. However, in the process of comparing school levels, not much of the previous research has approached instructional leadership as a distributed practice, but only as a sum of school principal activities. Further, previous research on school leadership evaluated leadership as it was perceived by either teachers or principals, but none of them attempted to measure the actual practices that were performed by school leaders. At this point, the main objective of this work is to compare elementary schools with their secondary school counterparts in terms of the scores from CALL survey. Differing from other methods, the CALL survey evaluates instructional leadership as a distributed practice with a focus on the existing leadership behaviors and actions. The study is designed to answer the following guiding research questions:

1. Based on the CALL survey results, how do school leaders and instructional staff of 124 American elementary and secondary schools rate distributed instructional leadership practices in their own schools?
2. Do elementary and secondary schools differ in terms of existing distributed instructional leadership practices as gauged by the CALL survey?

2. Method

The current study employed a quantitative approach to explore differences between elementary and secondary schools in terms of current distributed instructional leadership practices performed at these levels. A between-subjects design was used, in order to investigate the impact of a school level on instructional leadership practices as measured by the CALL survey. The next sections describe study participants, data collection, instrumentation, data analysis, results, limitations and importance of the study.

2.1 Participants

The data collected from a total of 124 schools, and all the participating schools had three types of respondents: school administrators, classroom teachers and other school support staff (such as school counselors). As expected, the number of teacher respondents was higher than any other respondents since each school employs more teachers than any other personnel. A total of 661 participants from elementary and 3650 participants from secondary school levels responded the CALL survey.

The school sample was recruited by soliciting interested volunteer schools from urban, suburban, and rural settings across the U.S. In total, 124 schools across the United States were interested in participating in the study to improve their distributed instructional leadership practices. A large number of the participants (4045) represented five American states: Wisconsin (2571), California (530), Michigan (500), South Carolina (224) and Texas (220). The remaining schools came from five other states (see also Table 1 for details).

Schools volunteered in this project, first took the online survey to measure their existing distributed-instructional leadership practices and identified their weaknesses and strengths in these terms. Being evaluated by all three types of school personnel (teachers, administrators and other support staff) schools were provided with feedbacks to improve their school distributed-instructional leadership practices. This feedback and the overall scores of each distributed-instructional leadership practices were kept available to all school personnel while participant identities were confidential.

Table 1. The Profile of Participants

	Secondary Schools	Elementary Schools
Teacher	3005	557
Administrator	142	16
Other school staff	503	88
Total	3650	661

Table 1 provides detailed information regarding the profile of participants. Based on the grades the schools serve, respondents were considered either elementary school or secondary school participants. Those whose schools serve students from grades K through 5 were considered elementary school participants and those whose schools serve students from grades 6 through 9-12 or from 9 through 12 were considered secondary school participants. Since the CALL survey was first initiated as a formative assessment tool for secondary school-level, a larger percentage of the sample was comprised of participants from secondary schools

2.2 Data Collection and Measures

For the purpose of determining whether or not school level variable affects the evaluation of instructional leadership, this study employed school level as the independent variable and CALL survey results on schools' instructional leadership as the dependent variable. The data set was derived from the 2011-1013 CALL survey: "a 360-degree, online, formative assessment and feedback system" for K-12 school leadership (Kelley & Halverson, 2012, p.5). Consistent with recent research on effective school leadership, CALL portrays the quality of leadership based on recent research findings related to distributed and instructional leadership practices (Kelley & Halverson, 2012). Each item in CALL is intended to measure to what extent a leadership task is being done in a school. Therefore, for each task, respondents are asked to choose a range of options from the most desirable practice to the least desirable practice. Different than other measures, CALL was designed in a way that items in CALL focus on having respondents rate the frequency or description of specific leadership practices rather than providing ratings regarding perceptions about the quality of the school leader (Kelley & Halverson, 2012; Kelley et al., 2012).

CALL asks educators to rate the frequency and focus of leadership practices in five primary domains, each representing a macro-level leadership task, and twenty-one subdomains. Within these subdomains, there are 115 items, each of which focuses on a micro-level leadership task. Through these 115 items, CALL is intended to determine to what extent existing leadership practices within a school mirror the effective leadership practices identified by research. To this end,

participants choose from a range of options on a continuum, from the least effective practices to the most.

Slightly different versions of CALL were applied based on school level (elementary versus secondary school) and school position (teacher, administrator or other school staff). Participants taking different versions of the CALL survey are for the most part directed to the same questions, but from their own perspectives. In a few instances, participants encounter items that exist in one form, but do not exist in all other forms. Additionally, even though most items have options varying from 1 (the most desirable practice) to 5 (least desirable practice), answers for some items have options ranging between 1 to 4 and even some only have “yes” or “no” answers. Aware of the difficulty, CALL researchers employed the Rasch model to construct measures for the analysis.

A substantial reliability analysis was conducted by Camburn and Salisbury (2012), who stated “We found that CALL sub-domain scores are able to discriminate between schools quite reliably. Of the 20 sub-domains, all but three had school level reliabilities exceeding .70. This suggests that the CALL survey can reasonably accomplish one of its most basic purposes—distinguishing nature and prevalence of leadership practices in a particular school (p.15)”.

2.3 Data Analysis

The analysis of this study was conducted in three integral steps. In the first step, descriptive statistics analysis was carried out to explain how distributed instructional leadership was rated on the CALL survey. Second step included an independent-samples t-test to compare the mean scores of elementary and secondary schools on the CALL survey. Third, ratios of elementary and secondary school staff in the top scoring 20 percentile and bottom scoring 20 percentile were compared to each other.

The literature review of school level differences reveals that elementary and secondary schools are different institutions. Similarly, instructional leadership in these two contexts proves itself to be distinct, as well. Unlike previous studies which merely examined how school principals in elementary and secondary schools apply instructional leadership practices differently in their different contexts, the purpose of this analysis is to examine school-level differences by approaching school leadership not as act of a single administrator, but as the combination of actions performed by multiple leaders (including formal and informal ones) and the combination of the interactions among them. To this end, first, an analysis of descriptive statistics is employed to examine how our sample of 4311 school staff rated the distributed instructional leadership practices that apply to their schools. Before digging into school level differences, descriptive statistics provide us with a better understanding of the extent to which distributed instructional leadership is enacted in elementary and secondary schools in our sample.

To determine how school level has an impact on distributed instructional leadership practices, an independent sample t-test was conducted. The results of the independent-samples t-test were discussed to compare mean scores of elementary and secondary schools on distributed instructional leadership. Independent-samples t-test requires certain assumptions to be met. First, we know that there is no participant included in both groups at the same time. Thus, the assumption of independence of observations was met. Second, due to the large sample sizes the effect of outliers was ignored, and they were included in the analysis. Third, the normality assumption was tested using skewness and kurtosis values, and it was found that our data is not normally distributed. However, since the independent-samples t-test is considered “robust” to violations of normality (Pagano, 2007), violations of this assumption can be tolerated and the test will still provide valid results. Furthermore, with large sample sizes, non-normality of the distribution does not pose a problem for independent-samples t-test. The last assumption to be met is the homogeneity of variances, which was tested by running Levene's Test for Equality of Variances in this study. However, SPSS produces two independent-samples t-tests, one is used when this assumption is met, and one is used when it is not met. Lastly, a comparison of the ratio of elementary and secondary school staff in the top scoring 20 percentile and the bottom scoring 20 percentile was included in the study.

The analyses were conducted at the survey level. As specified above, the survey composed of questions which requested respondents to specify how much certain leadership behaviors were implemented in their schools. To obtain different perspectives, not only administrators, but also teachers and other school support personnel from each participating schools took the survey to rate how much these leader practices were implemented. Therefore, each individual survey result was considered as the unit of analysis.

3. Results

Our results built on the responses of 4311 school teachers, administrators and other school support personnel from 124 schools across the United States. 661 of the surveys responded came from elementary schools, and 3650 of them from secondary schools (see Table 1 for more details). The following three sections will provide detailed discussions of the results derived from our three step analysis.

3.1 Descriptive Statistics: Distributed Instructional Leadership

For each school level, Table 2 presents the descriptive statistics for the five dimensions of instructional school leadership

captured in the CALL survey. The first pattern that can be seen from Table 2 is that elementary schools along with the previous literature (e.g. see Heck, 1992; Louis et. al., 2010) have slightly higher scores on most of instructional leadership domains. Only in Domain four (Acquiring and allocating resources), secondary schools rated higher than elementary schools. The second pattern that is depicted in Table 3 indicates that school administrators in all five domains tend to rate distributed instructional leadership practices in their schools slightly higher than other school personnel, including teachers. That is, administrative personnel reported the existing instructional leadership practices as more effective than their subordinates: teachers and other school support staff. The highest score was reported by elementary school administrators on domain five (Maintaining a safe and effective learning environment) and the lowest by elementary school teachers on domain four (acquiring and allocating resources). On average, domain five (Maintaining a safe and effective learning environment) has the highest mean score (2.6891) while domain four (Acquiring and allocating resources) has the lowest (2.4222). Over all, one last take way point from the descriptive statistics could be that there are not large differences among the mean scores of any instructional leadership domains (tasks) or between elementary and secondary schools' individual means in these domains. Therefore, based on these scores presented, it can be concluded that none of the five comprehensive instructional leadership tasks captured in CALL is ignored or overemphasized in our sample schools.

Table 2. Descriptive Values for Overall Distributed Instructional Leadership by School Level

Domains		Elementary	Secondary
Focus on learning	Mean	2.49	2.46
	Variance	.093	.166
	Std. Deviation	.31	.41
Monitoring teaching and learning	Mean	2.70	2.65
	Variance	.095	.179
	Std. Deviation	.31	.43
Building nested learning communities	Mean	2.62	2.62
	Variance	.082	.128
	Std. Deviation	.29	.36
Acquiring and allocating resources	Mean	2.40	2.43
	Variance	.134	.145
	Std. Deviation	.37	.38
Maintaining safe and effective learning environment	Mean	2.70	2.69
	Variance	.144	.146
	Std. Deviation	.38	.38

Table 3. Domain Means for Distributed Instructional Leadership by School Level and Staff Role

	School Level	Administrative			Total
		Teacher	Staff	Other staff	
Focus on learning	Elementary	2.49	2.42	2.48	2.49
	Secondary	2.46	2.59	2.47	2.46
	Total	2.46	2.58	2.47	2.47
Monitoring teaching and learning	Elementary	2.70	2.74	2.64	2.70
	Secondary	2.64	2.71	2.67	2.65
	Total	2.65	2.71	2.66	2.66
Building nested learning communities	Elementary	2.62	2.75	2.64	2.62
	Secondary	2.60	2.74	2.70	2.62
	Total	2.60	2.74	2.69	2.62
Acquiring and allocating resources	Elementary	2.39	2.52	2.46	2.40
	Secondary	2.41	2.57	2.49	2.43
	Total	2.41	2.57	2.48	2.42
Maintaining safe and effective learning environment	Elementary	2.69	2.86	2.71	2.70
	Secondary	2.67	2.84	2.72	2.69
	Total	2.68	2.85	2.72	2.69

3.2 Differences Across School Levels: Independent-Samples T-test Scores

To inquire whether or not elementary and secondary schools differ in terms of their existing instructional leadership practices, independent-samples t-test statistics were considered to be the most useful method for this analysis. Setting our threshold p-value as (.05), the null hypothesis stated that the domain scores (mean) of elementary and secondary schools are not significantly different. Opposing this, the research hypothesis suggested that the domain scores (mean) of elementary and secondary schools are significantly different. When the p-values for each analysis were equal to or less than the .05 threshold, we were able to reject the null hypothesis; the analysis suggests that there are significant differences between elementary and secondary schools in terms of their CALL domain-level scores.

Table 4. Independent-samples T-test for Equality of Means (Elementary vs. Secondary)

Domains	School Level	N	Mean	SD	t	df	Sig. (2-tailed)
Focus on learning	Elementary	661	2.49	.310	1.67	1122.7	.094
	Secondary	3650	2.46	.410			
Monitoring teaching and learning	Elementary	655	2.70	.309	3.572	1156.9	.000
	Secondary	3607	2.65	.425			
Building nested learning communities	Elementary	651	2.62	.286	.222	1058.7	.824
	Secondary	3570	2.62	.358			
Acquiring and allocating resources	Elementary	649	2.40	.366	-1.560	4217	.119
	Secondary	3570	2.43	.381			
Maintaining a safe and effective learning environment	Elementary	651	2.70	.382	.583	4218	.560
	Secondary	3569	2.69	.382			

Comparing the mean scores of elementary and secondary schools on the CALL survey, Table 4 presents the group statistics and how the mean scores varied between the two groups in the five instructional leadership domains. The table shows that elementary schools, in general, tend to have higher scores on instructional leadership domains with only one exception of domain four (Acquiring and allocating resources). In other words, it was reported that effective leadership practices, as captured in CALL, took place more often in elementary schools than they took place in secondary schools. However, in terms of leadership roles which involve acquiring and allocating resources, secondary schools appear to have a more favorable performance than their elementary school counterparts.

Yet, despite these differences between elementary and secondary schools, it is still not known whether or not these differences are statistically meaningful. At this point, Table 4 ascertains whether the school level variable has a distinguishing impact on schools' instructional leadership scores by presenting the results for the independent-samples t-test. As can be seen from Table 4, the differences between elementary and secondary school scores are only meaningful for Domain Two (Monitoring teaching and learning). These findings suggest that effective instructional leadership practices that are captured in Domain Two were applied more often in elementary schools than secondary schools.

Since the only meaningful difference between elementary and secondary schools was found in Domain Two (Monitoring teaching and learning), it worth a little deeper examination. Consisting of four subdomains, Domain Two was designed to address evaluation of teaching and learning practices in schools. It informs us about how effective schools are in regard to evaluating teaching and learning practices. Below, Table 6 presents information on the mean scores of elementary and secondary schools in Domain Two. Individual level results are presented under the four subdomains of Domain Two. As depicted in the table, elementary schools have a higher scoring pattern than secondary schools in all four subdomains of Domain Two. Yet, when elementary schools score higher on a subdomain, so do secondary schools. (see Table 5).

Table 5. Independent-samples T-test for Equality of Sub-domain Means (Elementary vs. Secondary)

Subdomains	School Level	Mean	t	df	Sig. (2-tailed)
Formative evaluation of student learning	Elementary	3.40	5.027	1032.1	.000
	Secondary	3.29			
Summative evaluation of student learning	Elementary	3.22	6.450	4214	.000
	Secondary	3.05			
Summative evaluation of teaching	Elementary	3.11	1.737	962.9	.083
	Secondary	3.00			
Formative evaluation of teaching	Elementary	2.80	5.271	1048.5	.000
	Secondary	2.75			

Table 5 compares elementary schools and secondary schools by depicting the result of independent-samples t-test scores for subdomains of the Domain Two. As can be seen from the table, three out of four subdomains have p-values less than .05. Therefore, with 95% confidence, it can be said that these domains were rated significantly different in elementary and secondary school levels. In other words, elementary school leaders monitor the teaching and learning in their schools more effectively than do their secondary school counterparts. Only Subdomain Three (Formative evaluation of teaching) yielded a p-value (.083) that is greater than our threshold (.05). Indeed, formative evaluation of teaching and learning was no different in elementary schools than in secondary schools.

Additionally, the descriptive statistics show that there is not a huge difference between elementary and secondary schools' mean scores on the CALL survey, and the independent-samples t-test shows that only Domain Two (Monitoring teaching and learning) had a statistically different mean for these two school levels. Even looking at the effect sizes for these

differences, only Subdomains One and Two have a medium level strength and the other two subdomains under Domain Two do not even have a small amount of strength for the size of their effect. From now on, we take a different approach to the same issue by examining how elementary and secondary schools differ in the top and bottom 20% percentiles in terms of the CALL results.

3.3 Comparison of Elementary and Secondary Schools in the Top and Bottom 20 Percentiles of the Domain Two (Monitoring Teaching and Learning)

The comparison of mean scores sub-domains of Domain Two (Monitoring teaching and learning) by school level provided us with a basic understanding of the school level differences, but it is worth taking a closer look at what is happening in the top and bottom scoring schools for this domain. To examine if school level affects instructional leadership scores in the top and bottom scoring groups, we first determined the top scoring and bottom scoring individual schools based on their CALL results. Then, the portions of the individuals from elementary and secondary schools were compared based on their initial involvement rates. Table 6 presents a detailed picture concerning this examination. In general, elementary schools tend to populate a bigger portion in the top percentile if their ratio is compared in the whole sample. This is in contrast to the secondary schools, which tend to occupy a bigger portion in the bottom percentile if one compares their ratio in the whole sample. To be specific, in the Domain Two, elementary schools constitute 15.3% of the whole sample who took the survey, while secondary schools constitute 84.7% of it. Yet, 17.66% of the top scoring 20% consists of elementary schools and the rest of 82.34% consists of secondary schools. In contrast, only 6.85% of the bottom 20% consists of elementary schools and 93.15% consist of secondary. Indeed, these findings confirm the previous statistics by claiming that in Domains Two, elementary schools tend to garner the top scoring percentiles while secondary schools are gathering more in the bottom percentiles.

Table 6. Comparison of elementary and secondary schools in the Top and Bottom 20 Percentiles of the Domain Two

School level	Sample	Top 20%	Bottom 20%
Elementary	15.3% (N655)	17.66% (N142)	6.85% (N60)
Secondary	84.7% (N3607)	82.34% (N733)	93.15% (N815)
	Sample Mean	Top 20% Mean	Bottom 20% Mean
Elementary	2.69	3.09	2.27
Secondary	2.64	3.28	2.23

4. Discussion

The primary question posed in this piece was whether elementary and secondary schools display different scoring patterns in regards to the current distributed instructional leadership practices enacted in these levels. Different than previous literature, we approached leadership from a distributed leadership perspective with a focus on instructional improvement. Designed as a formative assessment tool for instructional leadership practices, the CALL survey provided us with the necessary data set to inform us about the level of current distributed instructional leadership practices. Overall, our findings presented a very similar picture with the previous research examining instructional leadership and school level differences.

The first finding that stood out in the study was elementary schools' slightly higher scores on four domains, including "focus on learning, monitoring teaching and learning, building nested learning communities, maintaining a safe and effective learning environment." However, in another domain which involves acquiring and allocating resources, secondary schools appeared to have a more favorable performance than their elementary school counterparts. This supported the previous finding that principals at the secondary levels focus more on resource allocation (Firestone & Herriot, 1982b; Heck, 1992; Louis et al., 2010). Second, looking at the average mean scores across the five distributed instructional leadership domains, all of the macro level leadership tasks received very close scores, which meant that none of the domains (leadership tasks) was being ignored or being over emphasized within our sample schools.

Third, comparing the mean scores of five domains between elementary and secondary schools, our independent-samples t-test showed that elementary and secondary schools' instructional leadership scores were only different for the domain "monitoring teaching and learning". These results suggest that monitoring teaching and learning is practiced at the elementary school level significantly more than it is practiced at the secondary level. Such finding is consistent with the literature (e.g. Firestone & Herriot, 1982b; Heck, 1992; Louis et al., 2010; Midgley et al., 1990). For instance, assessing instructional leadership behaviors under five domains (defining mission, managing curriculum, supervising teaching, promoting an instructional climate and monitoring student progress), Midgley et al. (1990) found that only the scores of "monitoring student progress" were different based on the school level variable.

The significant difference between elementary and secondary schools in terms of monitoring teaching and learning can be explained due to structural differences between two levels of schools. For instance, it is found that elementary school teachers have a greater sense of common focus than their secondary school counterparts. Based on the different linkages

or coupling patterns, elementary and secondary schools were pictured as “two different images” of the same kind: bureaucratic and loosely coupled (Firestone & Herriot, 1982b, p. 39, Herriot & Firestone, 1984). Because of the rational nature of bureaucratic systems, elementary school principals engaged more in tracking daily work and communicating with staff, while secondary school principals focused more on resource allocation and external relationships (Firestone & Herriot, 1982b). Principals’ inclination toward resource allocation and external linkages at the secondary level may diminish the motivation and potential of the school community to focus on internal dynamics such as the effectiveness of teaching and learning activities, whereas, in elementary settings principals engagement in tracking daily work and communicating with staff is likely to lead the school to discussing substantial issues in relation to better teaching and learning outcomes. Supporting this, Heck (1992) analyzed principals’ time allocation over some basic instructional leadership tasks and found that elementary school principals tend to spend more time than their secondary school counterparts. Their findings were significant especially for these tasks: “observing classroom practices, promoting discussion about instructional issues, and emphasizing the use of test results for program improvement” (p.30).

Due to the departmentalized nature of secondary schools, it also makes sense to argue that teacher involvement in instructional matters seems to be inevitable at this level. Supporting this argument, Xie and Shen (2013) concluded that secondary level school teachers perceived themselves to be more involved in leadership roles, particularly in curriculum and instruction related areas. However, it is likely that such involvement in instructional matters at the secondary level does not contain a substantial focus on monitoring teaching practices. Because of the prevalent sense of expertise, secondary school teachers—specialized in one particular subject matter—may not easily be willing to have other people monitoring his/her teaching (Bellibas & Gedik, 2014). Moreover, supporting the finding that monitoring teaching and learning is more likely to take place compared secondary schools, Hallinger (2012) suggested that instructional supervision may not be carried out at middle and high schools as much as it is done at elementary level. He pointed out that secondary schools are typically much more crowded in terms of student population and this leads to problems associated with discipline and management. With such problem it may not be possible for school community to effectively focus on instructional improvement by observing teaching and learning activities taking place in classrooms.

Leadership is composed of multifaceted and heavy tasks such that it cannot produce successful outcomes unless it is being distributed among the instructional and administrative staff. Particularly, if the focus of leadership is on improving classroom instruction, that objective may not be achieved without having teachers in the process of decision-making regarding instructional issues (Spillane et al., 2001). This research indicated significant difference between elementary and secondary schools in the practice of monitoring teaching and learning domain of distributed instructional leadership. In the context of increased accountability there is a need at both policy and practice level to unpack what is going on in the classroom, in order to diagnose problems of student failure that occur due to the low quality of instruction, at not only elementary level but also secondary level. Frequent classroom observation among secondary school teachers might be possible via the school principals who are committed to establishing a school culture within which teachers contribute to each other’s instructional practices by reflecting on and providing feedback for classroom instruction. Although the basic principle of distributed instructional leadership suggests that leadership should be distributed among teachers, principal can still play the role of the “leader of instructional leaders” (Glickman, 1989, p. 6) particularly at the secondary level, in order to enhance motivation for learning from others through classroom observations.

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