INFORMATION CAPSULE

Research Services

Vol 2002
April 2021

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Review of Literature: Impact of Coaching on Student Academic Performance

At a Glance

Coaching as a form of professional development has been widely adopted by school districts throughout the country. Research has found coaching to have a significant impact on teacher practices; however, the evidence on the effect of coaching on student performance varies. Researchers have explored specific features that are associated with successful coaching programs, such as coach-teacher ratio, dosage, coach qualifications, and coaching activities; however, evidence regarding the impact of these features on student achievement has been inconclusive.

Research has found that teacher quality plays a significant role in student learning. Particularly, classroom practices, and professional development (PD) has been found to have a strong influence on a teacher's classroom practices (Wenglinsky, 2002). Teacher coaching as a form of professional development has gained interest in recent years. It has become increasingly common and while it has been adopted in various school districts throughout the country (Blazar & Kraft, 2015), there is no standard model or definition. Similarly, evidence on the efficacy of coaching and its impact on student learning varies. This Research Capsule reviews and summarizes findings of research related to coaching best practices and their impact on student outcomes.

What is Coaching?

Coaching has received great attention from researchers in the last years, and various definitions have been offered. For instance, coaching can be broadly defined as a professional development program in which coaches or peers observe teachers' instruction and provide feedback to help them improve their teaching (Kraft et al., 2018). These authors suggest that coaching differs from other sorts of professional development, such as workshops, in that coaching is "intended to be individualized, time-intensive, sustained over the course of a semester or year, context-specific, and focused on discrete skills" (Kraft et al., 2018). As described in Kraft and colleagues' 2018 meta-analyses, the coaching process is one where the coach and teacher work one-on-one, is time-intensive requiring coaches and teachers to interact at least every couple of weeks over an extended period, teachers receive coaching on their teaching practices within the context of their own classrooms, and they engage in the practice of specific skills.

In 2004, the International Reading Association (IRA) described coaching as follows:

> *Coaching provides ongoing consistent support for the implementation and instruction components. It is nonthreatening and supportive—not evaluative. It gives a sense of how good professional development is. It also affords the opportunity to see it work with students. (Poglinco, Bach, Hovde, Rosenblum, Saunders, & Supovitz, 2003, as cited in International Reading Association, 2004b).*

While various definitions of coaching have been provided, these tend to agree that coaching includes certain essential elements such as helping teachers improve their understanding, providing ongoing support, and providing feedback and follow-up in a non-evaluative way (Bright & Hensley, 2010). Coaching focuses on job-embedded practice and active learning (Blazar & Kraft, 2015) and it has been found to improve instruction and promote retention of highly effective teachers (Bright & Hensley, 2010).

Coaching programs utilized across the country tend to vary depending on the district's needs; aspects such as coaches' qualifications, purpose and goals, and length of the program, among others, vary. While research has provided mostly positive evidence supporting its effect on teacher instruction, given the high cost associated with coaching, it is important to understand the features that make coaching a successful practice and the impact it has on student performance (Elish-Piper & L'Allier, 2011). Research has examined various elements of coaching programs and has provided evidence on which of these practices have a greater influence on the main goal of student learning.

Impact of Coaching on Student Outcomes

As mentioned previously, research has shown that teacher quality, particularly classroom practices, has an impact on student performance. Teacher classroom practices or instructional practices refer to what teachers do in the classroom; research has emphasized the importance of teaching higher-order thinking skills which is translated to problem-solving techniques and hands-on learning. Research has also highlighted individualization, collaboration, and authentic assessment as part of classroom practices (Wenglinsky, 2002).

Coaching as described above, helps teachers improve their understanding and instructional practices, as well as providing ongoing support. Researchers have explored the extent to which this form of professional development affects student performance. Coaching has been found to have a large positive effect on teacher's instructional practice, specifically 0.49 standard deviation (SD) units, which, in turn, has been found to have a positive impact on student achievement by raising student performance on standardized test by 0.18 SD (Kraft el al., 2018). In their meta-analysis, Kraft and colleagues found coaching to be an equally effective intervention for teachers working at all school levels. It should be noted that in the majority of the studies included in their meta-analysis, coaching was combined with at least one more element of professional development, such as training sessions or courses. The authors found that teachers might benefit from participating in group training prior to receiving coaching; this can help

teachers build baseline skills necessary for coaching. The effect size of coaching was found to be larger on both instruction and student achievement when paired with group training, as well as with instructional resources and materials. While the research evidence has produced promising results regarding the use of coaching, further research by these authors, suggests that changes in student achievement require relatively large improvements in instructional quality; every 1 SD change in instruction was associated with a 0.21 SD change in student achievement. For a context, the effect that coaching has on students' academic performance is similar or even larger in magnitude than estimates of the degree to which teachers improve their teaching and influence student achievement during the first five years of their careers.

Not all research on coaching in K-12 settings has found positive effects at all grade levels. Contrary to the finds of Kraft and colleagues, an earlier study on coaching conducted in Florida Middle schools using FCAT data from 1998 to 2006 found mixed positive results. In this study, Lokwood and colleagues (2010) explored the effect of coaching on four cohorts that received state-funded coaches. The authors found a positive significant impact on student achievement for two of the four cohorts; for the 2003 cohort coaching had a positive significant effect on grades 7 and 8 and in the 2005 cohort the impact was significant for all grades. This study also suggests that coaching might have a greater influence on low-performing schools.

Like other forms of professional development, coaching might have a slow progress initially but show a greater impact in the later years of implementation (Lockwood et al., 2010). Similar results were found by Campbell and Malkus (2011) who explored the impact of mathematics coaches on student achievement in elementary grades. These authors examined the effect of coaching on student achievement over a period of three years. When conducting year-by-year analyses, researchers found that coaching in year one showed no significant impact, that in year two had a positive significant impact, and in year three students either showed a significant improvement or were able to maintain their level. In this study, the cohort of teachers who received coaching had an impact on student performance after the first year of receiving the coaching.

Research has also explored the effect of general versus specific coaching programs on student achievement and found that general coaching programs have smaller effects on student achievement than content-specific programs (Kraft et al., 2018). Additionally, research on coaching has also explored coaching qualifications, as well as other factors of the coaching structure that can have an impact on student performance.

Coach Qualifications

Various districts throughout the country implemented literacy coaches at their schools as part of the Reading First Initiative by the United States Department of Education designed to address the requirements of the No Child Left Behind. Evaluations and research conducted as a result of the implementation of these programs throughout the country provided insight into the particular skills, qualifications of coaches, as well as activities

completed by the coaches that are associated with a positive impact on student performance (Bright & Hensley, 2010; Elish-Piper & L'Allier, 2011).

In a 2004 position statement, the International Reading Association (IRA) detailed the role and minimum qualifications of the reading coach. The IRA suggested that for the role of reading coach, school districts should hire individuals who meet the following minimum qualifications: (1) excellent teacher of reading at the level in which they'll be coaching; (2) possess in-depth knowledge of the reading process, assessment, and instruction; (3) have experience working with teachers (4) possess good presenting and leadership skills; (5) have experience modeling, observing, and providing feedback to classroom teachers. While these are some of the suggested qualifications for coaches, states throughout the country have different requirements on coaches' experiences and education levels (Bright & Hensley).

A study conducted in a school district with a Reading First grant examined the relationship between literacy coaching and student reading gains in Kindergarten to 3rd grade; coaches in this study had one of two coaching certifications, Reading Teacher Endorsement or the Reading Specialist Certificate. Results from this study showed that the type of reading credential was not a significant predictor of student reading gains at any grade level (Elish-Piper & L'Allier, 2011). However, this study did find other aspects of the coaching program such as coaching activities and time spent with teachers to have a significant impact on students reading gains; these are discussed in the following section of this report.

Coaching Structure

The coach-teacher ratio is one of the design features that can vary from program to program. While some studies have suggested small coach-teacher ratios, research has not provided a definitive recommendation (Pierce & Buyssee, 2014). Smaller coaching programs have been found to improve classroom instruction by 0.63 standard deviations (SD) and raise student achievement by 0.28 standard deviations (SD), while larger programs, those with 100 teachers or more, were found to improve classroom instruction by 0.34 SDs and raise student achievement by 0.10 SD (Kraft et al., 2018). Studies included in this meta-analysis, classified as smaller programs were often tailored for motivated teachers who volunteered to participate, while larger programs brought various challenges such as recruiting of qualified coaches and teachers who were required to participate and had different levels of interest in a coaching program, making teacher buy-in a factor to be considered when implementing large scale programs.

Research has also provided inconclusive evidence regarding the intensity of coaching programs. Kraft and colleagues (2018) did not find evidence suggesting that high dosage coaching was associated with more effective programs; instead, the quality and focus of the coaching program were found to be more important. Similarly, Elish-Pipper and L'Allier (2011) did not find the number of coaching hours to be a significant predictor of student reading gains for 3 of the 4 grades they examined; only in second grade was total coaching hours a significant predictor of student reading gains.

While research has not provided a definite answer regarding the coach-teacher ratio and suggests that total hours spent with a coach is not a significant predictor of student gains, studies have found that other aspects of the coaching programs do influence the effect that coaching has on student performance. For instance, Elish-Piper and L'Allier (2011) found specific coaching activities and coaching content to be a significant predictor of student reading gains.

The role of a coach includes several activities, some of which include spending one-on-one time with the teacher, observing the teacher, completing administrative tasks, planning, and meetings (Cambpbell & Malkus, 2011; Bright & Hensley, 2010; Elish-Piper & L'Allier 2011; IRA, 2004;). While the dosage of coaching was not a significant predictor of student reading gains, the total number of hours a coach spent "conferencing" or holding a one-on-one conversation with a teacher was a significant predictor in Kindergarten and second grade. Other activities including the total number of hours a coach spent administering assessments and discussing the results with the teacher, modeling lessons, and observing teachers while teaching were also significant predictors of student reading gains, but only in second grade. In addition to looking at the activities the coaches engage in, Elish-Piper and L'Allier also explored the content of coaching activities (e.g., comprehension, phonics, fluency, vocabulary, phonemic awareness). They found that coaches spent most of their time focusing on comprehension and this was the only one of the five coaching contents that was found to be a significant predictor of student gains for students in second grade.

Conclusion

Research has found coaching to have an impact on teacher instruction and student performance. In addition to issues associated with coach availability and teacher participation, research has highlighted features of successful coaching programs. Coaching has been found to have an impact on teachers' instructional practices, but it is often combined with other forms of professional development. The effect of coaching on student performance might be slow at first, showing positive change only after it has been implemented for some time. Coaching programs that have shown to have a positive impact on student performance are content-specific and include coaches who spend a significant portion of their time having one-on-one conversations with teachers.

The cost of coaching peer teachers can range between $3,300 to $5,200 per teacher per year (Knight, 2012) and to date, information of the cost-benefit of such an investment is not widely available (Kraft et al., 2018). Other interventions have been found to have comparable effect sizes including comprehensive school reform, large reductions in class size, and changes in the curriculum (as cited in Kraft et al., 2018).

Given the cost associated with this form of professional development, it is important to understand what makes a successful coaching program, but as described in previous sections of this report, the evidence regarding the specific features of coaching that are associated with successful coaching programs has been inconclusive. Particularly, research has pointed out the challenges of implementing large-scale coaching programs.

Among the challenges faced when implementing large-scale coaching, the most common ones include finding qualified coaches and teacher buy-in. Districts that have faced challenges finding coaches have used highly qualified teachers, but this creates other issues associated with pulling teachers away from their classrooms. Large-scale coaching programs can face issues with teacher buy-in; teachers might associate being observed with being evaluated and might not be receptive to the feedback provided by the coaches. Research suggests teacher buy-in can be achieved by having a school culture committed to continuous improvement and strong relationships between administrators and staff members at the schools (Kraft et al., 2018).

References

Blazar, D., & Kraft, M. A. (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.

Bright, E. & Hensley, T. (2010). A Study of the effectiveness of K-3 literacy coaches. National Reading Technical Assistance Center (NRTAC).

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

Elish-Piper, L., & L'Allier, S. K. (2011). Examining the relationship between literacy coaching and student reading gains in grades K-3. *The Elementary School Journal, 11*(1), 83-106.

International Reading Association. (2004). *The role and qualifications of the reading coach in the United States.* A position statement of the International Reading Association. Newark, DE: International Reading Association.

Knight, D. S. (2012). Assessing the cost of instructional coaching. *Journal of Educational Finance, 38*(1), 52-80.

Kraft, M.A., Blazar, D., & Hogan, D. (2018). The effect of teaching coaching on instruction and achievement: A meta-analysis of the causal evidence. *Review of Educational Research, 88*(4), 547-588.

Lockwood, J. R., McCombs, J. S., & Marsh, J. (2010). Linking reading coaches and student achievement evidence from Florida middle schools. *Educational Evaluation and Policy Analysis, 32*(3), 372-388.

Pierce, J., & Buyssee, V. (2014). *Effective coaching: improving teacher practice and outcomes for all learners.* National Center for Systemic Improvement Brief.

Wenglinsky, H. (2002). How schools matter: The link between teacher classroom practices and student academic performance. *Education Policy Analysis Archives*, *10*(12). https://doi.org/10.14507/epaa.v10n12.2002