

Taking Teacher Learning to Scale: Sharing Knowledge and Spreading Ideas Across Geographies

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This research reports data from case studies of three intermediary organizations facing the challenge of scaling up teacher learning. The turn of the century launched scaling-up efforts of all three intermediaries, growing from intimate groups, where founding teachers and staff were key supports for teacher learning, to large multistate organizations. The authors draw on data from three earlier qualitative studies, as well as newly gathered data on professional development at Big Picture Learning, EL Education, and the Internationals Network, and reveal some of the challenges and benefits of taking teacher learning to scale.

INTRODUCTION

In *Scaling Up Excellence: Getting to More Without Settling for Less*, authors Sutton and Rao (2014) consider the challenges of scaling organizations through this question: “How do you spread something good from the few to the many?” The authors assert that scaling means more than just getting bigger—it also means getting better; it’s about “spreading exceptional ideas [and] systems and then persuading—ideally inspiring—others to make them their own” (Buchanan, 2014, p. 32).

We explore this question of scale by examining school design organizations that are engaged in addressing the challenge of spreading or replicating their models for schooling while simultaneously spreading and growing teacher learning. We look to three school designers who have been engaged in the work of scaling for over a decade and draw from their robust experiences to capture learning, inform others' efforts to scale, and inspire effective educational reform.

With recent widespread adoption of the Common Core State Standards and increasing accountability for effective teaching, teacher quality and student achievement are in the spotlight of educational policy (Darling-Hammond, 1997; Darling-Hammond & Prince, 2007; Hanushek & Rivkin, 2004; Louis, Kruse, & Bryk, 1995; National Education Association, 2013; Wayne and Youngs, 2003). As a result, school design organizations that provide curricular designs, professional learning, school coaching, and other supports to schools in order to build both school and teacher capacity continue to thrive. The impact of such organizations on educational reform is a relatively recent phenomenon, made possible by a unique mix of policies (such as the Obey-Porter Act¹), ideas (such as those created by the New American Schools Development Corporation), and money (such as the Bill & Melinda Gates Foundation² funding of school designs) (Glennan, Bodilly, Galegher, & Kerr, 2004). Researchers McDonald, Klein, and Riordan (2009) write about scaling up, naming "teaching and learning the design" as one of eight challenges encountered by school designers—what Sutton and Rao (2014) identify as the challenge of diffusing strong practices and expertise from one or a small group to the many. Specifically, school design organizations must help others develop a nuanced and deep understanding of an often complex teaching and learning design, and then deploy that knowledge to support students in the classroom (Schmidt & Datnow, 2005; Stringfield & Datnow, 1998).

We engaged in case-study research of three intermediary educational organizations all involved in scaling up their school design, by which we mean they engaged in ongoing efforts to open new schools around the country that closely replicate the organization's original model for schooling. We borrow from Honig and Ikemoto (2008) in defining intermediaries as organizations that "focus their work specifically on supporting learning improvements" and who "occupy a distinct position between central offices and schools where they aim to leverage changes at both levels" (p. 329). The intermediaries in this study, Big Picture Learning (BPL), EL Education, and the Internationals Network for Public Schools (INPS), each supports national networks of schools and teachers in implementing a specific design for schooling. This subset of intermediaries supports *both*

traditional public and charter public schools, developing “Memoranda of Understanding” with each school in order to articulate specific curricular, coaching, professional learning, branding, and marketing services to school partners. All require teachers to implement their visions of reform and must therefore invest in supporting teachers as they learn and execute their designs. With teachers as the fulcrum, teacher learning is vital to the survival of these designs, particularly because they are not scripted for teachers. Rather, teachers need a strong understanding of the design—its core philosophy, pedagogical approach, mindset, and cultural expectations—in order to make it their own and implement it (Klein, 2007; Klein & Riordan, 2011). Evidence suggests that the professional development provided by these intermediaries has been effective in helping teachers transform practice (Klein & Riordan, 2009, 2011). As a result, we believe all three intermediaries offer applicable insights into how to grow teacher learning. Though our research here details teacher learning in specific types of school design organizations, our findings on teacher learning are relevant for other organizations that are in the process of scaling or in the process of spreading good ideas for classroom practice from the few to the many, whether in one school building or across geographic contexts.

The scaling-up efforts of all three intermediaries were launched at the turn of the century (sparked largely by funding from the Bill & Melinda Gates Foundation), growing from intimate groups, where founding teachers and staff were key supports for teacher learning, to large multistate organizations. This study explores what happens when professional learning grows rapidly and across geographic contexts. We examine two challenges these organizations face and identify key strategies they use to manage these emergent challenges.

We asked:

- What is the nature of the fidelity/adaptation challenge in scaling up teacher learning communities? What makes it a challenge?
- What are the strategies intermediaries use to manage the fidelity/adaptation challenge in scaling up teacher learning and teacher learning communities?

RELATED LITERATURE

The literature on teacher learning explores how teacher inquiry and reflection supports the collective capacity of schools to design and implement effective practices (Crockett, 2004; Little, 1999; McLaughlin & Talbert, 2001). Scholars find that teacher learning is most effective when it is sustained and coherent (Cohen & Hill, 2001) and as a consistent part of

reform rather than as traditional one-shot workshops (Darling-Hammond & Richardson, 2009). There is also broad consensus that effective teacher learning involves a “deprivatization” of practice (Klein, Jaffe-Walter, & Riordan, 2015; Little, 1990) as teachers collaborate in reflection and dialogue about their teaching and grapple with dilemmas of practice. Literature from the 1980s and 1990s further emphasizes teacher networks in which groups of educators gather from across contexts to engage in inquiry into their own practices (Lieberman & Grolnick, 1996; Pennell & Firestone, 1996). Lieberman and Grolnick (1996) find that

the effects of collaboration extend in many directions. Working actively with others strengthens the investment participants have within the network; the work becomes, quite literally, their own. Connecting with other members across schools, institutions, roles and geography enables participants to develop more complex views of the issues they are concerned about, and encourages them to take different perspectives and different ways of knowing into account. (p. 3)

More recently, we find the proliferation of intermediary organizations that involve specific communities of educators who are joined by common principles and/or particular populations of students. Scholars have highlighted the ways in which intermediaries are important vehicles for teacher learning and are instrumental in fostering teachers’ capacities to develop effective practices that support student achievement (Ball & Cohen, 1999; Cohen & Hill, 2001; Green, 2014; Klein & Riordan, 2011). In addition to supporting teacher learning, these networks encourage the flow of new ideas into individual schools and provide opportunities for teachers to develop their capacities as leaders (Lieberman & Grolnick, 1996; Little, 1999; McDonald & Klein, 2003; Rogers, 2007). A small number of scholars have begun to document the ways that intermediary organizations have used veteran practitioners to lead the implementation of new reforms (Jaffe-Walter, 2008; Klein et al., 2015; Rogers, 2007). Rogers raises a concern about the limitations of this model as it requires time and the development of sustained relationships, “a base level of capacity or readiness on the part of practitioners as a pre-condition for pursuing teacher driven, network based approaches to reform” (p. 218).

Each of these intermediaries has made significant progress in understanding how to help teachers both learn about the design and learn how to do it, and past research efforts have documented these strategies (McDonald, Klein, & Riordan, 2009). In our prior research we witnessed the challenges of helping teachers become intimate “knowers” of these

ambitious designs. However, we also observed the power and energy engendered by growing professional development beyond one or two schools. The research presented here draws on both the benefits as well as the challenges of scaling up teacher learning. We think of these as benefits and challenges for the organization and for the teachers, since scale involves reaching and engaging individual teachers at the level of classroom practice as well as the spread of ideas, knowledge, and skills across schools. Earlier research delves into these benefits and challenges.

With reflection like Wylie (2008), we identify a central challenge of scaling up a professional development intervention as essentially one of managing fidelity to the design with the necessity of adaptation (Klein et al., 2015). Their research documented the organization's "tight but loose" theory of scaling up, which

combines an obsessive adherence to central design principles (the tight part) with accommodations to the needs, resources, constraints, and particularities that occur in any school or district (the loose part), but only where these do not conflict with the theory of action of the intervention. (p. 34)

Others have identified the tension of negotiating between fidelity and adaptation as a significant one for intermediary school designers (McDonald et al., 2009; Viadaro, 2007; Wenger, 2004). Literature also suggests that one of the significant challenges in managing growing communities of practice is how to manage the knowledge of these communities (Brown & Duguid, 1991; Coburn, 2003; Drucker, 1998; Senge, 1994; Wenger, 2004). This article focuses on the strategies these three intermediaries used in managing this central challenge.

METHODS

This study uses qualitative case study methods. Earlier phenomenological research sought to make sense of how each of these three organizations managed the challenges and experiences of bringing teacher learning to scale. We returned to data generated from that research and analyzed the data for the strategies each employed to manage those challenges. Case study methodology is particularly well suited for studies that seek to develop close understandings of why something has occurred (Yin, 2014). In this study, the "unit" of the case was each of the three organizations (for more discussion of the methodology of the study, see Klein et al., 2015). Below we describe each of the organizations in brief:

THE INTERMEDIARIES

The following narratives and Table 1 summarize key design elements of each organization.

Big Picture Learning

Founded in 1995, Big Picture Learning (BPL) emphasizes development of students' interests and passions, designing individual learning plans for each student that extend into unique internship environments. Students in BPL schools experience a "one kid at a time" approach, grounded in the organization's belief that students can achieve skills, concepts, and problem-solving ability by delving into their interests. Each student's individualized curriculum (learning plan) encompasses the following Learning Goals (which loosely reflect disciplines of study): Communication, Quantitative Reasoning, Empirical Reasoning, Social Reasoning, and Personal Qualities. Currently there are over 70 schools in 17 states as well as a growing international presence. BPL also highlights "distinguishers" of its model, including its leadership and teacher professional development that support face-to-face and online experiences for educators.

EL Education

For over 20 years, EL Education has supported K–12 leaders and teachers in helping students achieve academically, develop strong character, and produce quality work. EL emerged from the educational ideas of German-born Kurt Hahn, founder of Outward Bound wilderness programs. Hahn promoted educational experiences that challenge, engage, and impel students to discover their potential. That philosophy continues to inform EL's model—reflected in its core practices around curriculum, instruction, assessment, culture and character, and leadership. EL Education is partnered with over 160 schools in 33 states in whole-school transformation and targeted professional services. Its whole-school model embraces a curriculum centered on learning expeditions, which are long-term, project-based investigations of topics that are interdisciplinary, inquiry based, and grounded in standards. EL also supports teachers through professional learning opportunities, including school-based coaching, institutes, and online/blended learning.

Internationals Network for Public Schools

INPS schools are public high schools structured to meet the academic and emotional needs of recently arrived English Language Learners from over 60 countries. The schools' model of instruction integrates language

development and content as students work collaboratively in heterogeneous groups on interdisciplinary projects and also complete internships within local communities. The first INPS school opened in New York City in 1985, and as of 2016 there are 21 INPS schools across the country. Internationals supports teacher-created and teacher-led professional learning opportunities for educators in its network.

Table 1. Key Elements of Intermediaries

Intermediary	# of Schools	Core Principles	Model of Teacher Learning
Big Picture Learning	70 schools in 20 states (also an international presence)	Advisory, individualized learning, project-based curriculum, internships	Building communities of practice, teacher inter-visitations, expert teacher-led workshops, mentoring
EL Education Schools	Over 150 schools in 33 states	Curriculum centers on project-intensive learning, emphasizing literacy and incorporating fieldwork, local experts, and authentic products	School-based professional development led by EL coaches; also has national and regional professional development institutes and a national conference. Blended learning (online book clubs and online communities of practice).
Internationals Network for Public Schools	21 schools in four states	Serve recently arrived immigrant students, experiential learning, language and content integration	Teachers engage in collaborative learning, study groups, mentoring, inter-visitation, teacher-led workshops and committees, distributed leadership

DATA SOURCES

We sought to triangulate our data in multiple ways. For each organization we included interviews at various levels of the organization: founders or directors, staff, coaches or mentors, and numerous teachers (interviewed multiple times over a period of at least a year). In addition, there were at least two types of site visits: classroom visits and professional development session visits. Finally, we examined documents that were designed to convey the mission and philosophy of the intermediary; for this particular study many of these were online in the form of curriculum or videos. See Figure 1 for details about our data sources.

Figure 1. Study data sources

	Interviews	Observations	Documents
Case #1	17 teacher interviews 4 principal interviews 2 co-founders 2 mentors 3 staff members	31 days on site: professional development and school meetings 10 days of classroom activities	500 pages of curriculum materials, documentary data, and internal case studies were reviewed, as well as 15 YouTube videos and other relevant website documents.
Case #2	25 teacher interviews 3 principal interviews 2 coach interviews 3 leadership team members of the organization	20 days of professional development and networking activities 15 days of classroom activities	300 pages of documents were reviewed, including: artifacts collected by teachers related to professional development; student work related to projects/expeditions; and professional development materials and descriptions, including agendas and planning materials, online planning tools, and school designer updates.
Case #3	16 teacher interviews 7 principal interviews 3 interviews of executive director 2 intermediary personnel interviews 1 instructional coach interview	7 days of intermediary retreat and meetings 10 days of classroom activities	200 pages of documents were reviewed, including professional development agendas, committee meetings minutes, and historical site documents from the International Schools Partnership

DATA ANALYSIS

As is standard for case study methodology, our analysis was ongoing and recursive, occurring throughout the data collection process (Yin, 2014). Additionally, we returned to our data from the original study with new research questions. We asked: “What are the strategies that these intermediaries used to manage the fidelity/adaptation challenge in scaling up teacher learning?” Using this guiding question we turned to our data, analyzing and seeking specific strategies that emerged from the data. We collaboratively discussed these strategies and defined them together. Then we each separately returned to the data and analyzed for these defined codes. Finally we began to write about these codes, and through our writing, finalized the codes and lifted out examples that reflected those codes.

FINDINGS

Our findings focus on (1) understanding the nature of the fidelity/adaptation challenge these organizations encounter, and (2) analyzing the four key strategies used by these three intermediaries in managing the fidelity/adaptation challenge of bringing teacher learning communities to scale.

THE FIDELITY/ADAPTATION CHALLENGE

Challenge #1: Expanding Into New Geographies

The nature of the fidelity/adaptation challenge is that within small learning communities, founders and those charged with maintaining fidelity to the design or deciding on acceptable variations are initially an intimate group. Those designers first “articulate the design’s core principles, elements, and practices . . . [and then] decide which of these principles, elements, and practices—if any—are inviolable and which can be adapted to suit particular contexts” (McDonald et al., 2009, p. 21). As these communities expand into new geographies, often far from the original community, the reach of the founders becomes distant and difficult to maintain; adaptations may occur that are tricky to understand or manage—or that may improve on the original design, if recognized and intentionally spread across contexts. All three of our intermediaries named “Expanding into New Geographies” as a significant challenge to managing fidelity and adaptations.

Big Picture Learning. Big Picture Learning faced this particular challenge when first scaling up. In BPL’s design for schooling, all students are part of an advisory group with one advisor who works with the students throughout high school. Advisors manage students’ personalized learning plans and their Learning Through Internship opportunities. BPL explains, “Though certified in one area, the advisor does not ‘teach’ his or her subject area; rather the advisor needs to draw on many disciplines to meet the needs of each student, each student’s project, and to design advisory activities” (<http://www.bigpicture.org/2008/10/advisory-structure/>). Given that an advisor supports students in achieving BPL’s five learning goals—Communication, Quantitative Reasoning, Empirical Reasoning, Social Reasoning, and Personal Qualities—one of the most significant teacher learning challenges they faced in growing new schools is how to support teachers in the area of quantitative learning. Across BPL schools, teachers have struggled to figure out how best to support students’ quantitative reasoning (which most closely correlates with the academic discipline of mathematics). One principal contrasted the challenge of helping teachers build quantitative reasoning (QR) skills as deeply as BPL emphasized literacy skills:

And then, for instance, we're threading literacy through everything now. There's newspapers in every room. We read with the kids. . . . At pick me ups [similar to a school-wide town meeting] we'll read something and talk about vocabulary so it's not just literacy time, it goes through everything. We want to do the same with QR. So like when you're reading something, what's the data and the statistics? How do you think quantitatively about just regular information that comes through everyday? How do you begin. . . ?

This challenge was compounded by expansion into new geographies. Each state had policy demands that exerted particular pressures on local schools to find ways to adapt to the environment. For instance, in California, BPL schools began to require math classes for students of all grades. The pioneering BPL schools in Providence, Rhode Island, also started offering students the option of pursuing higher-level math courses at nearby colleges, which initially challenged the founders' vision of embedding all learning within students' internships and personalized learning plans. Currently, all BPL schools offer math classes, something that was not part of the original model, but became a necessary adaptation to shifting federal policies. Offering those classes was also a response to graduates, who felt that math was the one area in which they required additional support. In this instance, an adaptation seems to mark an enhancement to the original design insofar as it supports deeper learning for students. The co-founder of BPL, Elliot Washor, recently affirmed that "we're getting better at math—quantitative reasoning; we're better at supporting advisors and better at helping them to support students." Yet he also wonders: "Are we teaching content or are we teaching students? It's important to consider who each student is, what the student feels, what language he/she speaks . . . getting better at that is just as important as developing QR" (personal communication, 2014). Such a case raises the challenge of alignment between a local or district policy context and the organization's design (Berends et al., 2002; Comer et al.; Datnow et al., 2002; McLaughlin & Mitra, 2001). Here, BPL seems to have asked itself what conditions were needed in its schools to support teachers over time; their embrace of targeted math instruction—though sliding toward the adaptation side of the continuum of fidelity and adaptation—improves upon the design in that it promotes students' learning.

EL Education (EL). Similar to BPL, EL has also encountered the challenge of expanding into new geographies with a dispersed national field-staff (school coaches) that supports different regions of EL schools across the country. EL Education has six regions: Atlantic, Midwest, Mountain, New

England, New York/New Jersey, and West, plus a network of EL schools in New York City that is operated by NYC Outward Bound Schools. In each region, EL coaches are charged with opening new EL schools, providing coaching to existing EL schools, and supplying professional services to schools outside of the EL network. With a diffuse staff, EL's challenge of teacher learning starts first at the organizational level, with its own coaches. Director of Field Staff Development Sharon Newman indicates that several years ago, "Regional personality seemed more important than consistency across regions, raising the question of, 'What *is* quality coaching from region to region?'" She acknowledged that, "It's been a place for EL to rework and overcome . . . to create the structures that help maintain fidelity." Newman added that many things at EL have been changing quickly, which also complicates support for EL's coaches:

The organization is already complex . . . we've recently added the process of credentialing schools and a new Implementation Review to measure schools' use of EL structures and practices; we've developed a Common Core-aligned curriculum. . . . Our newest coaches are trying to learn the EL model at basic level—developing their understanding. We are trying to close the gap between what coaches *need* to learn—and when and how—and how to be cost effective and time effective. How do you build capacity quickly in all new coaches so that they can provide supports to school leaders and teachers from day one?

As EL and BPL experienced, geography poses a challenge to scaling teacher learning: How can an organization support teachers' development of content knowledge aligned to the demands of different geographic contexts? And how can coaches be prepared to hit the ground running when they are new to an organization, a design for schooling, and a region? With teachers at the core of these designs, facilitating coaches' learning is essential for their support of practitioners. Immediate organizational needs such as these often spark what Sutton and Rao (2014) identify as an initial "swarm of activity" to respond to challenges of scaling up, but may not spread "an enduring mindset" (pp. 275–277). To create "deep change" and "alter teacher's beliefs" (Coburn, 2003, p. 4) while scaling, EL uses a few arrows in its quiver to target support for its own coaches.

Internationals Network. The Internationals Network also faced the challenge of expanding into new geographies as it scaled its school design. Opening its first school in New York City in 1985, this intermediary expanded the network to six schools in the local area. After the sixth school had opened in 2005, Internationals brought leaders from all six schools together to define the critical organizational structures and practices that

comprise the Internationals approach. As Claire Sylvan, the Executive Director of Internationals, explains:

The first thing we did . . . was we simply had people come together and say, “So what do we think makes an International?” . . . We worked with the wording until everyone was satisfied and everyone would now say, “Yes, those are the five principles that unite us.”

When the network continued to expand, it did so by engaging new teachers to move to new schools, individuals who were “culture carriers” (Jaffe-Walter, 2008). Thus in scaling up, the network initially drew on the collective knowledge and history of experienced educators from existing schools to start new schools. The capacity of the New York City network also grew as teachers and leaders engaged in frequent professional development meetings, teacher study groups, and inter-visitations that provided ample opportunities for them to convene and grapple with dilemmas of practice. As a result of this face-to-face interaction at professional development events, teachers developed relationships with colleagues at other schools, which encouraged the cross-pollination of ideas across schools (Jaffe-Walter, 2008). When, in 2006, the network moved beyond the five boroughs of New York City to open a school in Oakland, California, it was faced with a dilemma of how to start new schools without experienced educators and existing schools nearby.

The challenge of developing new schools on the opposite side of the country was in recruiting local leadership and teachers from the California area who needed to learn Internationals’ distinctive approach while also faced with the overwhelming task of growing a new school. As Joseph Luft, Senior Director of Programs at Internationals, explains:

When starting a new school the professional development materials and curriculum are important but the drivers of the work are the *people*, and the challenge becomes, how do you train people very quickly who haven’t been immersed in the work?

Challenge #2: Spreading What Works

The second fidelity/adaptation challenge that emerged from our data is one of not just *how* to spread or scale a design, but how to spread the “right” practices, ideas, and culture as organizations grow across contexts. Nancy Hoffman, Vice President and Senior Advisor with Jobs for the Future, suggests that “scaling up relies on *innovation* at its earliest stages, then some degree of *standardization* to identify and spread strong practices to others, and then opportunities for *adaptation* in order for organizations

to grow” (Klein, Riordan, & McDonald, 2010). We see this trajectory with the three intermediaries in our study; in particular, they grappled at times with identifying practices or structures from across schools that work *most* effectively, and then ensuring that they are spread deeply and penetrate the organization through teacher ownership—what Elmore (1996) and McDonald (1996) call *scaling down* and what Coburn (2003) calls *shift in reform ownership*.

EL Education. As Hoffman indicates above, organizations experience different stages as they scale their designs for teaching and learning. Arguably, the transition from *innovation* to *standardization*—defined as the shared adoption of key practices, ideas, and culture—presents a challenge when spreading teacher learning. Klein and Riordan’s (2009) research on EL Education’s professional development suggests that although teachers had the same learning experiences, their abilities to transfer practices into their classrooms varied, falling on a “continuum of implementation” from “no implementation to full implementation” (p. 69). Teachers may reject a new practice completely at one end; they may engage in “token implementation,” where they indicate an understanding of a practice, but their actions do not align with that speech; or at the other end of the continuum they may engage in “crafting and jiggering” adaptations of the practice that best suit the needs of their students.³ As Coburn (2003) corroborates, “When teachers do bring reforms into their classrooms, they [often] do so in ways that vary, at times substantially, in depth and substance” (p. 4), compounding the challenge of scaling up effective practices. When a network relies on teachers to turnkey or spread essential practices to others, it is important that teachers be able to effectively translate key ideas, pedagogical “moves,” and an underlying mindset in order to support genuine ownership of a design.

Internationals Network. As the Internationals Network has grown, there has been increased attention to making the model and approach explicit. Over the past few years, the network has sought to ensure that each school has particular structures, aspects of culture, and commitments. As Daria Witt, Director of Professional Development for Internationals, explains:

It’s crucial for new schools to get the culture right and the tone right from the beginning. The model is not just about instruction, it’s sharing what people have learned over time and what the challenges have been. It’s about getting all of the structures in place as well as the larger messages that teachers need to engage with. There is much more consistency across our schools than there once was.

However, there is also a recognition that while common practices and structures need to be in place across all schools, the Internationals core principles will look somewhat different in individual schools. As Luft explains:

At the network level, our role is to identify the common design principles. The implementation of those principles varies. Sometimes schools do things that work and other schools adopt them, sometimes they do things that don't work and everyone learns from those examples as well. It is important that there is an openness to taking risks and trying new things. No one school in our network has achieved the model. We are always trying to find better ways to serve our kids.

STRATEGIES FOR MANAGING THE FIDELITY/ADAPTATION CHALLENGES

While each of the organizations in our study encountered challenges in scaling up teacher learning, all navigated these challenges by developing strategies to address them. As McDonald et al. (2009) suggest, though the challenges may only become clear over time, the strategies often emerge quickly “because the work of scaling up suddenly rushes in” (p. 3). Below we explore four key strategies, drawing upon data from interviews, observations, and documents. While the purpose of the strategies is to manage the challenges, each one may manage more than one simultaneously.

Strategy 1: Building Local Capacity

Big Picture Learning. Elliot Washor, Co-founder of BPL, indicated that “there’s a lot in place after twenty years,” that supports school leaders and advisors, and that there is also opportunity to “modify” and contribute to improving or enhancing the design. BPL has found that significant time with school leaders and more formalized principal training creates foundational consistencies that can be seen across geographic regions. For instance, BPL grounds leaders in its 10 “distinguishers” and structures meetings for principals to engage in cross-school critical friends groups in order to “tune”—and increase shared practices—while leading BPL schools. The critical friends groups also include teacher leaders who meet with school leaders three times a year to discuss dilemmas that schools are facing, share best practices, and use text-based protocols to structure discussions. The host site rotates and allows for opportunities to see these dilemmas and practices firsthand, something that they also do during their leadership conferences, which always include a half-day school visit.

Washor indicates that starting with the leaders is key to creating schools that reflect the organization’s distinguishers (i.e., authentic assessment and learning in the real world).⁴ He shared:

We've run network-wide videos and programs and spent millions of dollars on virtual meetings . . . but the real work is face-to-face with the leaders, and then for leaders in their schools with people that know each other, trust each other and have relationships, and where the work is ongoing. If you have to rely only on online tools or going across the country, it's not the same.

Carlos Moreno, now co-executive Director, emphasizes that every BPL school coach has "cycled through as an advisor or school leader in one of our schools. Nobody comes in from the outside, which has been intentional because they need the practical experience." Given that all coaches have had experience as either an advisor or leader, it means they all have intimate, firsthand experience of the school design.

Here, we see that a strategy for managing the fidelity and adaptation challenge is first figuring out what an organization stands for, then determining where latitude exists, and finally empowering coaches, leaders, and teachers to support one another on the ground. BPL sees building the local capacity of its coaches and leaders as a high-leverage strategy to support teachers' and students' learning. These leaders also know the model from the inside out; they have grown up *in* it, are supported while growing *into* it, and then contribute directly *to* it.

Internationals Network. Internationals Network developed a strategy of using instructional coaches to lead professional development and summer institutes for the new California schools. These coaches worked with the principal the summer before the school opened and then worked in the schools one to two days a week supporting the teachers and the principal, and leading weekly workshops. In addition to the coaches, the network developed practices designed to connect smaller groups of schools in new geographies like California and then Virginia to the New York City Network. For example, they invested in flying teams of teachers from California and Virginia to New York to conduct inter-visitations focused on particular challenges that were identified at each school. As Witt explains, "We try to help identify the challenges schools are facing and then pair them with a school that showcases strategies for dealing with that challenge." For example, in one California school, teachers were struggling to develop math projects that integrate language and provide multiple access points for learners of differing abilities. The network sent the California team to a New York school with a very strong project-based math curriculum, and teachers in that school shared curriculum and provided ongoing support to the partner school. Witt describes:

The inter-visitations are important because when you are a teacher in a new school, you worry about whether this approach will

work. When you can spend time in an older school and see that you are not alone and you see how others have successfully addressed these challenges, it's a positive experience. It's like, ahhhh, now I see what it looks like and it instills a belief that this does work. There's also some comfort in seeing that similar schools are facing the same challenges and that there is no such thing as perfection.

Following inter-visitation trips, teachers held meetings within their school to share their experiences and learning with other teachers in their school. This approach of intentionally sharing strong practices across geographic regions and then “turnkeying” those at other INPS schools promotes the cross-pollination of knowledge and the building of local capacity.

Strategy #2: Deepen the Footprint

EL Education. As mentioned above, oftentimes scaling considers the “spread” of practices, ideas, and culture; our data suggests that these three organizations are also attentive to increasing “depth” and “penetration” of their work across contexts. As Coburn (2003) explains, scaling requires “that reform not only reach more widely but also more deeply into schools to effect and sustain consequential change. It emphasizes the spread of norms, beliefs, and pedagogical principles both between and within classrooms, schools, and districts” (p. 8). Deepening the footprint means helping schools, leaders, and teachers of a design to “know it in their bones,” so that it is embedded in a mindset and culture and reflected in each decision that is made. In EL Education, deepening that footprint emerges in two ways: establishing a credentialing process for EL schools and developing a Mentor School cohort of standout schools in its network. As Sutton and Rao (2014) state:

Effective scaling depends on believing and living a shared mindset . . . [and] developing, spreading, and updating a mindset requires relentless vigilance. It requires stating the beliefs and living the behavior, and then doing so again and again . . . [diminishing] the chances that excellence will fade as [the] footprint expands. (pp. 8–9)

This requires that school coaches create structures to imprint their core values deeply into the mindsets and actions of those leaders and teachers implementing the design.

EL Education is working to deepen—and sustain—the “EL mindset” and footprint by creating structures that imprint a vision of what a quality

EL Education school looks like. The credentialing process was instituted in 2014 to formally recognize schools that are both implementing the EL model with fidelity and achieving corresponding gains across three dimensions of student achievement: mastery of knowledge and skills, character and engagement, and high-quality student work. The process of credentialing involves school leadership teams and teachers, and includes establishing performance benchmarks and engaging in a quality work protocol to assess the quality of students' projects and products. Pat Finley, Co-director of Metropolitan Expeditionary Learning School in New York City, highlights that participating in the credentialing process sparked the following:

It's an opportunity to reflect . . . it prompts us to stop, take stock, and prepare to share our work with others. . . . What makes it different is that we're asked to reflect on *why* we partnered with this organization [EL] and in what ways we are better because of it. It helps us think about who we are, what makes our students' experiences in an EL school unique, and what makes our culture strong.

Thus, for EL Education leaders and teachers the credentialing process serves to deepen EL's footprint, helping to shift ownership more firmly into school leaders' hands by sharpening their visions of what it means to be—and sustain—an EL school and culture. As McLaughlin and Mitra (2001) assert, this shift in ownership depends on intermediary organizations transferring substantive decision-making to school leaders and teachers; to do so, leaders and teachers must have deep knowledge of the design to draw from when making decisions.

In addition to the credentialing process, in 2012, EL Education developed a network of Mentor Schools, which is an “important opportunity to participate in a national EL venture focused on best practice documentation, research, and collaboration and sharing among high performing EL schools” (Mentor School Collaborative Agreement, 2014–2015). Mentor Schools are able to provide residencies to aspiring EL leaders and host national site seminars to showcase best practices to the wider EL network of schools. The leaders of Mentor Schools participate in an annual Institute and help to (1) contribute to EL's online Center for Student Work and resource library (lesson plans, assessments, Learning Expeditions, and other teacher tools) and (2) provide feedback to the organization on specific topics such as branding, a media strategy, and growth plan. By cultivating a strong Mentor School cohort, EL Education creates a synergistic relationship between leaders of strong EL schools and the organization. Principal Steven Mahoney of the Springfield Renaissance School, whose school is an EL Education Mentor School, explains:

There's a good community of leaders and learners in the Mentor Schools . . . it puts *good* pressure on us to earn the acclaim [of being an EL Mentor School]. We need to do a national site seminar and we need to extend ourselves to visitors—which is sometimes disruptive. But that kind of status and having people in the building is good for the future of the school. It feeds into teachers and students feeling like they're part of something special . . . it pushes us to be our best selves and reminds us that it's an affirmation. And, it provides opportunities for feedback. Because of the Mentor Schools initiative, I see what others in the EL network do and bring that back here. Our teachers are really digging into the workshop model now . . .

Both the credentialing process and Mentor Schools initiative help EL Education school leaders and teachers dig into what makes an EL school, what creates an EL culture, and what practices reflect EL's core values. By placing those conversations at the forefront, EL deepens its footprint—getting into the circulatory system of its schools. Decisions on the ground, therefore, are owned by people who “get” the school design's philosophy, underlying principles, and practices.

Strategy #3. Using Technology to Build Core Practices

Each organization has found unique ways of using technology in an attempt to build fidelity to the design through teaching about core practices without scripting those practices.

Big Picture Learning. Big Picture Learning has created a series of YouTube videos and podcasts that help support teacher learning through the use of imagery. In them, teachers, principals, and other staff members both describe and demonstrate BPL practices that can otherwise be inaccessible to teachers new to the design. These range from a principal discussing what personalized learning looks like at his school, to a skit opening the annual conference (known as the “Big Bang”) where two staff members dressed as James Brown and Elvis Presley arrive in Vegas. One wears a medal around his neck that says, “I was there at the beginning,” emphasizing the sense of a longstanding community to those in the audience, even as they may be attending for the first time. Researchers were reminded of when they had attended the first Big Bang conference and the co-founders created a living timeline including John Dewey and Ted Sizer—thereby locating their organization in the continuum of influential progressive educators. These powerful images are significant strategies in how BPL manages the fidelity/adaptation challenge as they provide new

teachers, principals, and coaches with authentic models of what it looks and feels like to teach and learn in a BPL school.

Technology does more than create strong imagery of practice and culture. In podcasts, teachers, students, and staff discuss “what makes a project rigorous?” They instruct through their words and recount in stories the kinds of experiences that define “rigor” in the BPL schools, which encourages thinking about rigor in different ways. However, the podcasts are not merely clips of stories thrown together. They carefully consider meaningful teacher and student work, and help to bring teachers into the classrooms of teachers and students in ways that time and geography might otherwise impede. These “time travel moments” are narrated by the co-founders and leaders of the intermediary so that teachers are guided through the experience. For example, after a student describes his project and how it was rigorous, Elliot Washer explains what rigor looks like in the real world and how they use that real-world definition: “happens over time, people are never really satisfied with the results, judged by a public audience, they own their work,” to transfer to schools. These mini-lectures contain the codified knowledge of the intermediary in ways beyond a text such that newcomers can find multiple sources to feed their learning. Leaders and teachers are then able to turn to technology to find or reinforce their understanding of BPL’s design for learning. Thus, technology serves to bridge gaps that geography may create and reinforces shared understanding—fidelity—to what a rigorous BPL project looks like.

EL Education. Over the past few years, EL Education has worked to connect its teachers to one another in order to create online communities of practice. Not only does EL have an Educator Resource Center (which houses shared documents and resources contributed by teachers in the network) and a Center for Student Work (which houses exemplary student projects and products), but the organization has also recently launched Professional Learning Packs (PLPs). This flexible collection of digital resources supports communities of practice for teachers, leaders, and coaches in and beyond its EL Education network. The PLPs are designed to complement EL Education’s Institutes and coaching, and are an opportunity for learners to engage with dynamic content in ways that motivate them to explore and learn more deeply. Each PLP is dedicated to a theme (Culture of Growth and Coaching for Change, to name two) and includes pages with text and video, as well as questions for small or large groups, or to push an individual’s thinking. Newman explains, “We wanted a structure that would be flexible and sustainable; we wanted to be able to grow the practices of new and veteran teachers . . . and coaches, too.” Newman adds, “EL asked the question: How can we make people

feel supported and connected every step of the way? We want our online interactions to encourage connections formally and informally . . . to create consistency and quality across a network. When people feel connected, they stay—they contribute.” Here, we see technology as a way to address both the challenge of expanding across new geographies and the challenge of fidelity/adaptation, as it provides a mechanism for transmitting practices and mindsets reflective of an organization’s approach while also offering fertile ground for innovative ideas to flourish.

Internationals Network. While teachers in the New York City network have established relationships with people in other NYC schools that they can reach out to for support and to access examples of curriculum, teachers in schools in new geographies don’t have those connections. Witt explains that Internationals works to connect teachers in new schools to teachers in existing schools. It may not be possible for every teacher in a California school to visit an International in New York City, but all teachers are able to access resources through I-Share, an online repository of exemplary Internationals curricula and projects collected from expert teachers. Network leaders designed the online curriculum-sharing platform so that teachers would login and upload their curricula. They initially found that the online library was not growing at the pace they had hoped: Teachers were not uploading materials due to busy schedules or because materials were not in a form that could be easily shared. In response to this challenge, network personnel reached out to teachers from various schools to gather new curricula to ensure that the online community had examples of strong curricula from across the network.

These online examples of curricula along with videos of actual Internationals classrooms were also incorporated into professional development modules that could be used to help teachers in new schools learn the model. Thus, the work of the network is focused on gathering these examples of curricula and images of practice from across schools, making that knowledge accessible and easily incorporated into school-wide professional development activities, and then sharing it across geographies, thereby bridging various geographies and communities. Internationals’ efforts to provide exemplars and imagery for teachers underscores their drive to impact the way that teachers and students engage with the curriculum (Coburn, 2003).

Strategy #4: University for Coaches

A final strategy that has been crucial for managing the fidelity/adaptation challenge is multiple and intensive deliberate training opportunities for the coaches who work with schools and teachers on learning the design.

Without scripting curriculum, finding ways to help teachers to learn the design deeply enough to be able to make adaptations that fall within the intermediary's sense of what is acceptable remains a job that cannot be done at a distance; the intermediary cannot rely on large-scale professional learning experiences done over the summer or professional learning communities that are solely teacher driven. Rather, it needs the intimate expertise of an outside/insider, someone who understands the design and the context well, but may not be a classroom teacher.

EL Education. Newman indicated that the idea for EL University grew from questions that EL posed internally, asking: "How do we help all coaches know the basics of the EL model . . . to understand what the core practices are and how they fit together—to understand the work we do and how we do it?" Another key goal for the University is to equip all EL coaches with the knowledge and skills to facilitate Institutes targeting EL's newly developed Common Core-aligned curriculum. Newman stated:

We knew there was inconsistency across the network, but that there were also things that everyone needed to know. We had good existing structures and commitment to getting better at online learning—a convergence that led to the structure for EL University. The hope for the structure is that it holds the whole organization (not only coaches, but provides offerings that all staff can use).

As with any university, some courses are required and others will be self-selected. The structure is not emerging from scratch, but relies on existing structures such as an online book club or staff workshop at the EL Education National Conference. EL University offers a mix of face-to-face time and asynchronous online learning, acknowledging various learning styles. Newman shares, "Primarily, we want people to feel there are ways for them to learn and grow. For a few of our coaches, I think there's a 'what's next for me?' and we want to help them grow by engaging them." She adds, "Something powerful happens with common language and shared experiences." As Coburn (2003) suggests, "[Educators] are better able to sustain change when there are mechanisms in place . . . to support their efforts. This includes the presence of a supportive professional community of colleagues . . . that reinforces normative changes and provides continuing opportunities to learn" (p. 6). By engaging coaches in ongoing learning at the organizational level, EL Education is betting on transforming the work of teachers and students at the school level.

IMPLICATIONS

Facing the challenges of scaling up their school designs, these three organizations offer insights around how they support teacher learning at various levels of the system. The fidelity and adaptation challenge has been met, on the part of some intermediaries, by a more scripted approach to teacher learning and replication. However, the networks described here provide schools with the resources to support the growth of strong professional communities and local networks in new geographies. Underlying this approach seems to be an effort to define some signature practices, but even more significantly, to make aspects of culture and mindset explicit. The networks define new ways of making often-implicit aspects of practice and culture knowable and accessible. Negotiation and dialogue in these organizations regularly include questions like: “What is good teaching?” “How do we know when students are learning?” and “What makes an effective school?”

Central to that dialogue are the voices of teachers and strong local communities of practice. While all three organizations found technology helpful in supporting their efforts, nothing seems able to replace the face-to-face work of autonomous, reflective groups of teachers engaged in the rigorous, intellectual work of “figuring out” what the school design looks like in classroom practice. With this understanding, the intermediaries worked to unearth the various ways that the design was being implemented within local schools and then to ensure that this knowledge was made accessible to all schools within the network.

Data also revealed another significant overarching strategy from each of the intermediaries: Investing in resources and structures at the local level can help ensure quality, from local leadership to coaches. BPL told us they are increasingly moving toward a regional director model in the organization, one that will best support their continual scaling up. EL Education has a regional director model in place and is investing in ongoing professional learning for its coaches. Internationals is supporting collaboration and professional development between small groups of schools in new geographies. With the reliance on teachers to learn and understand how to best implement or adapt these models to unique classroom environments, it may be that increased localization/regionalization allows for those local communities of practice to flourish.

Perhaps one of the most important insights we gleaned from our research is that in order for school designs and teacher learning to take root and thrive across wide geographic spaces, intermediary organizations must communicate a clear vision, provide support and resources, and instill not only ownership, but *membership* as well. By articulating and modeling ways

of thinking about students' learning, these organizations help teachers to develop shared mindsets that support sustained learning. Teacher autonomy, teacher-directed learning, and teacher ownership cannot be left out of the equation, no matter how large the organization grows and no matter how much the organization might know. With each new generation of teachers, the intermediary must begin again, growing local and individual knowledge, honoring the teachers' intimate knowledge of their own local contexts, and yet figuring out how to do that within the limitations of the organization's design and evolving purpose. That continual negotiation, tension, and dialogue can never be resolved, but when managed well, it is the heart of the intermediary's scale-up success.

NOTES

1. Legislation passed in 1997, and named after its congressional sponsors, that helped to ready the educational market for comprehensive school reform and new designs for teaching and learning. Obey-Porter offered up to \$50,000 per year for three years to schools willing to adopt designs (Keltner, 1998).

2. The Bill and Melinda Gates Foundation invested heavily in new school design and replication in the early part of the 21st century (McDonald, Klein, & Riordan, 2009). All of the intermediary organizations in this research initially received Foundation funds to scale up (replicate) their designs for schooling.

3. For further discussion of the continuum of implementation, see Klein and Riordan (2009).

4. For a full list of the BPL distinguishers, see: <http://www.bigpicture.org/schools/>.

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