

## DRAFT

### **School Leaders' Influences on Student Learning: The Four Paths**

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#### **Introduction**

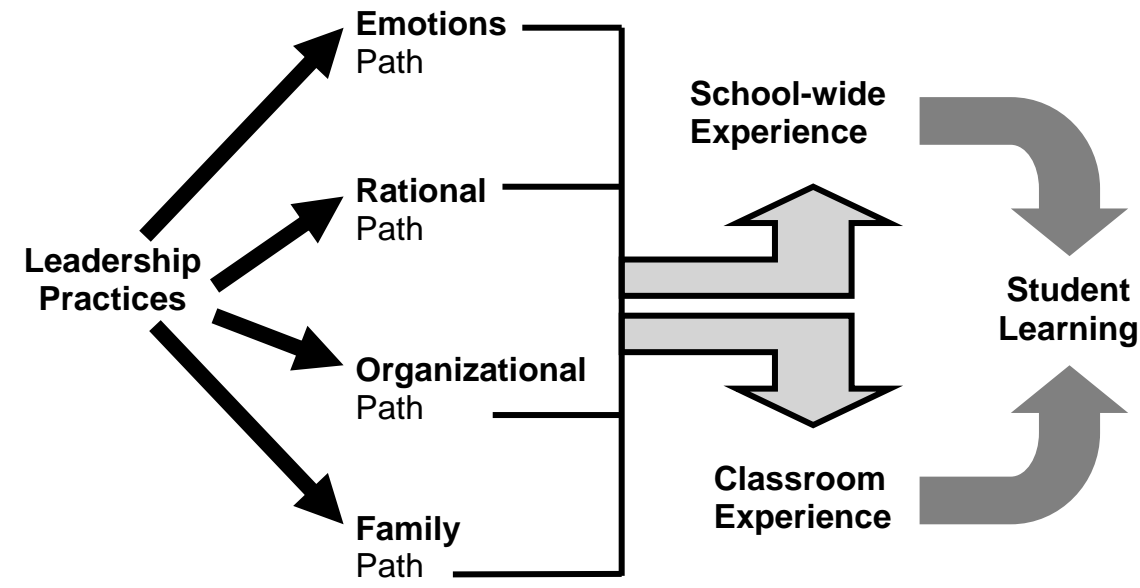
This chapter rests on two fundamental assumptions about educational leadership. First, such leadership is about the exercise of influence and, second, the effects of such influence on student learning are mostly indirect. Premised on these two assumptions, we draw on recent evidence to describe four distinct paths along which the influence of successful leadership practices flow in order to improve student learning. As Figure 1 indicates, these are the Rational, Emotional, Organizational, and Family paths.

Each path is populated by distinctly different sets of variables, each with a more or less direct impact on students' experiences. Selecting the most promising of these variables and improving their status are two of the three central challenges facing leaders intending to improve learning in their schools. As the status of variables on each path improves, through influences from leaders and other sources, the quality of students' school and classroom experiences are enriched, resulting in greater learning. Since exercising leadership influence along one path alone, or just one path at a time, has rarely resulted in demonstrable gains for students, alignment of leadership influence across paths is the third leadership challenge.

Selection and improvement of variables, the first two leadership challenges, are addressed in the next four sections of this chapter, each section focuses on one path. Using the results of recent research, some of the most powerful variables located on each path are identified. One or two of these variables are explored in more detail; evidence of their impact on students is summarized, and leadership practices likely to influence their status in a positive direction are outlined. Alignment of leadership influence across paths is taken up in the fifth section. Hattie's (2009) recent and remarkably comprehensive synthesis of meta-analyses is frequently used to estimate the impact on student learning of selected variables found on three of the four paths; these estimates are reported as effect sizes (or "d")<sup>1</sup>.

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<sup>1</sup> Effect size (ES or d) is any of several measures of association or of the strength of a relation (e.g., Pearson's *r* or eta) and is often thought of as a measure of practical significance (Vogt, 1999). Also see Cohen (1988).



**Figure 1. Four paths of leadership influence on student learning**

### **The Rational Path**

Variables on the Rational Path are rooted in the knowledge and skills of school staffs about curriculum, teaching and learning. In general, exercising a positive influence on these variables calls on school leaders' knowledge about the "technical core" of schooling, their problem solving capacities (Robinson, in press), and their knowledge of relevant leadership practices.

#### **Selecting Variables to Influence**

The rational path includes both classroom – and school – level variables. Since there is now a considerable amount of evidence available about the effects on student learning of many such variables, school leaders are able to prioritize for their attention, those known to have the greatest chance of improving their students' learning. In the classroom, Hattie's (2009) synthesis of evidence implies that school leaders carefully consider the value of focusing their efforts on improving, for example, the extent to which teachers are providing students with immediate and informative feedback ( $d = 0.73$ ), teachers' use of reciprocal teaching strategies ( $d = 0.74$ ), teacher-student relations ( $d = 0.72$ ), the management of classrooms ( $d = 0.52$ ), and the general quality of teaching in the school. Effect sizes for these variables are among the highest reported for all classroom-level variables, whereas some variables currently the focus of considerable effort by school leaders have much smaller effect sizes (e.g., individualized instruction has an effect size of  $d = 0.23$ ).

Many school-level variables have reported effects on student learning as large as all but a few classroom-level variables. Both Academic Press<sup>2</sup> and Disciplinary Climate<sup>3</sup>

<sup>2</sup> In schools with strong Academic Press, administrators and teachers set high but achievable school goals and classroom academic standards. They believe in the capacity of their students to achieve and encourage their students to respect and pursue academic

stand out among these especially consequential variables. Of the more than 20 empirical studies which have been published since about 1989, by far the majority have reported significant, positive, and at least moderate relationships between academic press and student achievement, most often in the area of math, but extending to other subjects such as writing, science, reading, and language, as well (e.g., Goddard et al ,2000). Similarly consistent and positive evidence has also been reported about the contribution of Disciplinary Climate. A large proportion of this research has used very large data sets and sophisticated statistical methods (Ma & Klinger, 2000), features that add to the confidence we can have in these findings. Hattie's (2009) synthesis of evidence estimates that "decreasing disruptive behavior" (p. 103) has a moderate effect size ( $d = 0.53$ ) on student learning.

### **Influencing Selected Variables**

Knowing which variables on the Rational Path hold the greatest promise for improving student learning still leaves leaders with the problem of figuring out how to improve the status of those variables in their schools. There may well be differences in the specific leadership practices or their enactments depending on which variables are chosen for attention.

About Disciplinary Climate, a small amount of evidence recommends flexible rather than rigid responses by leaders to disciplinary events, and engagement of staff and other stakeholders in developing school-wide behavior plans (e.g., Benda, 2002; Leithwood et al., 2004). A broader body of evidence indicates: that "the principal is the most potent factor in determining school climate," and "a direct relationship between visionary leadership and school climate and culture is imperative to support teacher efforts that lead to the success of the instructional [and disciplinary] program" (Rencherler, 1991, cited in Benda, 2002)

A small number of studies have also identified leadership practices likely to increase a school's Academic Press (e.g., Alig-Mielcarek, 2003; Jacob, 2004, Jurewicz, 2004) including:

- promoting school-wide professional development ;
- monitoring and providing feedback on the teaching and learning processes;
- developing and communicating shared goals;
- being open, supportive, and friendly;
- establishing high expectations;
- not burdening teachers with bureaucratic tasks and busy work;
- helping to clarify shared goals about academic achievement;
- grouping students using methods that convey academic expectations;
- protecting instructional time;
- providing an orderly environment;

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success. School administrators supply resources, provide structures and exert leadership influence. Teachers make appropriately challenging academic demands and provide quality instruction to attain these goals. Students value these goals, respond positively, and work hard to meet the challenge.

<sup>3</sup> In the last couple of decades, there has been a shift in the focus of research on discipline from individual students to the school. Willms and Ma (2004) argue that the traditional way of dealing with discipline, mainly at the classroom level, seems insufficient and that the disciplinary climate of the classroom and school has important effects on students. This climate is shaped by features of schools and the larger community. For example, classroom disruption can be a direct reflection of the conflict or tension between teachers and students across the school as a whole.

- establishing clear homework policies;
- monitoring student performance in relation to instructional objectives;
- basing remediation efforts on the common instructional framework;
- requiring student progress reports to be sent to the parents; and
- making promotion dependent on student mastery of basic grade level skills.

### **The Emotional Path**

The rational and emotional paths are much more tightly connected than many leaders believe. Considerable evidence indicates, for example, that emotions direct cognition: they structure perception, direct attention, give preferential access to certain memories, and bias judgment in ways that help individuals respond productively to their environments (Oatley & Jenkins, 2006).

A recent review of more than 90 empirical studies of teacher emotions and their consequences for classroom practice and student learning (Leithwood, 2006; Leithwood & Beatty, 2008), unambiguously recommends leaders' attention to variables on the emotional path as a means of improving student learning. Exercising influence on variables located along the emotional path depends fundamentally on leaders' social appraisal skills (Zaccaro, Kemp & Bader, 2004) or emotional intelligence (Goleman, 1995).

### **Selecting Variables to Influence**

Our recent review pointed to a large handful of teacher emotions with significant effects on teaching and learning. These included both individual and collective teacher efficacy, job satisfaction, organizational commitment, morale, stress/burnout, engagement in the school or profession, and teacher trust in colleagues, parents, and students. Let us consider what we know about just two of these emotions, by way of illustration.

*Collective teacher efficacy (CTE)*. This emotion is conceptualized as the level of confidence a group of teachers feels about its ability to organize and implement whatever educational initiatives are required for students to reach high standards of achievement. The effect of efficacy (or collective confidence) on performance is indirect through the persistence it engenders in the face of initial failure and the opportunities it creates for a confident group to learn its way forward (rather than giving up).

In highly efficacious schools, evidence suggests that teachers accept responsibility for their students' learning. Learning difficulties are not assumed to be an inevitable by-product of low socio-economic status, lack of ability, or family background. CTE creates high expectations for students as well as the collectively confident teachers. Evidence suggests that high levels of CTE encourage teachers: to set challenging benchmarks for themselves, engage in high levels of planning and organization, and devote more classroom time to academic learning. High CTE teachers are more likely to engage in activity-based learning, student-centered learning, and interactive instruction. Among other exemplary practices high CTE is associated with teachers adopting a humanistic approach to student management, testing new instructional methods to meet the learning needs of their students and providing extra help to students who have difficulty,

displaying persistence and resiliency in such cases, rewarding students for their achievements; believing their students can reach high academic goals; displaying more enthusiasm for teaching; committing to community partnerships; and having more ownership in school decisions.

While the total number of well-designed studies inquiring about CTE effects on students is still modest (about 8 studies), their results are both consistent and impressive. This relatively recent evidence demonstrates a significant positive relationship between CTE and achievement by students in such areas of the curriculum as reading, math and writing. Furthermore, and perhaps more surprising, several of these studies have found that the effects on achievement of CTE exceed the effects of students' socio-economic status (e.g., Goddard et al., 2000), a variable that typically explains by far the bulk of achievement variation across schools, usually in excess of 50%. High CTE schools also are associated with lower suspension and dropout rates as well as greater school orderliness (Tschannen-Moran & Barr; 2004).

*Trust in colleagues, students and parents.* This form of relational trust includes a belief or expectation, in this case on the part of most teachers, that their colleagues, students, and parents support the schools' goals for student learning, and will reliably work toward achieving those goals. Transparency, competence, benevolence, and reliability are among the qualities persuading others that a person is trustworthy. Teacher trust is critical to the success of schools, and nurturing trusting relationships with students and parents is a key element in improving student learning. (e.g., Bryk & Schneider, 2005; Lee & Croninger, 1994).

Trust remains a strong predictor of student achievement even after the effects of student background, prior achievement, race, and gender have been taken into account in some recent studies of trust in schools. Goddard (2003) argues that when teacher-parent, and teacher-student relationships are characterized by trust, academically supportive norms and social relations have the potential to move students toward academic success. Results of a second study by Goddard and his colleagues (2001) provide one of the largest estimates of trust effects on student learning. In this study trust explained 81% of the variation between schools in students' math and reading achievement.

### **Influencing Selected Variables**

*CTE.* There are two sources of insight about how leaders might improve the collective efficacy of their teaching colleagues, the theoretical work of Bandura (e.g., 1987) and a small number of studies of principals' transformational leadership (e.g., Leithwood & Jantzi, 2008). In combination, these two sources indicate that teachers' CTE will increase when leaders:

- clarify goals by, for example, identifying new opportunities for the school, developing (often collaboratively), articulating and inspiring others with a vision of the future, promoting cooperation and collaboration among staff towards common goals;
- encourage their staffs to network with others facing similar challenges in order to learn from their experiences;
- structure their schools to allow for collaborative work among staff,;

- offer individualized support by, for example, showing respect for individual members of the staff, demonstrating concern about their personal feelings and needs, maintaining an open door policy, and valuing staff opinions;
- sponsor meaningful professional development; and
- provide appropriate models of both desired practices and appropriate values

*Trust.* Principal leadership has been highlighted in recent evidence as a critical contributor to trust among teachers, parents and students (e.g., Bryk, 2003). This evidence suggests that principals engender trust with and among staff and with both parents and students when they:

- recognize and acknowledge the vulnerabilities of their staff;
- listen to the personal needs of staff members and assist as much as possible to reconcile those needs with a clear vision for the school;
- create a space for parents in the school and demonstrate to parents that they (principal) are reliable, open, and scrupulously honest in their interactions;
- buffer teachers from unreasonable demands from the policy environment or from the parents and the wider community;
- behave toward teachers in a friendly, supportive, and open manner; and
- set high standards for students and then follow through with support for teachers.

### **The Organizational Path**

Structures, culture, policies, and standard operation procedures are the types of variables to be influenced on the Organizational Path. Collectively, they constitute teachers' working conditions which, in turn, have a powerful influence on teachers' emotions (Leithwood & Beatty, 2008). These variables constitute both the school's infrastructure and a large proportion of its collective memory.

Like the electrical, water and road systems making up the infrastructure of a neighborhood, variables on the Organizational Path are often not given much thought until they malfunction. At minimum, a school's infrastructure should not prevent staff and students from making best use of their capacities. At best, school infrastructures should magnify those capacities and make it much easier to engage in productive rather than unproductive practices. Ensuring that variables on the Organizational Path are working for, rather than against, the school's improvement efforts is vital to a school's ability to sustain its gains. A new instructional practice, for example, will not be sustained if it requires unusual amounts of effort for an indefinite period of time.

Sustaining gains also depends on transforming individual into collective learning. Learning first occurs in a school at the level of the individual. The challenge for organizations attempting to get smarter is how to take collective advantage of what its individual members are learning (Cohen, 1996). Modifying variables on the Organizational Path to reflect what individual members learn, creates the potential for that learning to shape the behavior of many others in the organization. This is often how promising practices move beyond initial implementation by a few people to longer-term institutionalization by many.

### **Selecting Variables to Influence**

Hattie's (2009) synthesis of evidence identifies more than a dozen variables located on the organizational path. Some can be found in the classroom (e.g., class size, ability groupings), some are school-wide (e.g., school size, multi grade/age classes, retention policies); many are typically controlled by agencies outside the school (e.g., school funding, summer school). One of the more powerful and fully researched variables on the Organizational Path is Instructional Time. A brief review of evidence about this variable helps illustrate why it would be one good choice for leadership attention.

Early research on time for learning introduced four distinct ways in which it could be conceptualized and measured. The *total amount of time* potentially available for learning, is a simple function of the number of days of schooling per year and the number of hours of instruction per day. *Time actually devoted to instruction* is the potential time left for learning once unplanned events, recesses, transitions, interruptions and the like are subtracted from the total potential time. *Opportunity to learn (OTL)* is a targeted version of time actually devoted to instruction which acknowledges that the content or focus of instructional time has significant effects on the nature of student learning. This measure of time was first introduced by Carroll (1963) in his model of school learning. Finally, *academically engaged time* is the time students actually spend on their own learning within the time devoted to instruction.

Research about the extent to which these different ways of conceptualizing and measuring Instructional Time influence student learning (e.g., Wang, 1998; Marburger, 2006; Roby, 2004; Tornroos, 2005) indicates that:

- the *total amount of time* potentially available for instruction, typically measured as student attendance rates, has been reported to have effects on student learning varying from weakly significant to quite strong;
- the total amount of *time actually devoted to instruction* has moderate effects on student learning;
- the content of the curriculum which students spend time studying, *opportunity to learn*, has quite strong effects on the nature of their learning; and
- students' total amount of *academically engaged time* is strongly associated with student learning.

### **Influencing Selected Variables**

There has been little direct evidence reported about leadership practices for optimizing instructional time in schools, with the major exception of research on leadership "buffering". A venerable leadership practice, the value of buffering as a contribution to organizational goals is justified by evidence collected in both in schools and many other types of organizations (Yukl, 1994). In schools, buffering aims to protect the efforts of teachers from the many distractions they face from both inside and outside their organizations. Such protection allows teachers to spend their time and energies on teaching and learning. In the case of principals, "outside" buffering entails behaviors such as running interference with unreasonable parents, supporting teachers in the discipline of students, and aligning government and district policy initiatives with the school's improvement.

In schools which recognize the importance of how students spend their time, school schedules, timetables, structures, administrative behaviors, instructional practices and the like, are all designed to ensure that students are engaged in meaningful learning

for as much of their time in school as possible. Distractions from meaningful learning are minimized. The key to successful leadership, in the case of instructional time, is to help ensure that the day-to-day functioning of the school conspires to focus everyone's efforts on desirable student learning. Indeed, optimizing instructional time, increasing academic press, and improving the school's disciplinary climate are interdependent leadership initiatives.

### **The Family Path**

It is often claimed that improving student learning is all about improving "instruction" (Nelson & Sassi, 2005; Stein & Nelson, 2003). While improving instruction is both important and necessary work in many schools, this claim, by itself, ignores all of the powerful variables found on both the Emotional and Organizational paths described in two of the earlier sections of the chapter. Even more critically, this claim seems to dismiss factors accounting for as much as 50% of the variation in student achievement across schools (e.g., Kyriakides & Creemers, 2008). These are variables located on the Family Path. Since best estimates suggest that everything schools do within their walls accounts for about 20% of the variation in students' achievement (e.g., Creemers & Reetzig, 1996), influencing variables on the Family Path is a "high leverage" option for school leaders.

#### **Selecting the Most Promising Variables**

Treating as many variables as possible on the Family Path as alterable rather than given was considered to be the new work of leaders more than fifteen years ago (Goldring & Rallis, 1993). By now, there is considerable evidence about what these variables might be. For example, Hattie's (2009) synthesis of evidence points to seven family-related variables with widely varying effect sizes. At least four of these variables are open to influence from the school including home environment ( $d = 0.57$ ), parent involvement in school ( $d = 0.51$ ), time spent watching television ( $d = -0.18$ ), and visits to the home by school personnel ( $d = 0.29$ ).

Leithwood's (2006) synthesis of 40 studies points to the important influence on children's academic success of family work habits, academic guidance and support provided to children, stimulation to think about issues in the larger environment, provision of adequate health and nutritional conditions, and physical settings in the home conducive to academic work. Perhaps most important are the academic and occupational aspirations and expectations for children (e.g., Hong & Ho, 2005) of parents, guardians and other significant members of their immediate community; Hattie (2009) reports an effect size of 0.58 for parent expectations which, as he notes, "was far greater than parental involvement at the school ( $d = 0.21$ )" (p. 69).

#### **Influencing Selected Variables.**

Although parent involvement in school has far less impact on student learning than parent influence in the home, children benefit from their parents' engagement in their learning in both locations (Epstein, xxxx). Evidence from Leithwood's (2006) review indicates that parent engagement in school is nurtured when parents come to understand that such involvement is a key part of what it means to be a responsible parent, when

parents believe they have the skills and know-how to make meaningful contributions to the school's efforts and when they believe that school staffs, as well as their own children, value their participation in the school. School leaders and their staffs contribute to such beliefs by, for example:

- issuing invitations for parent participation that are personal and specific rather than general;
- matching parent skills to the activities in which they will participate;
- providing very specific information and feedback to parents about their child's progress;
- creating opportunities for parents to interact with one another about school matters;
- designing their classroom activities to include special projects which involve parents in direct support of instruction requiring skills well-matched to parents capacities;
- communicating effectively with parents, for example, by altering schedules to accommodate the schedules of parents, modifying the format of parent conferences to make them less intimidating and more meaningful for parents, providing a private environment in which to have parent-teacher conferences, soliciting parent views on key matters concerning their children's education and engaging in joint problem solving with parents; and
- appointing a community liaison person as a link between the parents and the school in order to build both teacher and parent capacity to communicate with one another.

Parent involvement in their children's education at home can take many forms, as Hattie's (2009) synthesis suggests. But some families have far more resources than others to be involved in productive ways. Families facing poverty, linguistic and cultural diversity, unemployment and housing instability typically have considerable difficulty finding those resources.

One of the most common forms is engagement with young children in learning to read. A recent synthesis of evidence about alternative ways in which parents might help their children learn to read (Senechal & Young, 2008) found that approaches in which either parent or child were relatively passive were of little value. Children's reading improved when parents actively taught their children how to read using a variety of techniques well known to teachers of reading. Of course, many parents will not have opportunities to learn such active forms of reading instruction unless the school intervenes. This would also be the case something that in most schools would require principal initiative.

### **Alignment of Leadership Influence Across Paths**

While variables associated with each of the four paths are distinct, they also interact with variables on the other paths; our previous account of variables on several paths pointed to several examples of such interaction. Typically, failure to take such interaction into account severely limits school leaders' influence. This means, for example, that if a school leader decides to improve the status of a school's Academic Press (a variable on the Rational Path), she will also need to consider what her teachers' feelings will be, in response. The leader will need to ensure that her teachers begin to feel, for example, efficacious about their role in fostering the school's academic press (a variable on the Emotional Path). Such nurturing of teacher efficacy may take the form of

establishing a teacher work team with responsibility for planning how to improve the school's academic press (the Organizational Path). Participation on such a work team will provide teachers with opportunities to design strategies for improving academic press which they consider to be realistic. It may also provide them with the chance to think through their parents' reactions to this initiative (the Family Path) and how best to build parent support for it.

The need for alignment across paths initially seems to hugely complicate leaders' work. But, as our Academic Press example illustrates, picking only one or two powerful variables (such as Academic Press) on a path, and planning for the most likely interactions makes the leadership task much more manageable. This way of thinking about the leadership task, however, does add weight to the argument that leaders' success will typically depends on devoting one's attention to a small number for priorities.

Aside from its surface reasonableness, the case for alignment of leadership influence across paths can be justified on both historical and theoretical grounds. From an historical perspective, at some point over the past six decades, reformers have considered selected interventions on each of the four paths independently to be the solution to problems of student underachievement, and each has been found wanting. Post-Sputnik efforts to reform curriculum and instruction exemplified a preoccupation with the rational path but to little apparent effect. Disappointed reformers then began a journey along the emotional path, the most visible manifestation of which was the organizational development (OD) movement of the '80s and its efforts to improve working relationships in schools and districts. With OD's failure to live up to expectations, reformers switched to the organizational path during the late '80s and early '90s, setting off a wave of school restructuring which appeared to make little difference to student learning. Previous examples of efforts to exercise influence on the family path include both the community school and full-service school movements.

Theoretical justification for the alignment of leadership influence across paths can be found in an explanation of human performance originating in industrial psychology (O'Day, 1996; Rowan, 1996). What teachers do, according to this theory, is a function of their motivations (addressed by the emotional path), abilities (found on the rational path), and the situations in which they work (the organizational and family paths). The relationships among these variables are considered to be interdependent. This means two things. It means that each variable has an effect on the remaining two (for example, aspects of teachers' work environments are significant influences on their motivations). It also means that changes in all three variables need to happen more or less in concert or performance will not change much. For example, neither high ability and low motivation, nor high motivation and low ability foster high levels of teacher performance; neither does high ability and high motivation in a dysfunctional work environment. Furthermore, a dysfunctional work setting will likely depress initially high levels of both ability and motivation.

## **Conclusion**

This chapter has been firmly rooted in evidence about those features of classrooms, schools, and the wider environment, which make practically significant contributions to student learning. It has proposed a way for leaders to think about and

plan their work so that the majority of their efforts have the consequences they wish for their students. On the assumption that leaders' effects on students are indirect, the chapter has identified a large sample of variables which do have a direct influence on what students learn. The chapter has explored the results of research about a sub-set of these variables and summarized what can be gleaned from relevant research about how successful leaders influence the status of these powerful variables.

Organized around "four paths," the evidence reflected in this chapter implicitly rejects narrow conceptions of instructional leadership as far too simplistic a view of how school leaders in heads' or principals' positions can improve education in their organizations. Indeed, this evidence indicates quite clearly that improvements to many variables other than teachers' instructional practices stand at least as good, if not a better chance, of improving student learning as do improvements to such practices.

This is not to dismiss efforts to improve teachers' instructional practices; such efforts will be very important in some schools for some purposes. It does acknowledge, however, that improvements at the margins of what already good teachers are doing cannot be expected to produce large gains in student achievement, and that principals or heads need to delegate much of the work of improving classroom instruction to others, since they are typically the only people in schools in a position to stimulate improvements to most of the other powerful variables on the four paths leading to improved student learning.

## **References**

[to be added]