CHAPTER 5

Discussion and Conclusions

School leadership is clothed in the positional power of the principalship, and is defined as the influential behavior that results in the increased effectiveness of the school. School effectiveness is defined in terms of student performance on various achievement tests, and on other outcome variables such as attendance, identification, and engagement with school.

Although these definitions may appear straightforward, in reality they mask the complexity of the constructs leadership and effectiveness. As shown in Chapter 1, there are many definitions of leadership, each reflecting the conceptualization that provides the rationale for its interpretation. Similarly, a concise definition of effectiveness is just as challenging. The problem is that effectiveness means different things to different people, and, whereas many researchers use achievement scores as the measure of effectiveness, the debate continues as to whether this should be so. For example, Cuban (1984); Leithwood, Begley, and Cousins (1990); Leithwood and Jantzi (1999) argue that the objective of schooling is more than just academic achievement as measured by test scores. They agree that academic achievement is important, but further argue that consideration must be given to the range of cognitive and affective variables that are among the objectives of schooling and that impact on student performance.

Admittedly, the above argument is sound, thus Blank (1987), in his determination of school effectiveness, used as outcome variables both student academic achievement and student attendance as measured by a simple frequency count, and demonstrated that some leader behaviors were effective across both constructs. Despite the fact that using frequency count as a measure of effectiveness can be considered of questionable validity, intuitively it makes sense that there exists a relationship between attendance for the purpose of learning, and school

achievement. However, the existence of such a relationship does not mean that the constructs are the same.

The use of different outcome variables as a measure of leader effectiveness raises another issue. There is the probability that the kind of leadership behavior displayed could be specifically related to the outcome desired. This of course has implications for the selection of the criterion of effectiveness, and it raises the issue of whether the school's objectives are in congruence with those of the district or state. There is always the probability that the school may be effectively achieving its objectives, but these are not recognized as important by those with the authority to pass judgment.

Herein lies the challenge to measuring effectiveness. In the business sector, the quality of the product is measurable. Standards of quality control can be applied, and the product is tested and inspected to ensure that these standards are met. Each unit is exactly like the other. Unlike the business sector, the product of schooling is vague, places emphasis on the individual and is subjective. This is because the objective is to produce individuals who can think independently, operate at their optimal levels, and be innovative in a rapidly changing society and world economic system (National Commission on Mathematics and Science Teaching for the 21st Century). Thus, although the school's objectives might be the same for all students, the results vary by individuals.

The above observations do not imply that effectiveness cannot be measured. The implication is that there is still need to develop instruments that measure a wider range of outcome variables that are essential to the determination of effectiveness. Until that time, the level of student performance on an achievement test would remain the measure by which schools are categorized as effective or not effective.

The Effect of Leadership

This present quantitative analysis based on 339 effect sizes from 38 studies produced a mean effect size of 0.66. This composite effect size comprises the leadership effects on academic achievement, affect, and overall effectiveness as scored by teachers on a number of leadership measurement instruments.

Table 13: Summary of findings for outcome variable.

Variable	Effect size	95% CI	
		Upper	Lower
Academics	0.52	0.43	0.60
Affect	0.54	0.42	0.66
School effects	1.21	1.07	1.34

As can be seen in Table 13, the effect size for academics is 0.52, for affective variables, 0.54, and for overall school effects, 1.21. Based on these data, it appears that the effects of leadership are best seen through the impact on the overall effectiveness of the school. In this analysis, four variants of leadership are used as the independent variable. These are instructional leadership, transformational leadership, inclusive leadership, which as stated before, refers to a mixed or non-specific approach to leadership, and leadership style. Similar to the outcome variables, when leadership is measured as inclusive, the reported effect size is 1.14 (see Table 5), and 1.21 (Table 15).

It must be noted that in relation to the other reported effect sizes that the reported effect size > 1 standard deviation can be considered extreme. It is possible that because the measure of

leadership is general, the effect size may be an artifact of the instrument, and in reality may be overestimating the effect of leadership. The same rationale applies when the measure of effectiveness examines the overall effectiveness of the school. It is easier for someone to say my school is effective than to identify the specific outcomes of effectiveness.

Looking at the variable, type of school (Table 14), the results of the analysis indicate that at the elementary level, the principal is able to influence the effectiveness of the school to a greater extent than at the secondary level. This finding confirms that of the literature (Sheppard, 1996). At the elementary level schools are smaller, and there is little curriculum specialization. The opposite is true at the secondary level. The share size of the schools makes direct communication between principal and staff a daunting task. Additionally, it is unlikely that the principal would have the level of cross-curricular knowledge that would allow him or her to assume the same instructional leadership role that is possible at the elementary level. Thus, at the secondary level, the influence of the principal is much more indirect, being filtered through the various heads of departments.

Table 14: Summary of findings for type of school.

Variable	Effect size	95% CI	
		Upper	Lower
Elementary	0.75	0.67	0.83
Middle	0.36	0.06	0.67
Secondary	0.44	0.28	0.60
Mixed	0.59	0.44	0.74

A major limitation to the above analysis is that only six studies examined effectiveness at the secondary level contributing 69 effect sizes or data-points to the analysis (see Table 11). As explained by Hattie, Biggs, and Purdie (1996) with reference to Hattie's (1987, 1992) synthesis of 304 meta-analyses based on more than 40,567 studies, "the typical effect size in educational interventions was 0.40" (p. 114). Therefore a mean effect of 0.44, CI_{95} = 0.28 / 0.60 at the secondary level, although not as strong as the relationship as at the elementary level, with reference to the typical effect size for innovations in education, still represents a significant relationship.

An examination of the approaches to leadership reveals that style of leadership was heterogeneous, indicating that it may have been moderated by other variables. Of greater interest however, is the level of significance in relation to the other approaches.

Table 15: Summary of findings for leadership approaches.

Variable	Effect size	95% CI	
		Upper	Lower
Instructional	0.74	0.64	0.84
Transformational	0.62	0.51	0.72
Inclusive	1.21	0.92	1.51
Leadership style	0.48	0.34	0.62

As Table 15 shows, style is less effective than the approach to leadership adopted by the principal, and much less effective than a holistic approach to leadership. This finding to some extent supports the assertions of Hersey and Blanchard (1987), and Heresy, Zigarmi, and Zigarmi (1987) that leadership style is contextual. There is no one best style for all situations; rather, effective leaders adopt the leadership behaviors appropriate for the situation (Manase, 1984).

Implied by the above finding is, teachers attach more importance to the overall quality of the leadership and the leadership approach adopted by the principal. These they see as having greater impact on the effectiveness outcome of the school. However as noted before, the effect size of 1.21 may be an overestimation of the leadership effect and so must be taken with caution. An interesting study would be to look at leadership styles of principals within the context of specific leadership models, to determine the influence of style on the effectiveness outcome of the model.

Classifying the studies by dimension revealed that studies that examined the effects of behaviors related to instructional organization of the school yielded effect sizes of the highest magnitude, $d = 0.66$, $CI_{95} = 0.34 / 0.62$ (Table 20). It is important to note that only four of the 12 studies, as indicated by the inclusion of zero in CI, produced effect sizes of significant magnitude. These four studies were all in the Model B category and brings to attention the contentions of Hallinger and Heck (1998), Leithwood (1994), and Sheppard (1986) that the assumption of a direct relationship between leadership and student outcome is unrealistic for it does not take into consideration the effects of variables that mediate the influence of the principal. The fact is, the principal is at least one step removed from the classroom, and, even

more so at the secondary level, works through intermediaries in ensuring achievement of the school's objectives.

Table 16: Summary of findings for dimensions.

Dimension	Effect size	95% CI	
		Upper	Lower
Instructional organization	0.66	0.34	0.62
Climate	0.29	0.13	0.45
Defining mission	0.22	0.07	0.37
Consideration	0.36	0.21	0.51
Inspiration	0.40	0.21	0.58

Although the studies by Durr (1986), and Krug (1992) were Model A: Direct Effects, these were the only two studies utilizing this design to find significance in the relationship between leadership and student outcomes. All other studies that identified a statistically significant relationship either controlled for the effects of antecedent variables, or adopted the Model B design. Also, it must be noted that the studies that found significance between instructional leadership behaviors and student outcomes all utilized an expanded interpretation of instructional leadership as proposed by Hallinger and Heck (1998) and Stronge (1993).

The above observations do have implications for future research into school leadership effects. It raises the issue of the feasibility of a narrow definition of instructional leadership, and

just as important, asks whether it is productive to design studies that seek to examine the direct effect of school leadership when there is only a remote probability of finding significance.

The dimensions of climate and defining the mission yielded means of 0.29, and 0.22 respectively, which although not strong, were significant at the 0.05 level. These two dimensions together with instructional organization, are all part of the instructional leadership model of school effectiveness which as can be seen in Table 5 yielded a mean weighted effect size of 0.74. The very high within class variance, $Q_w = 121.03$ does limit the confidence that can be ascribed to an interpretation of the result. However, the fact that the results were significant even after the outlier effects were excluded from the analysis (Table 16), strongly indicates that there exists a relationship between the instructional leadership behaviors of the principal, and the level of school effectiveness.

The dimensions related to transformational leadership are defining the mission, common to instructional leadership, and consideration and inspiration. As can be seen in Tables 9 and 10, only six studies were used in the computation of the effect size of the consideration dimension, and three for the dimension of inspiration.

With the exception of Silins (1992) who looked specifically at the transformational leadership behaviors of the principal, the journal articles (Bista & Glasman, 1998; Cheng, 1994) each reported a non-significant relationship between the leadership behaviors and effectiveness. However, with so few studies addressing these two dimensions, it is difficult to draw definitive conclusions about the impact of these dimensions on the effectiveness of the school. Despite this fact, what can be stated is the relationships, even those that are non-significant, are all positive, indicating the existence of a positive relationship between the cluster of leadership behaviors

reflective of the transformational dimensions, consideration and inspiration, and the level of school effectiveness.

A review of the studies not included in the meta-analysis revealed that only one of the 13 found the magnitude of the relationship between leadership and school effectiveness to be non-significant. As explained in Chapter 4, these studies all utilized sophisticated analytical designs and procedures, and looked at a wider range of leadership behaviors.

Based on the reported findings, and supported by the review of the 13 additional studies, it can be stated categorically that leadership does influence school effectiveness, and the instructional approach to leadership assumes preeminence over the other approaches.

Transformational Leadership: The Approach of the Future?

Of the 13 studies reviewed but not included in the meta-analysis, four examined the transformational leadership behaviors of the principal. These were Geisel, Sleegers, and Van den Berg (1999), Leithwood, Jantzi, Silins, and Dart (1999), Sheppard (1996), and Silins (1994). The first is a European study; the following two were conducted in Canada, and the other in Australia. A review of the studies that examined the effects of transformational leadership behaviors suggests that although the approach has gained acceptance among many international educators, and in spite of the fact that this approach emerged from organizational research in America, it is yet to gain prominence as an approach to leadership among American educators.

As stated in Chapter 2, and evidenced from the publication dates of studies that utilized the transformational model of leadership, the approach is of recent origin, and even more so, is its use among educators. However, Leithwood and his colleagues (1990, 1993, 1999), Sheppard (1996), Silins (1992, 1994), and others who locate an interest in this approach to leadership have put forward arguments as to its advantages to the school reform effort. They have argued that in

an environment of change, and in circumstances that demand increased teacher professionalism, competence and commitment, instructional leadership is not appropriate (Sergiovanni, 1992, 1995). Similar sentiments were expressed in the business sector by Bass and Avolio (1994), and Yammarino (1994). Therefore, it can be expected that as the effort to reform the schools continues, and greater professionalism is demanded of teachers, more principals may adopt the transformational approach to leadership.

Implications for Training and Further Research

The question arises, what do these findings mean for principal preparation programs, and for the applied researcher? Basically for the principal preparation programs, there are two sets of implications. One is the demand that all schools become more innovative and effective in an era of high-stakes testing, and the other is the transformation of the urban schools into effective institutions of education. For the applied researcher, the findings provide a confirmation of the effects of leadership on academic achievement.

The meta-analysis has supported the literature on the centrality of the principal's role in the effectiveness of the school. The issue still remains which kind of leadership role for which kind of situation. The literature suggests, and to an extent confirms the 1966 Coleman Report of the link between student's background and academic achievement, and further to this, suggests that the approach to leadership, and the emphases of the principal differs depending on the SES of the school (Edmonds, 1972; Hallinger & Murphy, 1989). This latter statement allows for two interpretations: the SES of the school influences the leadership behaviors of the principal, or different types of schools may demand different kinds of principals. Whichever interpretation is afforded greater utilitarian value, it raises the overall issue of whether principals are adequately being prepared for reform, being prepared for working in the different types of schools, or being

trained for the kind of leadership more suited to a stable environment, and one in which the student population is socially inclined and attuned to the values and goals of education.

This issue is important. Despite the limitations of the study, it is shown that leadership approach does impact on school effectiveness as reflected in the students' outcomes. The results do not only confirm the effectiveness of instructional leadership, but also reveal that the few studies that examined the transformational cluster of behaviors yielded an effect size of 0.62.

These findings also have implications for the applied researcher. The rationale for this synthesis of the empirical data was the inconsistency of the findings in the substantive literature; the results of the study would have contributed to the building of a useable knowledge base in educational leadership. This contribution is important for it not only lends support to the hypothesis of the positive relationship between leadership and school effectiveness, but it also allows the applied researcher to more confidently refer to the relationship between school leadership and the effectiveness of the school.

This analysis does not bring closure to the debate on the influence of leadership on student outcomes. As the body of literature on school leadership expands, it would be necessary in the future to examine the effects of leadership by school level, by location, and models to determine the approach most appropriate to a given context. Such a study would be very relevant to the ongoing effort to improve the effectiveness of all schools, and would certainly add to the body of knowledge on school leadership and school effectiveness.

However, despite the fact that the complexity of the two constructs defies an operational conclusion, leadership does promote school effectiveness and most specifically student performance.