



RESEARCH REVIEW

Elizabeth Foster

The new standards reflect the latest knowledge and findings, as well as the priorities and key issues for professional learning leaders today.

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THE RESEARCH FOUNDATION FOR STANDARDS FOR PROFESSIONAL LEARNING

Research has been at the heart of Learning Forward’s Standards for Professional Learning since they were first conceptualized and shared with the field in the 1990s. The standards are built on a decades-long foundation of research literature that describes the ways in which professional learning can improve educator knowledge, skills, and mindsets and, in turn, improve educator practice and student learning. Updating that foundation with new research findings is an essential part of ensuring the standards remain relevant and useful.

Along with lessons learned from 30 years of standards implementation and feedback from educators and field leaders, recent research and evidence have shaped the 2022 revision of Standards for Professional Learning. A team of researchers from the American Institutes for



Research, with input from Learning Forward and the Standards Advisory Council Research Working Group, conducted a systematic literature review on professional learning. They paid particular attention to new research released since the previous version of standards was released in 2011. As a result, the new standards reflect the latest knowledge and findings, as well as the priorities and key issues for professional learning leaders today.

ABOUT THE RESEARCH WE REVIEWED

Learning Forward considered many sources and types of studies, ranging from large-scale randomized controlled trial studies to qualitative and mixed-method studies, to case studies focused on a particular professional learning approach or intervention. Each of these types of studies offers its own benefits.

Randomized studies and meta-analyses can help identify measurable, reliable patterns and contribute to our understanding of which factors influence other factors. For instance, a recent analysis of 35 methodologically rigorous studies by the Learning Policy Institute found a positive link among teaching practices, student outcomes, and professional learning when that professional learning is content-focused, collaborative, job-embedded, incorporates active learning and adult learning theory, models effective practice, includes coaching and expert support, includes feedback and reflection, and is of sustained duration (Darling-Hammond et al., 2017).

Qualitative and mixed-method studies provide critical, detailed descriptions of professional learning that control group studies often leave unexplored. For example, qualitative studies of long-term professional learning efforts offer rich information about how a comprehensive approach builds the capacity of leaders and practitioners to continuously improve their practice to influence student learning. One such study by Pak, Desimone, and Parsons (2020) analyzes case studies of professional learning systems in five states to draw out the features of contexts that support effective professional learning, including collective participation and what they call

“sustained coherence.”

Findings from studies of Learning Forward’s own partnerships and collaborations provide valuable information as well. One example is the case of Fort Wayne, Indiana, a district that has leveraged the standards in various ways for almost a decade, improving its overall culture and particular leadership practices and garnering important input about the professional learning needs of teachers and coaches (Psencik et al., 2019).

Our research review also intentionally examined research on standards implementation in various contexts. Notably, in 2016, a research team led by Carol Campbell did an extensive review of research literature and survey data from across Canada, resulting in the identification of three key components and 10 features of effective professional learning in the Canadian context that were consistent with features of effective professional learning in Standards for Professional Learning (Campbell et al., 2016). The study provides a look at similarities and differences in the way educators in different countries and provinces focus on inquiry, think about teacher agency, and use evidence.

Not only do the standards represent the best available research, the standards themselves have also been studied. American Institutes for Research led a literature review focused on studies using the 2011 standards as a framework and conducted a meta-analysis of randomized control trial studies that looked at the impact of professional learning aligned to standards on educator and student outcomes. The institute’s findings suggest that the implementation of standards is, indeed, a means to achieve better teacher and student outcomes. The meta-analysis found “consistent evidence that program alignment with the Learning Forward Standards for

Professional Learning is associated with improved teacher instruction and student achievement outcomes” (Garrett et al., 2021). That research is described in more detail in the article at right.

HOW NEW RESEARCH INFLUENCED NEW STANDARDS

New studies and evidence released since the last version of the standards informed the specific concepts and language of the 2022 revision, including the creation of new standards as well as updated language in longstanding standards. Following is a summary of the major themes from the research and how they influenced the 2022 Standards for Professional Learning.

Curriculum and instructional materials. The positive impact of access to high-quality curriculum and instructional materials on educator and student outcomes is increasingly borne out in the research (see for instance, Boser et al., 2015; Taylor et al., 2015) and is therefore an important update to the standards. Professional learning focused on implementing high-quality curriculum and instructional materials through instruction is also an equity issue, as research has found that students in low-income schools often have limited access to high-quality academic content, and teachers spend too much time searching for materials that meet their students’ needs, making the implementation of high-quality curriculum and instructional materials an important equity issue (Learning Forward, 2018).

Collaboration processes. Standards have always affirmed the importance of educator collaboration in improving individual and collective educator practice and the culture of the learning environment. While there has long been evidence that collaboration among educators leads to improved

META-ANALYSIS

Study links standards with teacher and student outcomes

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When Learning Forward approached the Center on Great Teachers and Leaders at the American Institutes for Research about partnering on a research review for Standards for Professional Learning, we jumped at the chance. We were excited to apply our expertise in research methods to help build the field’s knowledge about how educators’ professional learning contributes to student success.

As we began to plan for a systematic literature search and review of randomized field studies published since the release of the 2011 standards, we saw an opportunity to add depth to the project by conducting a meta-analysis. A meta-analysis is a rigorous statistical procedure to summarize quantitative findings across multiple studies.

Meta-analysis is a powerful approach because it examines whether two variables appear to be related to each other not just

Continued on p. 25

outcomes for teachers and students (e.g. Goddard et al., 2007), recent research provides critical descriptive detail about collaboration focused on instruction (e.g. Ronfeldt et al., 2015), and educator collaboration in day-to-day practice (e.g. Wilson et al., 2017). Recent research demonstrates how collaborative structures become even more effective when infused with an inquiry approach, address a combination of individual and collective learning, and build capacity for teacher voice and agency (e.g. Timperly et al., 2014; Hargreaves & Fullan, 2012).

School leadership. Research has long affirmed the role of the school principal in successful implementation (Desimone et al., 2002) and confirmed that effective school leadership is associated with better outcomes for teachers and students (Leithwood et al., 2004). And yet recent research supported by The Wallace Foundation reveals that principals have an even greater impact on student outcomes than previously thought and what characteristics and conditions lead to the greatest impact (Grissom et al., 2021) — a major contribution to the field and a critical resource for the revision of the standards.

Equity. Although equity has always been embedded in the standards, emerging research over the last decade highlights the positive effect of professional learning that includes equity-related content and strategies to understand and address educator and student backgrounds and beliefs. Several recent syntheses of quasi-experimental studies on professional learning and culturally responsive teaching reveal that bridging cultures in schools is increasingly becoming a strategy for improving teaching and learning, and the causal evidence related to outcomes for educators and students is developing. These studies describe the features of equity-focused professional learning and offer ideas about how to assess and design for quality (e.g. Bottiani et al., 2017; see also reviews

REFERENCES AND READINGS

This article is adapted from the report *Standards for Professional Learning: The Research* by Elizabeth Foster (Learning Forward, 2022), which is available at standards.learningforward.org/wp-content/uploads/sites/29/2022/04/standards-research.pdf. All of the references cited in this article, along with additional related readings, can be found in the report.

by Aronson & Laughter, 2016, and Parkhouse et al., 2019).

Strategies such as culturally responsive teaching, which incorporates students' cultures into instruction, are showing promise in improving students' academic and social and emotional outcomes, affirming their identities, and helping them develop skills to identify and combat inequities. However, more rigorous research is needed to complement descriptive studies, better understand what effectiveness means and looks like, and articulate what components lead to better outcomes for students (Bottiani et al., 2017; Hill, 2020).

Social and emotional learning.

Emerging research also points to the importance of understanding and specifically attending to social and emotional learning (SEL) in professional learning. Several large meta-analyses found that participation in SEL programs improved students' academic performance, social and emotional competencies, and well-being and social behavior (Durlak et al., 2011; Taylor et al., 2017). Research shows that the best SEL approaches focus on concrete, specific, observable, and teachable skills and competencies (Jones & Kahn, 2017; Mahoney et al., 2018) — outcomes that well-designed professional learning can achieve.

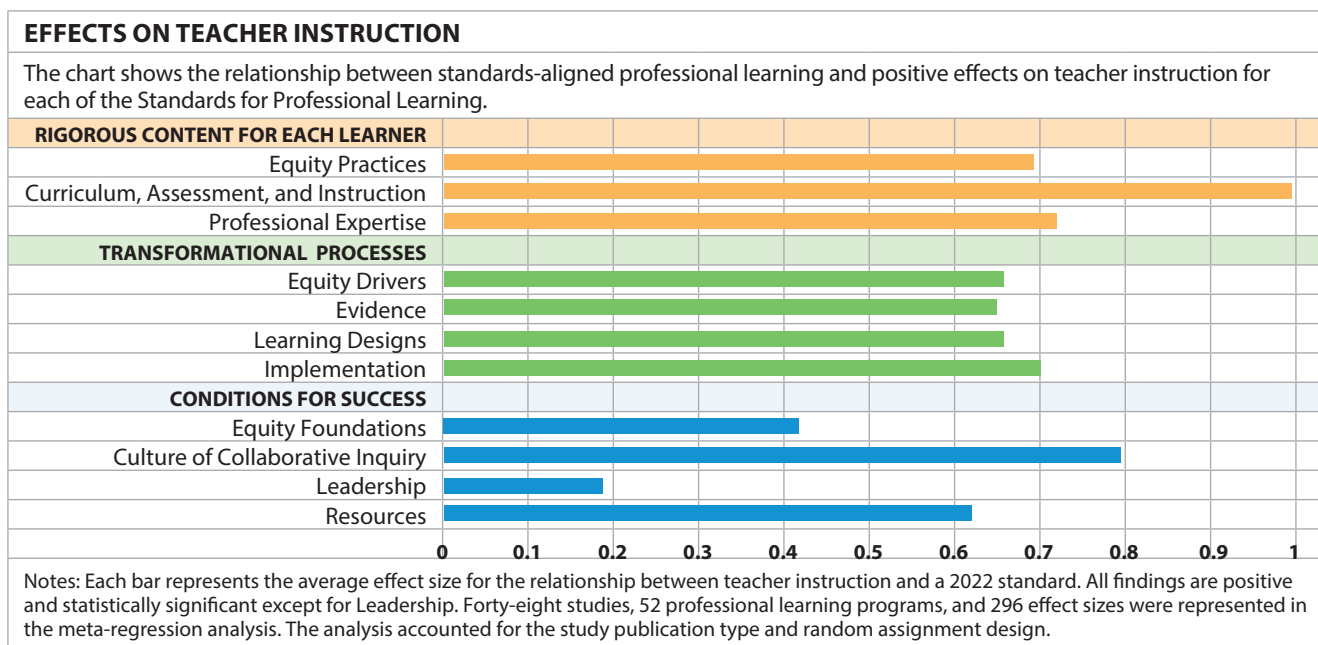
NEXT STEPS FOR STANDARDS RESEARCH

Looking forward, Learning Forward is eager to partner with research organizations and practitioners on research that will provide useful information, especially related to scaling effective strategies and isolating what

leads to improvements in educator and student outcomes. The release of the revised standards is an opportunity to gather baseline data now, then formally study the implementation of professional learning strategies aligned to standards in a variety of contexts.

Learning Forward is also advocating for studies of new initiatives to more explicitly address how professional learning was initiated, conducted, and supported over the period of time covered in the research. There are often unanswered questions about the design of the sessions, how facilitators were selected, trained, and evaluated, and how leadership supported professional learning through policy and resources. The field would benefit from a consistent and transparent way of describing professional learning in research studies. Standards for Professional Learning, with the frames of Rigorous Content for Each Learner, Transformational Processes, and Conditions for Success, would be a perfect structure for a uniform description of professional learning in studies focused on teaching and learning.

Learning Forward stands firm in our commitment to help educators understand how to conceptualize, support, implement, and document the impact of professional learning so that it leads to excellent outcomes for educators and students. Therefore, Learning Forward will continue to sustain and strengthen our connection to and investment in research and evidence about high-quality professional learning. ■



Continued from p. 23

in one sample of data but in many samples with different participants and in different locations. When a meta-analysis finds a positive effect across studies, it provides more robust evidence than one study alone. And unlike a literature review, it provides a measurable effect that can be compared to the effects of other types of interventions. This can be helpful for making decisions about how to invest resources and time.

The goal of our meta-analysis was to examine whether there is a significant relationship between professional learning that is aligned to Standards for Professional Learning and teacher instruction and student achievement. Using a cutting-edge method called a mediation-meta-analysis, we were also able to examine whether changes in teacher instruction brought about by professional learning lead, in turn, to changes in student achievement.

HOW WELL DID THE STUDIES ALIGN WITH THE STANDARDS?

After identifying studies appropriate for inclusion in the meta-analysis, our next step was to examine the professional learning programs in the studies. Specifically, we wanted to know

how well the programs aligned with the 2022 standards. We developed criteria and coded the programs according to whether they aligned with each of the 11 standards.

We found varying levels of representation of different standards. The standards most commonly represented were Professional Expertise (32 out of 48 studies) and Learning Designs (28 out of 48 studies). Only a limited number of studies provided evidence of alignment with the three equity standards or the Leadership standard.

Examining the three frames in Standards for Professional Learning, the professional learning described in the studies was less often aligned with the Conditions for Success frame compared to the other frames (Rigorous Content for Each Learner and Transformational Processes). In light of the paucity of studies meeting the Leadership, Equity Drivers, and Equity Practices standards, we interpret all analyses of these standards with caution.

WAS STANDARDS-ALIGNED PROFESSIONAL LEARNING LINKED TO TEACHER AND STUDENT OUTCOMES?

Next, we looked at how standards-aligned professional learning was

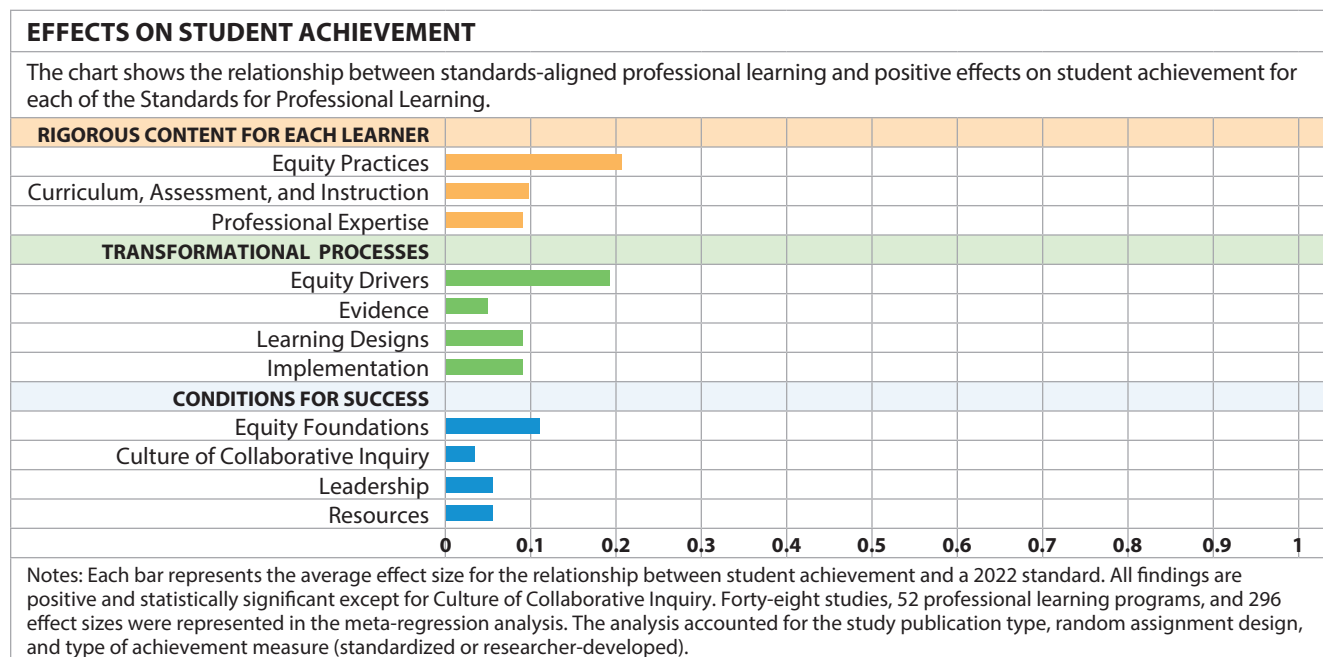
associated with teacher instruction and student achievement outcomes, examining each standard separately. The analyses indicated that alignment with the 2022 Standards for Professional Learning was associated with large, positive average effects on instruction. (See graphic above.) Among the statistically significant effects, the average effects on instruction ranged from moderate in size (Equity Foundations) to large (Curriculum, Assessment, and Instruction).

The findings were similar when considering student achievement. Analyses indicated modest but positive average effects for student achievement across all of the 2022 standards. (See graphic on p. 26.) Among the statistically significant findings, average effects ranged from modest in size (among each of the Leadership, Resources, and Evidence standards) to more moderate (Equity Practices).

DO CHANGES IN INSTRUCTION LEAD TO CHANGES IN STUDENT ACHIEVEMENT?

Underlying Standards for Professional Learning — and most professional learning practice — is a theory of change that predicts professional learning will benefit teacher

META-ANALYSIS



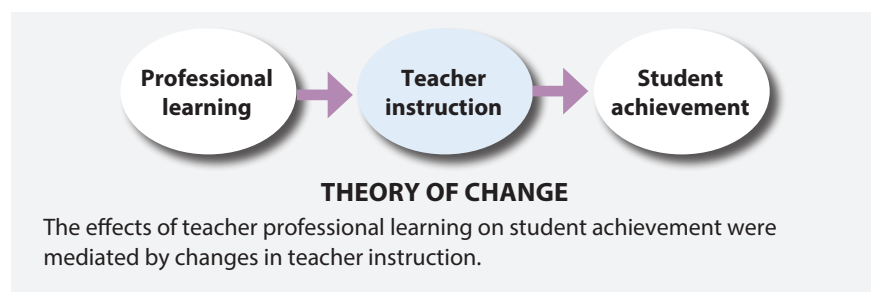
instruction and, in turn, student achievement outcomes. In other words, student achievement improves, at least in part, through the instructional improvements.

Although this theory of change applies to virtually all professional learning studies, research has provided limited information to empirically test it. Our mediation-meta-analysis addressed this gap in the literature. It used all available information across the studies to understand the effects that teacher professional learning has on student achievement and how those effects may be attributed to changes in teacher instruction.

The analyses supported the theory of change, as shown in the figure above. First, improvements in instruction were positively and significantly associated with improvements in student achievement. Second, improvements in student achievement were explained through the improvements in teacher instruction that came from the professional learning.

WHAT NEXT?

The findings of our meta-analysis consistently indicate that evidence of



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program alignment with Standards for Professional Learning is associated with improved teacher instruction and student achievement. By extension, they suggest that investments in high-quality professional learning can yield meaningful improvements in student achievement.

The study also highlighted the opportunity for future investigations that will add even more knowledge to the professional learning field. For example, randomized field research offers limited understanding about

the broader systems and contexts in which professional learning is tested. Expanding that research can help leaders determine what kinds of professional learning to implement, where, and when.

The current findings, and those from studies we hope will build on this one, can make important contributions to the field that will support the efforts of professional learning leaders and advocates to bolster high-quality professional learning for all educators.

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