Going the distance: Reflections on supporting scalable educational innovation

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Investment in education research and development is critical in generating innovation and bridging research to practice. These efforts pursue multiple ends: discovering new ways to improve student outcomes, creating products that instantiate this new knowledge at scale, and even unleashing broader changes in systems, structures, or practices prompted by the new discoveries. The Leveraging Evidence to Accelerate Recovery Nationwide (LEARN) Network originated based on the recognition that many projects achieve the first objective of knowledge generation but struggle to achieve adoption, use, and impact at scale.

As part of SRI's leadership of the LEARN Network, we engaged a network of R&D teams working to transform research into evidence-based products, tools, and solutions to improve education at scale. In this brief, we share reflections that may be useful to funders in weighing investment strategies and to R&D teams seeking to design and scale impactful innovations. These reflections draw from the LEARN Network's capacity-building efforts as well as original research and engagement of experts on the topic of scaling evidence-based solutions.

The goal of the Institute of Education Sciences (IES)-funded LEARN Network was to increase the development, adaptation, and preparation of evidence-based products for scale. The Network included four research and development (R&D) teams leading the enhancement of educational products that have the potential to accelerate students' learning in reading and math. The LEARN Network, led by SRI International, facilitated training, coaching, and collaboration activities with these R&D teams to build their capacity for scale and developed a model and tools for the field on designing, testing, and transitioning evidence-based products to maximize the potential to achieve impact at scale. The Network also conducted research on how schools and districts procure educational products, developed brief stories of scaling highlighting the journeys of selected educational products, and created the LEARN to Scale Toolkit and other dissemination and capacity-building products in collaboration with experts in scaling, marketing, and commercialization. Learn more at LEARNtoScale.org.

Reflection 1: Education R&D teams have widely varying ideas of what scale looks like.

At the outset of the LEARN Network, we asked the R&D teams how they defined scale and what their scaling goals were for their projects. What we heard illuminated a range of definitions. One team thought about scale in terms of the number of schools recruited to participate in a randomized controlled trial, as in a "large-scale RCT." Another team gave us an example of scale from a well-known school intervention that had gained adoption in around 2,500 schools. Based on the widely cited innovation S-curve (Rogers et al., 2014), this intervention had secured a foothold in the "innovators" segment of schools (2.5% of the market) but had not yet crossed into the "early adopters" segment.

By contrast, product leaders we interviewed for our Stories of Scaling series viewed scale as widespread adoption. For example, the CTO of Inq-ITS, a web-based learning platform designed to support middle school science education, said their goal was to be in every science classroom in America. Another product leader from PhET, a free digital interactive math and science simulation project based in the University of Colorado Boulder, said the team has delivered 1.5 billion simulations worldwide.

However, scaling is not just a matter of absolute reach. Impacting a significant share of a narrowly defined target audience, such as learners with low-incidence disabilities, could certainly qualify as scale. And beyond metrics such as user counts or downloads, LEARN Network product teams observed that widespread adoption of their interventions would have little impact on student outcomes if implementation lacked fidelity.

Scaling, therefore, can be conceptualized as a deeper process that prioritizes meaningful adoption, contextual responsiveness, and long-term integration into educational practice (Coburn, 2003; Dede et al., 2005; Elmore, 1996). In defining a vision for scale, it is useful to consider the educator capacity-building needed to use the innovation effectively as well as alignment with established learning models supported by policy, funding, and professional norms. This vision also needs to include building the organizational capacity to deliver the product or service cost-effectively and sustainably at scale.

Implication for funders: Think broadly about what forms scaling can take and define a vision for scale. Specific scaling criteria and expectations can help to create alignment with grantees.

Implication for R&D teams: Define your aspirations for scale early in the design and development process, and in consultation with funders and partners. Revisit your scaling vision often to ensure alignment with your R&D goals, methods, products, and organizational capacity.

Reflection 2: "Who" may matter as much as "what."

Across projects in our network and research, we found that R&D teams that pursued scale most aggressively often had significant personal and professional stakes in their projects' success. For example, one team, located at an independent nonprofit wholly reliant on grants and operating revenue, actively pursued new marketing strategies to increase uptake. In our interviews with leaders of scaled educational products, most had dedicated at least one full-time lead (e.g., someone without academic appointments) to building the organization. Conversely, there have been some highly impactful projects launched by faculty and hosted within academic institutions. Often, these initiatives involve a mix of researchers with academic appointments and full-time, dedicated staff supported by grants and operating revenues from the product.

Further, products and organizations benefitted from core teams with broad skill sets, including private sector experience. At Learning Ovations, a wife-husband team, one from academia and the other from the private sector, partnered to develop, study, and commercialize their A2i assessment system. Ultimately, Learning Ovations was sold to Scholastic and integrated into its literacy products. Inq-ITS and Cognitive ToyBox were led by entrepreneurially minded researchers and brought people with commercial experience into leadership positions. At PhET, systems engineers were part of the core team, alongside content and learning design experts, ensuring robust functionality.

The approach of investing in teams rather than products is well established among venture capitalists, who often focus on "founder-market fit." This refers to the idea that a founder, rather than an idea or product, is particularly well suited to solving a problem. Market-driven products often evolve significantly over time, and the ability to pivot is a core tenet for entrepreneurs. By contrast, impact-oriented projects need to balance strategic shifts responsive to market demands with adherence to their core mission and the evidence base. For funders of educational products, it may be important to consider the alignment of the idea, content, and methodological expertise and grantee characteristics, such as market/industry experience, personality, and passion.

Implication for funders and R&D teams: Ensure team capabilities, aptitudes, commitment, and incentives are aligned with scaling goals.

Reflection 3: Alignment between R&D and user/ customer priorities and values is essential.

Scalable products are grounded in a deep understanding of user needs and values, the problem of practice, and the broader context. In our conversations with experts and leaders of scaled products, we learned that many products began out of authentic partnerships with educators and identification of a market gap, rather than a purely research-based and lab-born theory of change. In many cases, developers prioritized the needs of the users who were most impacted by a particular need or problem. This approach, sometimes described as "designing from the margins," can produce solutions that are most beneficial for the most users.

Authentic partnerships across the research and development lifecycle can provide more than inspiration; they validate market demand and help to articulate theories of change that reflect real-world conditions, such as systemic needs and priorities, and the market forces that shape decision-making, implementation, sustainability, and scale in education. They can also inform outcomes beyond student achievement that reflect real user and customer values. Business literature, for example, is littered with examples of the "best" or most efficacious product losing out to technically inferior products because of differences in outcomes that users rank as equally or more valuable. While performance (teaching and learning outcomes) is vital, users often place equal or greater value on reliability, convenience, and cost. SRI's *From Research to Market* report finds that while each of these dimensions is important in the education market, convenience—such as feasibility of implementation and alignment with infrastructure and context—must be treated as a minimum requirement.

Authentic partnerships with potential users and customers can serve the dual purpose of designing products that address the dimensions of performance, reliability, convenience, and cost (PRCC) and creating product champions. Champions are pivotal figures who not only use the product extensively and provide critical feedback to guide optimization, but also advocate for its adoption. In our research, school and district leaders reported that recommendations from end users are among the most influential sources of information informing procurement. Thus, end-user champions are a key lever in expanding adoption. In our interviews for the Stories of Scaling series, product developers also credited much of their success to having champions who drive organic growth.

Implication for funders: Engage potential end users and other interested parties in the evaluation of R&D proposals. Also require R&D teams to have clear plans for user engagement and feedback throughout product development, testing, and transition. Encourage team science approaches that bring educators into the core team.

Implications for R&D teams: Ground research and development in strong partnerships with intended users (e.g., teachers) and customers (e.g., districts) from the initial ideation through transition and scaling. Attend to the priorities and values of partners who are most impacted by the need. Leverage partners as champions to drive adoption and spread.

Reflection 4: School and district leaders navigate a crowded market of educational products and turn to trusted partners and peers networks for support.

As educational innovations continue to proliferate, school and district leaders are navigating a saturated market filled with competing tools, programs, and platforms. Despite the availability of evidence-based solutions, educators are often overwhelmed and underresourced when selecting the right tools for their contexts. In our research, we found that decision-makers rely most heavily on word-of-mouth recommendations to guide adoption choices, over other sources like evidence repositories and research conducted by program developers or external evaluators. Compounding the challenge of a crowded market is that many R&D initiatives yield promising features or tools that fall short of delivering the full-scale, ready-to-implement solutions that schools and districts seek (Wu et al., 2021).

In this context, intermediary organizations can serve as vital partners to schools and districts. For example, organizations such as regional service agencies (e.g., BOCES, cooperatives), professional associations such as the National Rural Education Association (NREA), federally funded technical assistance providers such as Regional Educational Laboratories (RELs), and nonprofits like Policy Analysis for California Education (PACE) can help filter, contextualize, and translate research into action, offering districts much-needed clarity in a noisy marketplace. Intermediaries also often have strong relationships and networks with multiple schools and districts to facilitate peer connection and information-sharing.

Strengthening connections between R&D teams and these intermediaries can both provide a partner in scaling and sustainability and create input and feedback mechanisms throughout product development and testing to address implementation issues and contextual factors (Farley-Ripple, 2023). Intermediaries can be an efficient source of local contextual information, such as priorities, procurement processes, and policy requirements. By partnering with trusted sources up front, R&D teams also gain access to an established network and a more efficient path to building relationships within and across entities. R&D teams can also build the capacity of intermediary organizations to support local implementation.

Implication for funders: Serve as strategic connectors, facilitating collaborations among R&D teams and intermediary organizations. Consider opportunities to support networks or TA centers that focus on implementation of evidence-based practices and products.

Implication for R&D teams: Identify the organizations that are already influential with the communities or audiences you seek to reach and that have aligned priorities, and seek to build trusting relationships focused on shared opportunities and benefits.

Reflection 5: Education R&D teams can benefit from intentional capacity-building efforts.

The LEARN Network was established by IES to address some of the needs typically provided by incubators and catalysts in more commercial spaces. To increase and accelerate the success of R&D teams in the network, we experimented with many different types of support. We engaged commercial strategists from SRI experienced in partnering with inventors from other divisions (e.g., biotech, defense) to discuss approaches to licensing IP. We invited external speakers with personal experience in scaling educational interventions and services to share lessons learned. We introduced frameworks and tools such as key player maps, user stories, and PRCC to identify decision-makers and elucidate user preferences. There is no one-size-fits-all formula to guarantee success. We found that teams appreciated time and space together with structured guidance to grapple with common challenges related to scaling. Identifying the most useful supports required listening closely to teams' "pain points" and focusing on creating value rather than on compliance activities. Teams gained comfort with commercial concepts and engaging a "market-first mindset," which initially felt at odds with mission-driven values for some.

LEARN Network staff supported product teams in identifying where they needed to strengthen or develop repeatable processes and systems to reduce complexity and enable them to serve more users. Teams that invested in even small improvements to their infrastructure, such as tools for managing relationships with schools, processes for supporting adoption through documentation, or new mechanisms for user engagement, found they were better positioned to expand without becoming overwhelmed. Teams also appreciated guidance and support in developing scaling plans that refined their thinking on the resources, capabilities, and internal systems and tools needed to meet their scaling goals.

Another place where the LEARN Network's capacity-building efforts were particularly valuable was in helping teams recognize sales and marketing as indispensable to scaling adoption and impact. Scaling means serving more students, which inherently means needing more resources. For mission-oriented teams, many of whom want to offer their products at low- or no-cost, overcoming discomfort with sales and marketing principles was key. We brought in a consultant with expertise in marketing in the K–12 space who was able to meet teams where they were and develop go-to-market strategies that connected their core value proposition and messaging, focused on channels that reach their key decision-makers, and provided data to inform future marketing efforts.

Implications for funders: Consider ways to connect grantees to experts and peer-cohorts focused on the development, use, and scaling of evidence. Support intentional capacity-building around team-identified pain points, particularly in developing organizational systems for scale and go-to-market planning.

Implications for R&D teams: Participate in capacity-building activities with an open mind; recognize the need for new approaches, mindsets, and skills that could maximize the sustainability and impact of your efforts.

Conclusion

Scaling educational innovations is not an exact science but a dynamic interplay of vision, design, collaboration, and practical alignment with the realities of schools and systems. R&D teams have the opportunity to impact students and systems at scale by embracing authentic partnerships and new teaming approaches, and being open and flexible to adopting new roles and building skills for scaling. Funders play a critical role in shaping this journey, not only by financing R&D but by setting expectations, building ecosystems, and fostering the right conditions for adoption and sustainability.

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The research reported here was supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R305N220012 to SRI International. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

To learn more about the LEARN Network, visit the website at https://learntoscale.org/