

redicting the impact of teacher leadership more than a decade ago, Jennifer York-Barr and Karen Duke (2004) stated that "teacher leadership work that is focused at the classroom level of practice (e.g. implementing instructional strategies) is likely to show student effects more readily than work that is focused at the organizational level (e.g. participating in site-based decision making)" (p. 288). This chapter serves as the foundation for understanding the essential nature of coaching as both a professional learning and school improvement function. It offers a definition of coaching and a summary review of relatively recent research about coaching. It highlights that coaching is a strategy for strengthening teaching and student learning and for building a culture of collaboration and transparency within a school that has a variety of positive effects for teachers and students. The chapter also highlights some of the challenges with coaching identified in research studies.

The body of evidence continues to grow in support of coaching's value in promoting teaching quality and student success. As a form of professional learning that advances professional expertise, "[t]eacher coaching is considered a high-quality professional development opportunity that emphasizes job-embedded practice, intense and sustained durations, and active learning" (Blazar & Kraft, 2015, p. 542). A recent report from the Lastinger Center at the University of Florida, Learning Forward, and Public Impact (2016) states,

Research has shown that instruction can change and students can benefit from effective coaching of their teachers. Several comparison-group studies have found that teachers who experience high-quality coaching are more likely to enact new teaching practices and apply them more appropriately than teachers who engage in more

traditional professional learning, such as workshops and conferences. (p. 6)

Linda Darling-Hammond and the team of researchers who studied the state of professional learning in the U.S. noted:

Coaching models recognize that if professional development is to take root in teachers' practice, ongoing and specific follow-up is necessary to help teachers incorporate new knowledge and skills into classroom practice both in the short- and long-term... [S]chool-based coaching generally involves experts in a particular subject area or set of teaching strategies working closely with small groups of teachers to improve classroom practices and, ultimately student achievement. In some cases, coaches work full-time at an individual school or district; in others, they work with a variety of schools throughout the year. Most are former classroom teachers, and some keep part-time teaching duties while they coach. (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009, p. 14)

Coaching accelerates growth and results. Robert Marzano, Julia Simms, Tom Roy, Tammy Heflebower, and Phil Warrick (2013) state that coaching "has become increasingly popular to help teachers increase their knowledge and skill. While educational coaches fill a variety of roles and perform various functions, the primary purpose of an instructional coach should be to help teachers increase their effectiveness" (p. 1). A theory of change for coaching in which the overarching purpose of coaching is to increase student success emphasizes that student success depends on quality teaching (see Figure 1.1). Every student deserves access to the same level of high-quality

teaching every day. To ensure that teaching is of the highest quality, teachers continuously grow and learn until they achieve high levels of mastery with both content and pedagogy. They continue, with coaching, to collaborate, examine their practice, reflect on its effectiveness, and fine-tune it to integrate new practices and research- or evidence-based findings. For teachers to continue to grow in this way, they need to work in schools committed to a culture of continuous improvement and with a principal and staff who share collective responsibility for the professional growth of all adults and the success of every student.

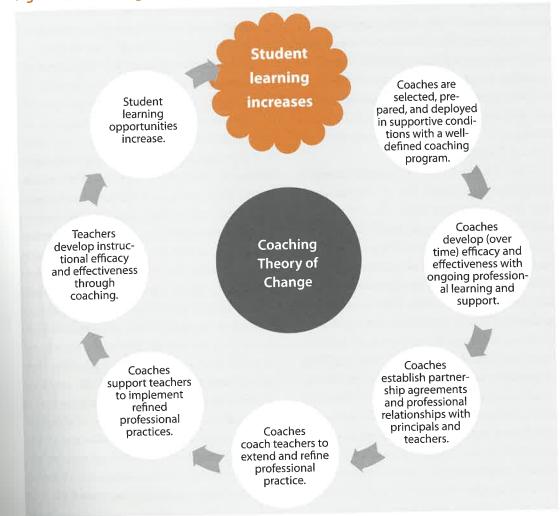
The Annenberg Institute for School Reform (2004), which has studied instructional coaching for many years, writes that,

Coaching provides such supports through an array of activities designed to build collective leadership and continuously improve teacher instructional capacity and student learning. These activities, ideally, coalesce in ways that create internal accountability due to the embedded nature of the work and people engaged in it. (p. 2)

The report continues, "A well-designed and supported coaching program weds core elements of effective professional development with the essential goals of professional learning communities in ways that advance both school and systemic improvement" (p. 2). Neufeld and Roper (2003) conclude,

There are many good reasons for teachers to broaden the array of people with whom and from whom they learn. But improving teachers' learning — and, in turn, their practice and student learning — requires professional development that is closely and explicitly tied to teachers' ongoing work. Coaching addresses that requirement. (p. 3)

Figure 1.1: Coaching Theory of Change



Definitions of coaching

Coaching is complex work. It is made complex partly because of the multiple capacities in which a coach is fluent for his or her practice and partly because of the wide range of approaches or orientations to coaching or a coaching program. Before achieving an expert-level of skill, coaches begin by developing a deep understanding of both their purpose as a coach and the orientation to coaching within which they work.

Programs often based on inadequate definitions

Since coaching can mean different things to different people, it also means different practices to different people. This variability can become confusing when a principal expects a coach to act as an expert coach correcting teacher practices and enforcing new instructional practices while the coach perceives himself in a different way. Many coaching programs in elementary and secondary education are insufficiently defined to clarify the

coaching framework that best meets the identified goals of the coaching program. And, many programs identify only broad coaching goals, thus increasing the difficulty of identifying which coaching model works best. Most K–12 coaching programs incorporate components of many coaching frameworks or approaches, as might be appropriate, yet they fall short of the degree of specificity needed to clarify coach roles and actions.

The definitions of coaching discussed in this chapter are just a few of the hundreds that exist in the literature. The frameworks and approaches to coaching offered here are by no means exhaustive. They provide an important foundation to facilitate decision making by coaching program leaders and coaches themselves about what assumptions guide their practice and underlie the specific coaching program. By examining the definitions and descriptions of various coaching frameworks and approaches, district leaders, coach champions, and coaches will be better able to develop definitions of coaching, specify the desired outcomes of coaching programs, and identify the underlying assumptions that guide coaching practice. By crafting a specific definition of their coaching program, educators can align assumptions and definitions directly with the conditions and context in which they work rather than importing a specific framework that may not align with the context of the school or district.

Coaching is a process that engages one professional with another to clarify and achieve goals (Bloom, Castagna, Moir, & Warren, 2005; Centre for the Use of Research and Evidence in Education, 2005). Killion (2012) distinguishes between informal and formal coaching,

In informal coaching teachers volunteer to support one another in a collegial way ... to promote shared learning. Formal coaching, often with a person designated as a coach who is a specialist or knowledgeable other and who has had some formal preparation to serve in that capacity, focuses on developing a specific body of knowledge or pedagogy. (p. 275)

The International Coaching Federation (https://coachfederation.org) defines coaching as "partnering with clients in a thoughtprovoking and creative process that inspires them to maximize their personal and professional potential." Coaching, according to Joyce and Showers (1981), "usually involves a collegial approach to the analysis of teaching for the purpose of integrating mastered skills and strategies into: a) a curriculum; b) a set of instructional goals; c) a time span; d) a personal teaching style" (p. 170). They later identified the functions of the coaching process as providing companionship, technical feedback, analyzing application, and adapting to the students (Joyce & Showers, 1983). Poglinco and colleagues (Poglinco, et al., 2003), in their evaluation of America's Choice, a comprehensive school reform model for K-8 schools in literacy, define coaching as a "form of inquiry-based learning characterized by collaboration between individual, or groups of, teachers and more accomplished peers. Coaching involves professional, ongoing classroom modeling, supportive critiques of practice, and specific observations" (p. 1).

In his review of the literature on peer coaching, Ackland (1991), divides coaching into two categories: coaching by experts and reciprocal coaching. Coaching by experts, he says, is "specifically trained teachers with an acknowledged expertise who observe other teachers to give them support, feedback, and

Learning Forward

suggestions" (p. 24). He defines reciprocal coaching as teachers observing and coaching each other to jointly improve instruction.

Conversations bring out greatness

Bob Tschannen-Moran and Megan Tschannen-Moran (2010) define coaching as a "conversational process that brings out greatness in people" (p. 5). It does this they continue, "not only by getting people to think about their own experiences and to practice new behaviors over time, but, more importantly, by getting people excited about the prospect of learning new things and becoming masterful practitioners" (pp. 4–5). Examining coaching from a professional perspective, Atul Gawande (2011) writes,

The concept of a coach is slippery. Coaches are not teachers, but they teach. They're not your boss — in professional tennis, golf, and skating, the athlete hires and fires the coach — but they can be bossy. They don't even have to be good at the sport. The famous Olympic gymnastics coach Bella Karolyi couldn't do a split if his life depended on it. Mainly, they observe, judge, and they guide. (para. 17)

He describes that legendary musicians and singers consider their coaches "outside ears" (para. 27) who hear what they themselves are not able to hear about a performance. "Expertise," continues Gawande, "requires going from unconscious incompetence to conscious incompetence to conscious incompetence and finally to unconscious competence. The coach provides the outside ears, and makes you aware of where you're falling short" (para. 39). And, where one is succeeding to overcome the natural human tendency to resist being observed and critiqued. Gawande concludes,

Coaching done well may be the most effective intervention designed for human performance. Yet the allegiance of coaches is to the people they work with; their success depends on it. And the existence of a coach requires an acknowledgement that even expert practitioners have significant room for improvement. (para. 84)

Difference is byword

The differences that abound in coaching are determined by the purpose and goals of the coaching program, the framework or approach to coaching, who does the coaching, and the content of the coaching. Coaching literature identifies multiple various forms of coaching, and to date no research suggests that one approach is superior to another. The multiple forms of coaching are, in some cases, distinguished by the underlying assumptions guiding a coach's actions and her beliefs about the client. Coaching is applied in corporate and educational settings as well as in individual settings primarily to promote growth and achieve potential, yet some forms of coaching are more prevalent in one setting or another. These forms include the following:

Blended coaching, as defined by Gary Bloom, Claire Castagna, Ellen Moir, Betsy Warren (2005), is a way of describing the combined practices of leadership coaches who apply and meld various coaching strategies based on their experiences and training in their leadership coaching efforts.

Challenge coaching "helps teams of teachers resolve persistent problems in instructional design or delivery. The term 'challenge' refers to resolving a problematic state" (Garmston, 1987, p. 21).

Coaching continuum model uses the gradual-release-of-responsibility principle as

a foundation. It acknowledges that coaches need flexibility and versatility to shift among the roles of a consultant, collaborator-mentor, and coach to promote learning and change (Norwood and Burke, 2008). The model recognizes that a client's experience and needs may require a coach to provide more explicit guidance in some situations, serve as a peer in addressing different situations, and support a client as a coach in others.

Co-active coaching, developed by Henry Kimsey-House, Karen Kimsey-House, Phil Sandahl, and Laura Whitworth (2011), is a style of coaching in which both coach and client are active collaborators. "In Co-[a]ctive coaching this is a relationship — in fact an alliance — between two equals for the purpose of meeting the coachee's needs" (p. 30).

Cognitive coaching "is a simple model for conversations about planning, reflecting, and problem solving. At deeper levels, it serves as the nucleus for professional communities that honor autonomy, interdependence, and produce high achievement" (Costa & Garmston, 2002, p. 5).

Collegial coaching "is used to increase teachers' professional dialogue and help them to reflect on their work" (Poglinco, et al., 2003, p. 2). Garmston (1987) says that collegial coaching is intended to "refine teaching practices, deepen collegiality, increase professional dialogue, and help teachers to think more deeply about their work" (p. 20).

Content-focused coaching is "zeroing in on the daily tasks of planning, teaching, and reflecting on lessons suggesting a framework and tools for addressing standards, curriculum, principles of learning, and lesson design and assessment. It does not prescribe particular methods or techniques of teaching" (West & Staub, 2003, p. 2). Cathy Toll (2014) updates the definition of a literacy coach. "A literacy

coach," she states, "partners with teachers for job-embedded professional learning that enhances teachers' reflection on students, the curriculum, and pedagogy for the purpose of more effective decision making" (p. 10).

Differentiated coaching, as defined by Jane Kise (2017), acknowledges that individuals' preferences explain how they take in information and make decisions. Using a well-researched framework of personality types, Kise describes how coaches align coaching practices with individual needs and preferences to achieve maximum success. Using personality types as a coaching framework, asserts Kise, builds on clients' strengths, identifies patterns of resistance, and helps people reach their full potential.

Evocative coaching, developed by Bob and Megan Tschannen-Moran, emphasizes finding purpose and meaning in life. Evocative coaching, they state, is "Calling forth motivation and movement in people, through conversation and a way of being, so they achieve desired outcomes and enhance their quality of life" (p. 7).

GROW coaching model emphasizes four stages of a coach's work with clients: (a) Goal setting, (b) Reality checking, (c) Options, and (d) What to do, When, by Whom, and the Will to do it (Whitmore, 2009). This model, states John Whitmore, unlocks "people's potential to maximize their own performance. It is helping them to learn rather than teaching them" (p. 10).

Instructional coaching, as described by multiple coaching program leaders (Aguilar, 2013; Barkley, 2010; Knight, 2007; Sweeney, 2009), occurs when a coach models new strategies in the classroom and then provides feedback when the teacher begins to use the strategies. "Instructional coaches typically plan with a teacher or review a lesson plan, observe the lesson, and debrief the lesson with the teacher

following the observation" (Sweeney, 2009, p. 50). The instructional coach, writes Sweeney (2009), personalizes professional development to address individual teachers' needs while she helps the school leader "establish a common understanding across all teachers" (p. 50).

Ontological coaching, emerging from philosophers, scientists, and thinkers who believe that life is a state of continuous change, is a process that enables clients to deeply examine their language, actions, and beliefs to build their capacity to learn, act more effectively, and design the future they want as the coach helps them discover and address their blind spots (Sieler, 2005).

Peer coaching "is commonly defined as two or more professional colleagues working together to improve their professional knowledge and skills" (Poglinco, et al., 2003, p. 2). Valencia and Killion (1988) define peer coaching as "the process where teams of teachers regularly observe one another and provide support, companionship, feedback, and assistance" (p. 170).

Peer consultation is a naturally occurring form of teacher support, according to Jo Blasé and Joseph Blasé (2006). It "includes informal and emergent interactions and relationships among teachers that significantly facilitate and influence teachers' classroom instruction across school levels and across different governance structures. The teacher [offering support] is neither designated a teacher leader, nor . . . given a formal leadership role of any kind" (p. 14).

Team coaching is the process of working collaboratively with more than one client simultaneously (Killion, Harrison, Bryan, & Clifton, 2012). "As teacher teams are coached around a common set of instructional strategies they themselves identified, teachers benefit from the simultaneous support of the coach

and their colleagues" (Many, Maffoni, & Sparks, 2016, p. 8).

Technical coaching "is typically used to transfer new teaching practices into teachers' regular repertoire" (Poglinco, et al., 2003, p. 2). Garmston (1987) adds that technical coaching "helps teachers transfer training to classroom practice. It generally follows training in specific teaching methods; this model pairs consultants with teachers or teachers with one another" (p. 18).

Transformative coaching is a process "that moves people beyond improved performance (single-loop learning), to developing new ways of thinking (double-loop learning), and ultimately to changing their way of being (triple-loop learning)" (Hargrove, 1995, p. 85).

Virtual coaching occurs while the teacher is still teaching. It is built on the concept of reflection as knowing-in-action, described by Donald Schon (1987), and is adapted with technology as follows:

Virtual coaching uses advanced online and mobile technology (termed bug-in-ear) to allow an instructional leader located remotely (down the hall or across the country) to observe a teacher's lesson while offering discreet feedback heard only by the teacher, though an earpiece the teacher wears. (Rock, Zigmond, Gregg, & Gable, 2011, p. 42)

Mary Catherine Scheeler, James McAfee, Kathy Ruhl, and David Lee (2006) note that this form of coaching can have a positive effect on practice and student success. "This research demonstrates that immediate, corrective feedback when delivered via technology can result in increases in correct practice of teaching behavior, with positive results on student academic performance and minimal disruption to both teachers and students" (p. 24).

Study setting to choose approach

Because approaches to coaching vary, clarifying which approach or combination of approaches is best suited to a specific situation requires careful study of the context, clients, system and individual needs and goals, and desired outcomes of the coaching program. Simply knowing the distinctions among the models of coaching will do little to improve the skills of a coach, yet acknowledging the distinctions and choosing a clearly defined approach or framework set the parameters for how a coach helps develop knowledge, skills, dispositions, and practices. The preparation of a coach and ongoing support and monitoring likewise align with the coaching approach so that the coach meets with success.

Role of instructional coach differs from that of teacher leader

Coaches who are teacher leaders within their school or district support teachers individually and in teams. Yet, "by definition, instructional coaches play a significantly different role than either teacher leaders or PLC leads," write Chris Bierly, Betsy Doyle, and Abigail Smith (2016, p. 25). They point out that instructional coaches sometimes take on the instructional tasks of school leaders:

School systems have deployed them widely — often one or two per building — precisely to provide the observation, coaching and feedback teachers aren't getting otherwise. Teachers report that these one-on-one relationships can be very helpful in terms of skill development and growth. And unlike teacher leaders and PLC leads, instructional coaches do assume many of the instructional development responsibilities that typically fall to principals — from observation and

feedback to facilitating professional development sessions. (p. 25)

A core attribute of effective professional learning is onsite, classroom-based support that personalizes learning for adults so their work has the maximum impact on student success. Research from Beverly Showers (1982, 1984) and Bruce Joyce and Beverly Showers (1995, 1996, 2002) reinforces the importance of continued study and coaching as essential to moving new information into routinely applied practice. Both the Learning Designs and Implementation standards stress the importance of sustained, onsite support to ensure implementation of new learning:

Learning Designs: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes (Learning Forward, 2011, p. 23).

Implementation: Professional learning that increases educator effectiveness and results for all students applies research on change and sustains support for implementation of professional learning for long-term change (Learning Forward, 2011, p. 23).

Engaging in the feedback process promotes ongoing reflection and refinement of professional practice (Killion, 2015). Coaching, as a component of an effective professional learning design, increases and extends application of learning, supports personalization, and increases success and impact. As Bierly, Doyle, and Smith (2016) note,

The core objective of any school is to provide high-quality instruction, thereby fostering both excellent teaching and a learning environment in which students can thrive. That requires the kind of day-to-day coaching and support that is most effective when leaders work closely together with their teams.

"Excellent coaching that gives teachers this support is more important than ever in an era of rising standards and heightened expectations for students" (The University of Florida Lastinger Center for Learning, Learning Forward, & Public Impact, 2016, p. 5).

Effects of coaching

Emerging from studies of coaching is evidence that coaching makes a positive contribution to increasing teacher efficacy, practice, student achievement, and school performance (Allen, Pianta, Gregory, Mikami, and Lun, 2011; APQC Working Group, 2011; Biancarosa Bryk, & Dexter, 2010; Campbell & Malkus, 2011; Darling-Hammond, et al., 2009); Feighan & Heeren, 2009; Forgette, 2015; Kretlow & Bartholomew, 2010; Blazar & Kraft, 2015; Marsh, McCombs, & Martorell, 2010; Medrich, Fitzgerald, & Skomsvold, 2013; Neufeld & Roper, 2003; Neuman & Cunningham, 2009; Panfilio-Padden, 2014; Sailors & Price, 2010; Teement, 2014; Wapole, McKenna, Uribe-Zarain, & Lamitina, 2010; Zwart, Wubbels, Bergen, & Bolhuis, 2009). It also positively influences teacher beliefs about their professional practice and the culture within which they work. Many of the studies cited used quasiexperimental or descriptive studies with some using randomized trials to measure the effects of coaching. The studies yield a range of results, depending on the variables measured, and span multiple disciplines, types of coaching programs and approaches, and grade levels. They include the following results for teachers:

- Implementing new instructional practices specific to a content area such as reading, science, or math;
- Implementing new instructional practices not linked to a specific discipline;
- Gaining efficacy;
- Increasing fidelity of implementation of new procedures, behavior systems, instructional practices, curricular programs, or classroom routines;
- Staying in education;
- Feeling supported.

When coaching improves teaching quality, students benefit. Coaching has concomitant effects on students that include:

- Greater academic success;
- Higher levels of engagement in learning;
- Improved behavioral and social skills within the classroom.

Bruce Joyce and Beverly Showers have conducted, possibly, the best-known studies that show positive effects of coaching. In multiple studies of professional development programs in several school districts across the country, Joyce and Showers (1995) found that when presentation of theory, demonstration, and low-risk practice were combined with coaching and other forms of follow-up support, such as study groups, teachers' use of the new instructional strategies increased dramatically. In their journey toward discovering what made teachers learn and apply what they were learning in their professional development, Joyce and Showers noted that the transfer rate — the frequency with which new learning was used in the classroom was low for most staff development that involved presentations and even demonstration. Since their initial study in 1980, subsequent studies have consistently found that teachers' implementation of new learning rises dramatically when peer coaching sessions

occur. "In the early 80s," they wrote, "we formally investigated the hypothesis that coaching following initial training would result in much greater transfer than would training alone. We confirmed this hypothesis..." (1996, p. 13).

Joyce and Showers were driven to explore what helped teachers learn because they realized that new curricula, instructional strategies, programs, or other improvement efforts could only produce student outcomes if they were effectively implemented in classrooms. The researchers had noted that many innovations in education never made it to the implementation level and, therefore, never had an opportunity to benefit students.

Joyce and Showers are not the only ones who recognize the limitations of professional development in producing results for teachers or students. Richard Elmore, Penelope Peterson, and Sarah McCarthey (1996) agree. They concluded that substantive changes in teachers' instructional practices were difficult to achieve because, even when teachers were willing to

learn new practices, they applied them superficially or inconsistently in their classrooms. If the primary purpose of coaching is to facilitate teacher development at the site where teachers apply new learning, including the knowledge and skills associated with reform efforts, then it makes sense to consider the impact of Joyce and Showers's research. Training is one widely accepted process through which professional learning occurs, yet the research about the effects of training raises some alarms about what little effect training has on teachers' use of what they learn in the classroom. Training may be necessary, but it is not sufficient to produce deep changes in content knowledge and instructional practice. Table 1.1 demonstrates this point.

The components found in types of professional learning appear on the left in the table. Across the top are common outcomes of many professional learning efforts. In the table are the effect sizes of various components of training or combination of components on each type of outcomes. For example, the fourth row

Table 1.1: Effect Sizes for Training Outcomes by Training Components

Training Components	Knowledge/ Information	Skill	Transfer of Training
Information	.63	.35	.00
Presentation of Theory	.15	.50	.00
Demonstration	1.65	.26	.00
Theory + Demonstration	.66	.86	
Theory + Demonstration + Practice	1.15	.72	.00
Theory + Demonstration + Practice + Feedback	1.31		.00
Theory + Demonstration + Practice + Feedback + Coaching	2.71	1.18	1.68

Source: The effect of staff development training practices: A meta-analysis by S. Bennett, 1987; Student achievement through staff development: Fundamentals of school renewal, 3rd edition by B. Joyce & B. Showers, copyright 2002, ASCD; "Synthesis of research on staff development: A framework for future study and a state-of-the-art analysis," by B. Showers, B. Joyce, & S. Bennett, 1987.

indicates that when theory and demonstration are combined as a method for developing teachers' knowledge and skills, knowledge acquisition is moderate (effect size .66), skill development is better (.86), and transfer is not evident (effect size .00). In the last row, when theory, demonstration, practice, feedback, and coaching are combined to create an intensive learning experience, knowledge acquisition is extremely high (effect size 2.71); skill development is high (effect size 1.25); and transfer is very high (effect size 1.68).

In a subsequent study, Joyce and Showers (1996) found that teachers who participated in coaching relationships more frequently practiced and applied new instructional skills. They summarized their findings:

Transfer to the workplace is minimal for what would be considered highpowered series of training sessions where presentations and discussions, demonstration and practice sessions are included and various degrees of skill development are ascertained. However—this is an important finding—a large and dramatic increase in transfer of training—effect size of 1.42—occurs when coaching is added to an initial training experience comprised of theory explanation, demonstration, and practice. (p. 77)

More recently, Joyce and Showers (2002) summarized the effects of coaching. They noted that:

- Coached teachers and principals generally practiced new strategies more frequently and developed greater skill in the actual moves of a new teaching strategy than did uncoached educators who had experienced identical training.
- Coached teachers used their newly learned

- strategies more appropriately than uncoached teachers in terms of their own instructional objectives and the theories of specific models of teaching.
- Coached teachers exhibited greater longterm retention of knowledge about and skill with strategies in which they had been coached and, as a group, increased the appropriateness of use of new teaching models over time.
- Coached teachers were much more likely than uncoached teachers to explain new models of teaching to their students, ensuring that students understood the purpose of the strategy and the behaviors expected of them when using the strategy.
- Coached teachers "exhibited clearer cognitions with regard to the purposes and uses of the new strategies, as revealed through interviews, lesson plans, and classroom performance" (pp. 86–87).

The effects of coaching reach beyond teachers and students. Schools and school systems improve when coaches share leadership within the school, focus professional learning on the school's goals, and increase collaboration among teachers. "Emerging research on the benefits of coaching... shows substantive promise that implementing coaching for professional learning and school improvement leads to improvement in teacher practice and student learning. The key to success with coaching is in how coaching is defined, initiated, implemented, monitored, and evaluated" (Killion, 2012, pp. 284–285).

Matthew Kraft, David Blazar, and Dylan Hogan (2016) conducted a meta-analysis of studies to examine the effects of coaching on student achievement and teacher practice. The results indicate that,

By combining results across 37 studies that employ causal research designs, we find pooled effect sizes of .57 standard deviation (SD) on instruction and .11 SD on achievement. Much of this evidence comes from studies of literacy coaching, which have an effect of .14 SD on reading achievement. (p. 1)

Completing further analysis, Kraft and colleagues (2016) indicate that coaching effects are about half as large in large-scale coaching trials with more than 100 teachers than in small-scale coaching programs.

Not all studies, however, find positive effects of coaching on student achievement. In a study of reading coaching statewide, J. R. Lockwood, Jennifer McCombs, and Julie Marsh (2010) found statistically significant changes in student achievement for only two of four cohorts analyzed. In other studies of middle school reading and math achievement, Michael Garet and colleagues (Garet, Cronen, Eaton, Kurki, Ludwig, Jones, Uekawa, Falk, Bloom, Doolittle, Zhu, & Sztejnberg, 2008; Garet, Wayne, Stancavage, Taylor, Eaton, Walters, & Doolittle, 2011) found effects on teacher knowledge and some teaching practices, but no effects on student achievement in randomized controlled trial studies of teacher professional learning that included coaching.

Two correlational studies suggested effects on student outcomes and teacher practice. Daily interaction between principals and coaches is associated with increases in student achievement (Sumner, 2009). Linda Shindler (2009), in a study of time for and focus of coaching, found increased teacher efficacy and student achievement in early literacy. When coaching focuses on instructional practices in a specific content area, the effects on teacher practice are

higher. Despite different designs and findings, these research studies suggest that the structure and focus of coaching matter in the effects of coaching.

Challenges in developing a strong body of evidence about effects of coaching

Evidence of coaching's effects is growing, yet many continue to question the effects of coaching. To date, the level of evidence of many study designs, according to the Institute of Education Science's criteria, falls within the designation of a promising practice. That is, the designs and thus the strength of evidence is insufficient to result in their inclusion in the U.S. Department of Education's What Works Clearinghouse. Numerous studies of coaching programs are descriptive or qualitative in nature, often measuring the effects of local coaching programs and sometimes associated with a specific curricular implementation such as the many studies of coaching conducted as a component of Reading First. A few quasi-experimental studies exist about the effects of coaching. Three notable experimental studies of coaching (Garet, et al., 2008; Garet, et al., 2011; Van Keer & Verhaeghe, 2005) suggested that coaching has no statistically significant effect on teacher practice or student achievement.

Yet, coaching for teachers is not a standalone intervention. It is usually grounded in schools and districts that have rigorous curriculum, regular formative assessment, other forms of professional learning, school improvement planning and monitoring, and professional learning for principals. "The results of instructional reform in Community District 2 in New York City," concluded Neufeld and Roper (2003), "provide a compelling example

of how coaching can improve teaching and student achievement when it is embedded in a sustained, coherent, districtwide effort to improve instruction" (p. 1).

Another reality that challenges the evidence about coaching is the fact what is practiced as coaching varies substantially. Even in schools where coaches have been deployed, teachers report they receive insufficient access to coaching (Bill & Melinda Gates Foundation, 2014; TNTP, 2015). Both coaches and principals report that much of coaching support is unevenly distributed to new and struggling teachers and insufficiently spread across a school to all teachers (Bill & Melinda Gates Foundation, 2014). To give educators equitable opportunities for professional learning for their own growth and improvement, districts must address the challenges associated with coaching; they need to be clear about the purpose and goals of coaching; provide professional learning and support to coaches and their principals; and monitor teachers' access to, use of, and effects of coaching.

In his Harvard Education Letter article (2004) on school-based coaching, Alexander Russo writes that one of the most compelling rationales for school-based coaching is that

Many of the more conventional forms of professional development — such as conferences, lectures, and mass teacher-institute days — are unpopular with educators because they are often led by outside experts who tell teachers what to do and are never heard from again. To be effective, scores of researchers say, professional development must be ongoing, deeply embedded into teachers' classroom work with children,

specific to grade-level or academic content, and focused on research-based approaches. It also must help to open classroom doors and create more collaboration and sense of community among teachers in a school. (p. 2)

Conclusion

An emerging body of evidence supports coaching as a positive contributor to improvement in educator practice and student achievement. Only a limited number of rigorous randomized controlled trial studies have investigated coaching and its effects; however, contributions of coaching are evident in numerous correlational and qualitative studies. This literature offers support needed to persuade educators to integrate coaching into a comprehensive effort to transform leadership and teaching quality and increase student success. What is important to acknowledge is this: Coaching, to be effective, must have a defined purpose and goal, establish clear roles for coaches to guide their daily work, and be conducted within a culture of continuous improvement. Overall, effective coaching will establish fair, transparent systems for selecting and placing coaches within schools; include sufficient preparation and ongoing support for coaches, their supervisors, and clients; include formative and summative evaluation of the coaching program and supervision of coaches; and address barriers to coaching that emerge (Killion, 2012; Killion, Harrison, Bryan, & Clifton, 2012).

Coaching makes sense. Through coaching, teachers can access the type of professional learning that makes a difference in terms of their instructional practice and student learning — ongoing, job-embedded, results-driven, standards-based, deeply connected to teaching

and learning, close to the classroom, and personalized to teachers' needs. These outcomes reinforce the notion that teaching quality directly influences student success in alignment with the Outcomes standard.

Outcomes: Professional learning that increases educator effectiveness and results for all students aligns its outcomes with educator performance and student curriculum standards (Learning Forward, 2011, p. 23).

Every school possesses tremendous potential for reducing variance in teaching quality across classrooms. With coaching, that potential increases across schools, especially those serving students with the greatest needs. Coaching opens doors, builds bridges, and creates lines of communication for collaboration, innovation, and problem solving in the often-isolated teaching profession. Creasy and Paterson (2005) note that coaching is a practice for "improving a whole school or department, personalizing professional learning for staff, promoting self-directed professional learning, creating a learning-centered mode of professional dialogue, and building capacity for leadership" (p. 20). Beyond the immediate benefits of coaching for teachers and students, district leaders also find that coaching can be a pipeline for future instructional leaders. In school systems across the country, growth-oriented coaches who wish to do so are following a career trajectory into principalships with strong instructional leadership expertise already well established.

References

Ackland, R. (1991). A review of the peer coaching literature. Journal of Staff Development, 12(1), 22-27.

Aguilar, E. (2013). The art of coaching: Effective strategies for school transformation. San Francisco, CA: Jossey-Bass.

Allen, J. P., Pianta, R. C., Gregory, A., Mikami, A. Y., Lun, J. (2011). An interaction-based approach to enhancing secondary school instruction and student achievement. Science, 333(6045), 1034-1037. Available at http://science.sciencemag.org/content/333/ 6045/1034.full.

Annenberg Institute for School Reform at Brown University. (2004). Instructional coaching: Professional development strategies that improve instruction. Providence, RI: Author.

APQC Education Advanced Working Group. (2011). Best practices in evaluating the impact of instructional coaching on teaching and learning. Houston, TX: APQC Education.

Barkley, S. (2010). Quality teaching in a culture of eoaching (2nd ed.). Lanham, MD: Rowman & Littlefield Publishers.

Bennett, B. (1987). The effect of staff development training practices: A meta-analysis. (Unpublished doctoral dissertation). University of Oregon, Eugene.

Biancarosa, G., Bryk, A., Dexter, E. (2010). Assessing the value-added effects of literacy collaborative professional development on student learning. The Elementary School Journal, 111(1), 7-34.

Bierly, C., Doyle, B., & Smith, A. (2016). Transforming schools: How distributed leadership can create more high-performing schools. Bain & Company. Available at www.bain.com/ offices/buenosaires/en_us/Images/BAIN_ REPORT_Transforming_schools.pdf.

Learning Forward

Bill & Melinda Gates Foundation. (2014). Teachers know best: Teachers' views on professional development. Seattle, WA: Author. Available at www.teachersknowbest. org/reports.

Blasé, J. & Blasé, J. (2006). Teachers bring out the best in teachers: A guide to peer consultation for administrators and teachers. Thousand Oaks, CA: Corwin Press.

Blazar, D. & Kraft, M. (2015). Exploring mechanisms of effective teacher coaching: A tale of two cohorts from a randomized experiment. Educational Evaluation and Policy Analysis, 37(4), 542-566.

Bloom, G. Castagna, C., Moir, E., & Warren, B. (2005). Blended coaching: Skills and strategies to support principal development. Thousand Oaks, CA: Corwin Press.

Campbell, P. & Malkus, N. (2011). The impact of elementary mathematics coaches on student achievement. The Elementary School Journal, 111(3), 430-454.

Centre for the Use of Research and Evidence in Education. (2005). National framework for mentoring and coaching. Coventry, United Kingdom: Department for Education and Skills.

Costa, A. & Garmston, R. (2002). Cognitive coaching: A foundation for renaissance schools. Norwood, MA: Christopher-Gordon.

Creasy, J. & Paterson, F. (2005). Leading coaching in schools. Leading Practices Seminar Series. Nottingham, United Kingdom: National College for School Leadership.

Darling-Hammond, L., Wei, R., Andree, A., Richardson, N., & Orphanos, S. (2009). Professional learning in the learning profession: A status report on teacher development in the United States and abroad. Oxford, OH: National Staff Development Council.

Elmore, R., Peterson, P., & McCarthey, S. (1996). Restructuring in the classroom: Teaching, learning, and school organization. San Francisco: Jossey-Bass.

Feighan, K. & Heeren, E. (2009). She was my backbone: Measuring coaching work and its impact. In J. Cassidy, S. Garrett, & M. Sailors (Eds.). Literacy coaching: Research & practice: 2009 CEDER yearbook, (pp. 67-93).

Forgette, T. (2015). The impact of instructional coaching on student achievement in reading. (Doctoral dissertation abstract.) Available at https://research.phoenix.edu/ content/impact-instructional-coachingstudent-achievement-reading.

Garet, M., Cronen, S., Eaton, M., Kurki, A., Ludwig, M., Jones, W., Uekawa, K., Falk, A., Bloom, H., Doolittle, F., Zhu, P., & Sztejnberg, L. (2008). The impact of two professional development interventions on early reading instruction and achievement. Washington, DC: National Center for Education Statistics, U.S. Department of Education. Available at https://ies.ed.gov/ncee/pdf/20084030.pdf.

Garet, M., Wayne, A. J., Stancavage, F., Taylor, J., Eaton, M., Walters, K., & Doolittle, F. (2011). Middle school mathematics professional development impact study: Findings after the second year of implementation. Washington, DC: National Center for Education Statistics, U.S. Department of Education. Available at https://ies.ed.gov/ncee/ pubs/20114024/pdf/20114024.pdf.

Garmston, R. (1987). How administrators support peer coaching. Educational Leadership, 44(5), 18-26.

Gawande, A. (2011, October 3). Personal best: Top athletes and singers have coaches. Shouldn't you? The New Yorker. Available at www.newyorker.com/magazine/2011/10/03/ personal-best#.