

## Resource 1.4 The research case for investing in professional learning

The passage of ESSA allows SEAs and LEAs to “reset” their professional learning visions and plans. As stated earlier compelling new evidence on what makes the biggest differences for educators and students should guide this revision/reset process. The following new evidence provides a compelling set of data and conclusions in areas that need to be a part of any SEA and LEA professional learning plan.

### Coaching for teachers

SEAs and LEAs report using a large proportion of their Title IIA dollars on instructional coaches. Over the years the data on impact has been sporadic; however, as the field has gained clarity on the essential components of effective coaching; more studies have documented the impact it can have on improved instructional practice. One of the more definitive studies on the importance of coaching is a meta-analysis of research that found the following:

- Across 43 studies, researchers found that coaching had a positive effect on instructional practice resulting in as much of a difference as there is between novice and veteran teachers.
- In addition, teacher coaching had an independent, positive effect on student achievement, as indicated by performance on standardized tests.

**Kraft, M.A., Blazar, D., & Hogan, D. (2018).** The effect of teacher coaching on instruction and achievement: a meta-analysis of the causal evidence. *Review of Educational Research*, 88(4), 547–588. <https://scholar.harvard.edu/mkraft/publications/effect-teacher-coaching-instruction-and-achievement-meta-analysis-causal>. Review of Educational Research [Internet].

### Research on collaborative learning structures

- Multiple researchers have documented that teachers who collaborate in PLCs to continuously improve their practice and their students’ learning experiences have a measurable positive impact in schools.
- In one study — a two-year investigation of 1,014 fourth- and fifth-grade teachers that looked at changes in student math scores — researchers found that when teachers worked with high-ability teachers in purposeful, content-focused interactions, instruction improved, student scores improved and teacher performance improved.

**Ronfeldt, M., Farmer, S., McQueen, K., & Grissom, J. (2015).** Teacher collaboration in instructional teams and student achievement. *American Educational Research Journal*, 52(3), 475–514.

**Saunders, W.M., Goldenberg, C.N. & Gallimore, R. (2009).** Increasing achievement by focusing grade-level teams on improving classroom learning: A prospective, quasi-experimental study of Title I schools. *American Educational Research Journal*, 46(4), 1006–1033.

**Leana, C.R. (2011, Fall).** The missing link in school reform. *Stanford Social Innovation Review*, 30–35.

## Research on instructional materials

- Researchers from the Center for Education Policy Research at Harvard estimated that in 4th- and 5th-grade math, **switching to a top ranked textbook would translate to student achievement gains of 3.6 percentile points** – larger than the improvement of a typical teacher’s effectiveness in their first three years on the job when they are learning to teach. (Kane, et al., 2016).

**Steiner, D. (2018, December).** Instructional materials matter. In *Focus: Instructional Materials. The Learning Professional*, 39(6), 24–28.

**Kane, T. J., Owens, A. M., Marinell, W. H., Thal, D. R., & Staiger, D. O. (2016).** *Teaching higher: Educators’ perspectives on Common Core implementation.* Center for Education Policy Research.

**Jackson, C. K. & Makarin, A. (2016).** *Simplifying teaching: A field experiment with online “off-the-shelf” lessons.* National Bureau of Economic Research.

- Although educative curriculum materials have clear advantages, they are often insufficient in providing the support that teachers need to fully understand the curricula they are trying to implement (Davis & Krajcik, 2005)...even when teachers do study the educative materials, they will likely interpret the information using their own experiential lenses (McNeill, 2009).

**Davis, E.A. & Krajcik, J.S. (2005, April).** Designing educative curriculum materials to promote teacher learning. *Educational Researcher*, 34(3), 3–14.

**McNeill, K. L. (2009).** Teachers’ use of curriculum to support students in writing scientific arguments to explain phenomena. *Science Education*, 93(2), 233–268.

## Research on curriculum-anchored professional learning

- Students in an integrated improvement model (leveraging curriculum-focused professional learning to implement BSCS curriculum) gained an estimated four months of learning over two years relative to groups in the comparison group. 41% of effect attributable to the curriculum itself.
- ... a number of research reports indicate that well-designed, standards-based materials supported by professional development focused on the implementation of the materials can have a significant impact on teaching and learning (Briars & Resnick, 2000; Schneider & Krajcik, 2002; Taylor et al., 2003).
- Results are important because they add to the growing body of evidence that research-based instructional materials supported by curriculum-based PD promote improved student achievement (Lynch et al., 2005; Lee et al., 2008).

**Briars, D. & Resnick, L. (2000).** *Standards, assessments — and what else? The essential elements of standards-based school improvement.* Los Angeles, CA: The National Center for Research on Evaluation, Standards, and Student Testing.

**Lee, O., Deaktor, R., Enders, C., & Lambert, J. (2008).** Impact of a multiyear professional development intervention on science achievement of culturally and linguistically diverse elementary students. *Journal of Research in Science Teaching*, 45(6), 726–747.

**Lynch, S., Kuipers, J., Pyke, C., & Szesze, M. (2005).** Examining the effects of a highly rated science curriculum unit on diverse students: Results form a planning grant. *Journal of Research in Science Teaching*, 42, 921–946.

**Schneider, R. & Krajcik, J. (2002).** Supporting science teacher learning: The role of educative curriculum materials. *Journal of Science Teacher Education*, 13(3), 221–245.

**Taylor, J. A., Getty, S. R., Kowalski, S. M., Wilson, C. D., Carlson, J., & Van Scotter, P. (2015).** An efficacy trial of research-based curriculum materials with curriculum-based professional development. *American Educational Research Journal*, 52(5). Available at <http://journals.sagepub.com/doi/abs/10.3102/0002831215585962>

**Taylor, J. A., Powell, J., Van Dusen, D. R., Pearson, B., Bess, K., & Schindler, B. (2003, June).** *Rethinking the continuing education of science teachers: An example of transformative, curriculum-based professional development.* NSTA Monograph Series: Exemplifying the More Emphasis Conditions in the National Science Education Standards.

## Research on leadership

- More than a decade of research from The Wallace Foundation documents that the quality of school leadership is second only to the quality of classroom instruction in school-based factors impacting student learning.
- A 2017 study on principal professional learning highlighted effective examples of sustained and tailored learning for leaders that had positive impacts on student outcomes and teacher turnover.

**Leithwood, K., Seashore, K., Anderson, S., & Wahlstrom, K. (2004).** *Review of research: How leadership influences student learning.* Center for Applied Research and Educational Improvement (University of Minnesota, Center for Applied Research and Educational Improvement).

**Rowland, C. (2017).** *Principal professional development: New opportunities for a renewed state focus.* Washington, DC: Education Policy Center, American Institutes for Research.