



Research on Instructional Materials: Key Findings and Recommendations

Setting the Context

It has become very clear— curriculum matters. Research over the last decade has provided strong evidence that curriculum can be one of the most cost-efficient and effective school improvement measures. Though the positive impacts of high-quality instructional materials are clear, Jon Saphier of Research for Better Teaching noted that teachers often report that instructional materials may not be readily available, are not standards-aligned nor high-quality, or are not used as intended within the school. Furthermore, according to a recent K-12 Market Advisors report, teachers spend, on average, 12 hours per week searching for, or creating, their own materials. Eighty-two percent of elementary teachers, and 91% of secondary teachers report using instructional materials they personally developed. Most of the materials come from Google.com, Pinterest.com, and Teacherspayteachers.com (Steiner, 2018). Teachers have neither the time, nor the training, to meet today's expectation of curriculum design. The bottom line is that the selection and implementation of high-quality instructional materials, supported by ongoing professional learning around the instructional materials, is a transformative school improvement measure that has been underutilized. As such, it holds great potential in supporting student achievement.

Defining Curriculum and Instructional Materials

Curriculum is a term that has multiple meanings in various settings. In the Learning First series by Johns Hopkins (Steiner, 2018), a distinction is made between *standards* and *curriculum*. *Standards* are “expressions of the goals of student learning, typically at the state or federal level. Standards typically aim to outline what we expect students to know and be able to do...” (Steiner, 2018, p. 4). *Curriculum* is then defined as, “the means to achieve the goals expressed in the standards. It is the teaching and learning program, and can include lesson plans and activities, scope and sequence documents, textbooks, computer programs, and even related pedagogical advice and embedded formative assessments,” (Steiner, 2018, p. 4). The Nebraska Department of Education differentiates between content area standards, instructional materials, and curriculum. Content area standards reflect what students are expected to know and be able to do while instructional materials and curriculum are used to help students learn the content within the standards. A distinction is made between curriculum and instructional materials as instructional materials are the tools and resources that are used as part of a locally-determined curriculum. The focus of this review is on instructional materials.

Key Findings and Recommendations

Key Finding #1: Strengthening curriculum and instructional materials leads to increases in student achievement. The use of high quality curriculum and instructional materials leads to significant gains in student achievement. Studies

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selected by the United States Department of Education (What Works Clearinghouse) have determined that high-quality curriculum throughout a child's K-12 experience could lead to effect sizes of +0.60 by fifth grade—a very large effect (Steiner, 2017). Purposeful curriculum reform efforts in Georgia, Delaware, Illinois, Louisiana, and Tennessee led to significant gains in student reading proficiency, mastery of mathematics standards, teachers' perceived support, improved alignment to state standards, and student engagement.

Action Steps.

1. Educators must analyze, understand, and ground themselves in the instructional shifts within college-and-career ready standards. The instructional shifts and a clear vision of instruction should drive the selection of instructional materials. The Nebraska Department of Education has called out the [instructional shifts](#) in the College and Career Ready Standards for English Language Arts, Mathematics, and Science.
2. Districts should select high-quality instructional materials for all teachers. The positive impacts for both teachers and students are clear. Use resources like the [Nebraska Instructional Materials Collaborative](#) and [EdReports](#) to help determine the quality of instructional materials for English Language Arts, mathematics, and science.
3. Once high-quality instructional materials are chosen, schools and educators should focus on implementing the chosen materials at a high level. Role-specific professional learning grounded in the implementation of the materials should be provided for system leaders, school leaders, and teachers. The [Curriculum Support Guide](#), developed by Instruction Partners, is a tool useful when developing a curriculum implementation plan.

Key Finding #2: The instructional materials adoption process, often based on marketing, occurs at the district level and fails to include teacher voice and input. Though it is clear that high-quality curriculum and instructional materials provide a myriad of benefits to both teachers and students, the selection and implementation processes are often not clearly communicated. A recent study (Partelow & Shapiro, 2018) found that only 18 of the 30 largest school districts in the United States post information about their instructional materials or adopted curriculum. Even so, promising practices exist. The Newport-Mesa Unified School District recently shared their innovative approach to curriculum adoption including teachers, school administrators, and stakeholders (EdReports, 2018). This stands in stark difference to the traditional adoption process where nearly half of all districts make sole-source purchases from the same vendor year after

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year. A report from Johns Hopkins Institute for Educational Policy notes the importance of a strong review process including a well-written Request for Proposals (RFP). A strong RFP for instructional materials signals the instructional priorities of the district and ensures that would-be vendors can meet district needs.

Action Steps.

1. Review district policies on the adoption of new instructional materials. If there is no policy, work to create one. If there is policy, appoint a review committee to examine if the policy supports selection of high-quality instructional materials. The Nebraska Instructional Materials Collaborative provides [suggested steps](#) for navigating the instructional materials selection process for English Language Arts, mathematics, and science. The [Curriculum Support Guide](#) also provides a framework that can be used to help guide the instructional materials selection process (Phase I and Phase II).
2. Adoption policies should include a well-written RFP process for instructional adoption (see Using the RFP Process to Drive High-Quality Curriculum, Johns Hopkins, 2018).
3. The adoption of instructional materials must include the voices of all stakeholders, including classroom teachers, to create buy-in and a common desire to improve instruction.

Key Finding #3: All instructional materials are not created equally, and great instructional materials do not cost significantly more. Johns Hopkins Institute for Education Policy (see citation of full report in suggested readings) provides guiding questions to consider when identifying high-quality instructional materials: a) Do the materials support effective, research-based pedagogy? b) Are the materials content rich? and c) Are the materials standards-aligned? A recent study (Boser, Chingos, & Straus, 2015) concluded that opportunities for boosting a district's return on instructional materials investments are a matter of finding the **right** materials rather than the most cost-efficient. In fact, cost is unrelated to quality. High quality instructional materials generally cost the same as lower-quality materials.

Action Steps.

1. When reviewing instructional materials for quality, start with the [Nebraska Instructional Materials Collaborative](#). This resource highlights high-quality instructional materials and offers Nebraska-specific resources to ensure instructional materials meet the expectations of Nebraska's College and Career Ready Standards.

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2. Based on the initial review, hold a materials-based discussion ([material-based discussion guide](#)) to select 2 – 4 sets of materials for review in your local district. Visit [EdReports](#) for more detailed information about alignment and usability of the reviewed materials.
3. Focus on quality, rather than price, when selecting curriculum. Remember some high-quality instructional materials are Open Educational Resources (OER) such as EL Education (K-5 ELA materials from Open Up Resources) and Eureka Math (PK-12 mathematics materials from Great Minds). This means they are available in the public domain or have been released under a license that permits their free use, reuse, modification, and sharing with others.

Key Finding #4: A continuous school improvement cycle must integrate content area standards, instructional materials, professional learning, and data-driven reflection. Simply purchasing high-quality instructional materials is not enough. “Done right, professional learning linked to instructional materials can lead to transformational changes in teaching and learning” (Wiener & Pimentel, 2017, p. 4). Districts that saw large gains in student performance insisted that all professional learning was grounded in the high-quality materials being used. This professional learning modeled coherence by clarifying content area standards, selecting high-quality instructional materials, committing time to supporting teachers in modifying and using the materials, and embedding data-driven reflections through strong professional learning communities (PLCs). Teachers are regularly called to modify their instruction based on standards, individual learning needs, and pacing (Learning Forward, 2018). To do this work, it may be necessary to utilize external expertise. A growing number of organizations are able to support instructional materials specific professional learning, and system leaders should consider taking advantage of the organizations strategically (Wiener & Pimentel, 2017).

Action Steps.

1. Utilize a professional learning process, like the LEAP process ([See this article for explanation of LEAP, pg. 6](#)) that supports teachers in growing their content expertise, planning together in teams, and assessing student progress. This fits well with the PLC framework and culture.
2. Devote significant time to professional learning to support implementation. It takes time to become familiar with new instructional materials, and educators need time to build content knowledge, understand new pedagogical approaches, and to collaborate. Previous research studies found time to be crucial for successful professional

learning. Specifically, professional learning that showed positive impact included 30 or more contact hours (Guskey & Yoon, 2009).

3. Make instructional materials a part of the school improvement culture. Professional learning should not be general, but applied directly to instructional materials and pedagogies teachers are interacting with daily. Support teachers in becoming experts in delivering and adapting instructional materials used in their classroom. The [Curriculum Support Guide](#) offers key actions support the implementation of high-quality instructional materials (See Phase III).

Key Finding #5: Teacher education programs are failing to prepare teachers to analyze, modify, and enact high-quality instructional materials effectively.

Instructional materials have been found to improve both student and teacher performance. High quality instructional materials build a teacher's pedagogical content knowledge (PCK; Shulman, 1986, 1987) which includes building both the delivery and expertise of the content to be taught. Though selecting strong materials is very important, teachers are often required to adapt lessons to accommodate time restrictions, available technology, and resources (Davis, Palincsar, Smith, Arias, & Kademian, 2017). "American teacher preparation programs...prepare teachers to teach in ways that are agnostic about curriculum," (Steiner, 2018, p. 11). Unfortunately, a review of various teacher education textbooks and syllabi often advocate that "authentic" learning occurs only when teachers create their own lessons to fit their context, students, and standards. In light of the dynamic nature of many educational standards, it is suggested that more time and effort be devoted to training pre-service teachers in the skills of assessing, selecting, modifying, and delivering instructional materials with fidelity.

Action Steps.

1. Expose pre-service teachers to numerous instructional materials to support their ability to read, interpret, modify, and teach from the resources.
2. Teacher education programs should provide opportunities for future teachers to utilize features embedded in high-quality instructional materials.
3. Scaffold pre-service teachers use of instructional materials to design instructional units.
4. Expose pre-service teachers to a full unit of instructional materials rather than teaching from one individual lesson. (Drake, Land & Tymiski, 2014)



Extended Reading and Resources

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