REL Appalachia Ask A REL Response

Educator Effectiveness
December 2019

Question:

Does coaching improve high school teachers' instructional practice and self-efficacy?

Response:

Thank you for your request to our REL Reference Desk regarding evidence-based information about teacher coaching. Ask A REL is a collaborative reference desk service provided by the 10 Regional Educational Laboratories (RELs) that, by design, functions much in the same way as a technical reference library. Ask A REL provides references, referrals, and brief responses in the form of citations in response to questions about available education research.

Following an established REL Appalachia research protocol, we searched for peer-reviewed articles and other research reports on the impact of coaching for high school teachers. We focused on identifying resources that specifically addressed the effects of coaching on teachers' instructional practice and self-efficacy. The sources included ERIC and other federally funded databases and organizations, research institutions, academic research databases, and general Internet search engines. For more details, please see the methods section at the end of this document.

The research team did not evaluate the quality of the resources provided in this response; we offer them only for your reference. Also, the search included the most commonly used research databases and search engines to produce the references presented here, but the references are not necessarily comprehensive, and other relevant references and resources may exist. References are listed in alphabetical order, not necessarily in order of relevance.

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. Abstract retrieved from https://eric.ed.gov/?id=EJ1084498; full text available at https://journals.sagepub.com/doi/abs/10.3102/0162373715579487?journalCode=epaa

From the abstract: "Although previous research has shown that teacher coaching can improve teaching practices and student achievement, little is known about specific features

of effective coaching programs. We estimate the impact of MATCH Teacher Coaching (MTC) on a range of teacher practices using a blocked randomized trial and explore how changes in the coaching model across two cohorts are related to program effects. Findings indicate large positive effects in Cohort 1 but no effects in Cohort 2. After ruling out explanations related to the research design, a set of exploratory analyses suggest[s] that differential treatment effects may be attributable to differences in coach effectiveness, coaching dosage, and the focus of coaching across cohorts."

Devine, M., Meyers, R., & Houssemand, C. (2013). How can coaching make a positive impact within educational settings? *Procedia-Social and Behavioral Sciences, 93*, 1382–1389. Retrieved from https://www.sciencedirect.com/science/article/pii/S1877042813034939/pdf?md5=7cc2e14555be952a686ad9f8cb646d4e&pid=1-s2.0-S1877042813034939-main.pdf&_valck=1

From the abstract: "There is growing acceptance that large-scale educational reform is needed to meet the challenges of the 21st century. The contribution that coaching can make in these settings has been the focus of recent discussions and research. Much of the research comes from the UK, USA and Australia, and these will be reviewed to provide an overview of some of the approaches that have been used. A systematic literature search has been done using the keywords 'coaching' and 'education', followed by a manual search based on references. Articles, books and reports were read in order to extract the most relevant and the most interesting studies. There is an emerging evidence-base that coaching is a powerful tool to support learning and development for students, teachers, school leaders and their educational establishments. A variety of coaching approaches have been used successfully. These approaches are outlined: behavioral coaching, solution-focused coaching, cognitive and cognitive-behavioral coaching, instructional coaching, executive coaching, peer coaching, and positive organizational leadership. The coaching approaches are also reviewed based on their focus on the three main educational actors: students, teachers, and school leaders. The contributions made by positive psychology for creating learning cultures within schools are also reviewed. All coaching approaches can provide valuable contributions, but ultimately school improvement will fail if coaching remains on an individual level. Therefore, systems of collective and collaborative learning are necessary to generate a collective learning culture."

Kraft, M. A., & Blazar, D. (2017). Individualized coaching to improve teacher practice across grades and subjects: New experimental evidence. *Educational Policy, 31*(7), 1033–1068. Abstract retrieved from https://eric.ed.gov/?id=EJ1156566; full text available at https://pdfs.semanticscholar.org/21e2/ef8d5dff2042077bf574d2023a1cc63bde9f.pdf

From the abstract: "This article analyzes a coaching model focused on classroom management skills and instructional practices across grade levels and subject areas. We describe the design and implementation of MATCH Teacher Coaching among an initial cohort of 59 teachers working in New Orleans charter schools. We evaluate the effect of the program on teachers' instructional practices using a block randomized trial and find that coached teachers scored 0.59 standard deviations higher on an index of effective teaching

practices comprised of observation scores, principal evaluations, and student surveys. We discuss implementation challenges and make recommendations for researcher-practitioner partnerships to address key remaining questions."

Kraft, M. A., Blazar, D., & Hogan, D. (2018). The effect of coaching on instruction and achievement: A meta-analysis of the causal evidence. *Review of Educational Research, 88*(4), 547–588. Abstract retrieved from https://eric.ed.gov/?id=EJ1185488; full text available at https://scholar.harvard.edu/files/mkraft/files/kraft_blazar_hogan_2016_teacher_coaching_meta-analysis_wp_w_appendix.pdf

From the abstract: "Teacher coaching has emerged as a promising alternative to traditional models of professional development. We review the empirical literature on teacher coaching and conduct meta-analyses to estimate the mean effect of coaching programs on teachers' instructional practice and students' academic achievement. Combining results across 60 studies that employ causal research designs, we find pooled effect sizes of 0.49 standard deviations (SD) on instruction and 0.18 SD on achievement. Much of this evidence comes from literacy coaching programs for prekindergarten and elementary school teachers in the United States. Although these findings affirm the potential of coaching as a development tool, further analyses illustrate the challenges of taking coaching programs to scale while maintaining effectiveness. Average effects from effectiveness trials of larger programs are only a fraction of the effects found in efficacy trials of smaller programs. We conclude by discussing ways to address scale-up implementation challenges and providing guidance for future causal studies."

Kretlow, A. G., & Bartholomew, C. C. (2010). Using coaching to improve the fidelity of evidence-based practices: A review of studies. *Teacher Education and Special Education, 33*(4), 279–299. Abstract retrieved from https://eric.ed.gov/?id=EJ901746; full text available at https://journals.sagepub.com/doi/10.1177/0888406410371643

From the abstract: "The authors conducted a comprehensive review of research to identify the impact of coaching on changes in preservice and in-service teachers' implementation of evidence-based practices. They identified a total of 13 studies from the 20 years of literature they searched. In general, coaching improved the extent to which teachers accurately implement evidence-based practices such as ClassWide Peer Tutoring, Direct Instruction, Learning Strategies, and Positive Behavior Support in classrooms or practicum settings. The retrieved studies also suggest that highly engaged, small-group initial training, followed by multiple observations, feedback, and modeling are critical components across coaching interventions. A few studies also provide promising data to support the consequential effects of coaching on improvements in student achievement. The authors offer suggestions for future research and practice related to preservice and in-service teacher training."

National Center for Systemic Improvement at WestEd. (2019). *Effective coaching: Improving teacher practice and outcomes for all learners.* San Francisco, CA: Author. Retrieved from https://eric.ed.gov/?id=ED591448

From the abstract: "The purpose of this brief is to synthesize research on coaching and to offer a framework of effective coaching practices. Part 1 provides general information on coaching, including the need for coaching and the goals of coaching. Part 2 describes critical coaching practices that are linked to improvements in teacher practice and learner outcomes. As these practices are most associated with such improvements, they are the recommended practices that should be central to the every-day routine of coaches working in general education or special education settings, as well in environments (e.g., homes, schools, childcare centers) with learners of all ages. Appendix A contains information about various coaching models commonly cited in research and applied in the field (e.g., literacy coaching, behavior coaching, math coaching). This brief is intended to be used in conjunction with the tool entitled 'Implementation Guide for Coaching.' Research from Implementation Science suggests that how a program, practice, or innovation is put into place impacts the degree to which we can expect that innovation to achieve its intended goals (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Greenhalgh, Macfarlane, Bate, Kyriakidou, 2004). Similarly, it is important to attend to how the innovation is implemented. Drawing upon principles of Implementation Science, the guide outlines key areas that should be considered and action steps that should be taken when using coaching as a pathway toward improving teacher practice and learner outcomes."

Nugent, G., Kunz, G., Houston, J., Kalutskaya, I., Wu, C., Pedersen, J., … Berry, B. (2016). *The effectiveness of technology-delivered science instructional coaching in middle and high school*. Lincoln, NE: National Center for Research on Rural Education. Retrieved from https://eric.ed.gov/?id=ED571809

From the abstract: "Although results showing coaching effectiveness are accumulating, coaching is often included with other forms of Professional Development (PD) support including teacher in-service (Powell, Diamond, Burchinal, & Koehler, 2010; Kretlow et al., 2011), access to an annotated video library (Allen et al., 2011), and access to ongoing learning communities (Gallucci, Van Lare, Yoon, & Boatright, 2010; Matsumura, Garnier, & Spybrook, 2012). The presence of multiple intervention components obscures the unique effect of coaching and makes drawing conclusions about coaching effectiveness impossible. There is a critical need for identifying effective, sustainable approaches for teacher PD in delivering instruction to foster science practice skills. The purpose of this research study was to: (1) determine the effects of a professional development intervention comprised of a summer institute and follow-up technology-delivered instructional coaching on teacher and student science practice knowledge, skills, self-efficacy, and engagement; and (2) isolate specific effects of coaching when combined with more traditional teacher workshops. The intervention model described here was designed to equip middle and high school science teachers with knowledge and skills to use a guided scientific inquiry approach to teach science practice skills integrated into content as specified by Next Generation Science Standards (NGSS). The project involved a randomized controlled trial aimed at addressing

the following research question: What is the impact of a summer institute focused on guided scientific inquiry with follow-up coaching (treatment) versus no professional development (control) on (a) teacher science practices knowledge, skills, self-efficacy, and beliefs and (b) student science practices knowledge, skills, engagement and self-efficacy? A secondary question involved the independent effects of the summer institute and coaching: What were the separate effects of the summer institute and coaching on teacher and student outcomes? The study was conducted with 124 science teachers (63 treatment and 61 control) from 110 rural schools (61 treatment and 49 control) in Nebraska and Iowa. Results from this study show the promise of coaching and its value added to traditional teacher in-service. While this study shows the promise of coaching in impacting teacher change, more research is needed to investigate what specific aspects of the coaching process (i.e., rapport and trust between teacher and coach, coach qualifications, teacher self-reflection) are most responsible for these effects."

Additional Ask A REL Responses to Consult

Ask A REL West at WestEd. (2016). *Could you provide research and best practices related to mathematics coaching for teachers?* Retrieved from https://ies.ed.gov/ncee/edlabs/regions/west/Ask/Details/41

Ask A REL West at WestEd. (2017). *Could you provide research on coaching for high school teachers in literacy?* Retrieved from https://ies.ed.gov/ncee/edlabs/regions/west/Ask/Details/12

Additional Organizations to Consult

Center for Teaching Quality: http://www.teachingquality.org/

From the website: "CTQ is a national nonprofit based in Carrboro, North Carolina. We focus on teachers transforming teaching—an idea (and reality!) we've been advancing since 1998. Our virtual home, the CTQ Collaboratory, is open to all who support teachers as leaders."

Center on Great Teachers and Leaders at American Institutes for Research: http://www.gtlcenter.org/

From the website: "The Center on Great Teachers and Leaders (GTL Center) is dedicated to supporting state education leaders in their efforts to grow, respect, and retain great teachers and leaders for all students. The GTL Center continues the work of the National Comprehensive Center for Teacher Quality (TQ Center) and expands its focus to provide technical assistance and online resources designed to build systems that:

- Support the implementation of college and career standards.
- Ensure the equitable access of effective teachers and leaders.
- Recruit, retain, reward, and support effective educators.
- Develop coherent human capital management systems.

- Create safe academic environments that increase student learning through positive behavior management and appropriate discipline.
- Use data to guide professional development and improve instruction."

Methods

Keywords and Search Strings

The following keywords and search strings were used to search the reference databases and other sources:

- coach* AND ("high school" OR secondary) AND (outcome* OR "instructional practice" OR "teaching practice")
- coach* AND ("high school" OR secondary) AND (outcome* OR self-efficacy)

Databases and Resources

We searched ERIC, a free online library of more than 1.6 million citations of education research sponsored by the Institute of Education Sciences (IES), for relevant resources. Additionally, we searched the academic database ProQuest, Google Scholar, and the commercial search engine Google.

Reference Search and Selection Criteria

In reviewing resources, Reference Desk researchers consider—among other things—these four factors:

- Date of the publication: Searches cover information available within the last ten years, except in the case of nationally known seminal resources.
- Reference sources: IES, nationally funded, and certain other vetted sources known for strict attention to research protocols receive highest priority. Applicable resources must be publicly available online and in English.
- Methodology: The following methodological priorities/considerations guide the review and selection of the references: (a) study types—randomized controlled trials, quasi experiments, surveys, descriptive data analyses, literature reviews, policy briefs, etc., generally in this order; (b) target population, samples (representativeness of the target population, sample size, volunteered or randomly selected), study duration, etc.; (c) limitations, generalizability of the findings and conclusions, etc.
- Existing knowledge base: Vetted resources (e.g., peer-reviewed research journals) are the primary focus, but the research base is occasionally slim or nonexistent. In those cases, the best resources available may include, for example, reports, white papers, guides, reviews in non-peer-reviewed journals, newspaper articles, interviews with content specialists, and organization websites.

Resources included in this document were last accessed on November 26, 2019. URLs, descriptions, and content included here were current at that time.

This memorandum is one in a series of quick-turnaround responses to specific questions posed by education stakeholders in the Appalachia region (Kentucky, Tennessee, Virginia, and West Virginia), which is served by the Regional Educational Laboratory Appalachia (REL AP) at SRI International. This Ask A REL response was developed by REL AP under Contract ED-IES-17-C-0004 from the U.S. Department of Education, Institute of Education Sciences, administered by SRI International. The content does not necessarily reflect the views or policies of IES or the U.S. Department of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. government.