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EXPLORING EDUCATIONAL ECOSYSTEMS THROUGH THE LENS OF INTERMEDIARY ORGANIZATIONS: INSIGHTS FOR POLICY AND PRACTICE

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FOREWORD

Relationships and Resources for Leadership in Schools: The Role of Non-System Intermediary Organizations

This brief focuses on a familiar topic – educational leadership in schools. It does so in a novel way by working to bridge work on leadership in the schoolhouse with work that calls attention to how dynamics beyond the schoolhouse matter for educational leadership.

To bridge these two lines of work on educational leadership, the authors focus on the educational ecosystems in which schools around the world operate and depend on for essential resources in delivering education. Using a multi-level distributed leadership framework, they explore the educational ecosystem as a potential source of resources for educational leadership in schools. More specifically, observing the growing importance of intermediary organizations, especially non-system or non-governmental intermediary organizations in educational ecosystems globally, the authors zoom in on how these organizations build relationships and access resources. By straddling the local school and the broader education ecosystem, non-system intermediary organizations enable resources beyond the schoolhouse in the broader ecosystem to flow into schools --resources that are critical for educational leadership. The focus is especially timely, as schools around the world continue to grapple with the challenges of a global pandemic and the glaring educational inequities exposed in ways that are difficult to ignore.

The authors generate useful and usable knowledge for educational policymakers and practitioners about the important role that non-system intermediary organizations play for local schools and the relationships and resources that are central in this work. To generate insights about how these non-system intermediary organizations build relationships within vast and diverse ecosystems, the authors shrewdly focus on five, mature non-system intermediary organizations (think NGOs) in the United States that work directly with schools. Viewing the education ecosystem from the perspective of non-system intermediary organizations, the report captures the ecosystem from their vantage point by focusing on three core issues all having to do with relationships and resources:

First, the brief examines how non-system intermediary organizations initiate and maintain interactions with other actors in the educational ecosystem and what purposes motivate initiating and maintaining relationships. Non-system intermediary organizations interacted frequently with diverse ecosystem actors, government, and non-government organizations, to procure an array of resources, from funding to expertise, using a combination of outreach and in-reach strategies as well as introductions brokered by a third party.

Second, the report identifies and describes the various types of relationships that non-system intermediary organizations have with other ecosystem actors, identifying the factors that shape the formation of these relationships. Non-system intermediary organizations' relationships with other ecosystem actors involved four types –contractual, brokering, collaborative, and consultative– that depended on a combination of ecosystem factors and factors internal to the intermediary organizations.

Third, the authors identify the key resources that non-system intermediary organizations access and activate through their relationships with other actors in the education ecosystem, analyzing the actors that shape the types of resources accessed for schools. Intermediary organizations accessed a range of material, human, and social resources depending on a variety of factors including the intermediate organization's participation in collaborative networks and the type of donor organization.

These are important insights into the critical role of intermediary organizations in building relationships to access resources in the educational ecosystem for schools. The work also offers a diagnostic framework for thinking systematically about relationships and resources in the educational ecosystem and the role of intermediary organizations therein. Such a framework would be useful and usable not only by researchers but also policymakers and practitioners as they grapple with the challenge of finding critical resources for educational leadership in schools, particularly struggling schools.

The power of a policy brief is not just in the questions answered, but also in the questions that the reading prompts. This brief prompted several questions about accessing and activating resources in the educational ecosystem for educational leadership in schools, and the role of non-system intermediary organizations therein. One question concerns how schools received and used the resources that intermediary organizations brokered for them: Were there differences in how these organizations worked with schools to activate the resources they accessed for them? How did schools use the resources that intermediary organizations accessed for them, and were there differences among schools in the use of resources? What factors, both school level as well as the nature of the relationship with the intermediary organization, shaped how schools used resources? In short, the policy brief opens a whole other research agenda centered on schools' use of external resources that intermediaries brokered for them. A related set of issues here might probe whether the nature of the leadership work matters as regards whether and how resources are accessed and activated. Educational leadership includes everything from developing the organization to managing instruction. Even focusing in on managing instruction the terrain for educational leadership is vast, from multiple school subjects (eg, math, science) to various dimensions of teaching (content, pacing, materials, grouping, pedagogy).

There is evidence to suggest that educational leadership arrangements differ, for example, depending on the school subject. Hence, a potential fruitful line of work might investigate whether and how the role of intermediaries in accessing and activating resources for schools differs depending on the particular focus of the leadership work.

Finally, the brief makes a case for cross-national research on these matters. While this brief focuses on the United States where NGOs have a well-established history of working in the educational ecosystem, future work might involve other countries so that we might learn by comparing across 'national contexts'. Nations differ radically in how they govern and provide schooling for children. Whereas responsibility for education in the US is segmented across and within federal, state, and local governments, in many countries this responsibility lies with a national ministry of education. Such arrangements are likely to affect how NGOs access and activate resources for schools in the educational ecosystem. One issue in doing such work concerns the unit of comparison in cross-national research on the role of NGOs in accessing and activating resources for schools (Spillane, Peurach, & Cohen, 2019). The nation state is not always the relevant unit. While national governments in some countries have all or most of the constitutional and administrative responsibility for schooling, in several other countries provincial, state, or even local governments take that responsibility, or it is divided among these entities. Hence, to study the role of non-system intermediaries in accessing and activating resources for schools cross-nationally, we need to grapple with what is the operating system in different countries.

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GLOSSARY OF TERMS

Term	Definition
General terms	
Intermediary organization (IO)	Independently-operating entities that work between multiple actors to facilitate communication and collaboration; build capacity and knowledge; and over time bring about change in the actors, their activities, largely within schools, and the results they achieve. The case organizations examined within this study belong to a subset of intermediary organizations; all are non-system actors (as defined below) because such organizations are commonly directly engaged with schools in national contexts throughout the globe. We use the abbreviation IO in reference to these organizations.
Educational ecosystem or ecosystem	The broad context in which schools operate, including their local, state, and national contexts, and the system and non-system organizations located therein.
Collaborative networks or networks	Networks of previously-disparate educational entities that have been brought together to share resources and work toward joint resolution of problems of practice.
Types of IOs	
System actor	Ecosystem actors grounded within the formal educational system, meaning that they are directly funded and overseen by local, state, or federal policymakers. These may include state education agencies, regional educational service centers, state-sponsored collaboratives, publicly-funded research centers (eg., those located within districts), and others.
Non-system actor	Ecosystem actors located outside of the formal educational system, such as community-based organizations, philanthropies, and businesses. In this study we focus on a subset of intermediary organizations that could be classified as non-system.
For-profit IOs	A subset of non-system actors comprised of businesses that draw a profit, such as textbook publishers, vendors, and consultants.
Not-for-profit IOs	A subset of non-system actors comprised of organizations that do not draw profits, such as community-based non-profit organizations, philanthropies, universities, and others.
Membership IOs	A subset of non-system actors comprised of organizations that collect fees from their members, such as unions and professional organizations.

Key roles of IOs	
Capacity building	A key role IOs may fulfill that includes providing other organizations or individuals with knowledge and resources that promote partner organizations' ability to engage in their work.
Network weaving	A key role IOs may fulfill that includes connecting multiple disparate entities within the educational ecosystem.
System cultivating	A key role IOs may fulfill that includes promoting the capacity of the overarching ecosystem to support change.
Key resources accessed by IOs	
Material resources	Resources IOs may derive from the educational ecosystem that relate to knowledge, research, tools, financial support, and other materials of use to IOs' work.
Human resources	Resources IOs may derive from the educational ecosystem that relate to the expertise and services others may offer an IO, such as evaluation or training.
Social resources	Resources IOs may derive from the educational ecosystem that relate to social capital, such as connections an IO may make that promote its ability to meet goals, or the ability to enhance its reputation.
Sources of resources outside of organizations	
Contextual champion	Individual persons who attest favorably to an IO's competence and integrity to other ecosystem actors, and actively bridge and broker contacts and connections on behalf of an IO.
Angel donor	A term of art in philanthropic and entrepreneurial circles, denoting individual funders who provide seed financial support to programs and projects in early phases of development.
Thought partner	Individual persons sought out by IOs for their expertise and willingness to collaboratively explore and discern complex problem spaces linked to organizational growth and practice.

ADDITIONAL ABBREVIATIONS

Abbreviation	Referent
BPL	Big Picture Learning
CBO	Community-based organization
DOE	Department of Education
EES	ExpandED Schools
LEA	Local educational agency
NCLB	No Child Left Behind (US federal education legislation)
NCS	Network for College Success
NIC	Networked improvement community
NTC	New Teacher Center
PLC	Professional learning community
RFP	Request for proposal
ROE	Regional office of education
RttT	Race to the Top (US federal education legislation)
SEL	Social and emotional learning
SIGs	Title I School Improvement Grants
STR	Solution Tree
US	United States

CHAPTER ONE
EXECUTIVE SUMMARY

In our study of the educational ecosystems that surround schools, we recognized a growing global trend that has positioned "intermediary organizations," and particularly non-system intermediary organizations, or those not involved in the formal governmental education system, in an oversized ecosystem role. Through their direct work with schools, especially the most vulnerable schools, these organizations straddle the larger ecosystem and the local schoolhouse, becoming a primary and proximal conduit of external leadership resources into schools. With this in mind, we examined a set of more mature non-system intermediary organizations that work directly with schools to generate important insights about their work in forging relationships within and gaining vital resources from these expansive and diffuse ecosystems. Examining the ecosystem from the vantage point of these organizations has potential for helping non-system intermediary organizations to better consider and gain access to the kinds of ecosystem relationships and resources that are likely to prove important to their work, to schools, and to students. It also sheds light on broader issues relevant for ecosystem-building efforts.

The interest in and expectation for the improvement of schooling for students throughout the globe has grown in profound ways over the last several decades. During this time two related areas of work, both associated with leadership, have generated insights of high value to this work. One area of work has centered on the importance of within-school leadership to schooling and student outcomes. The importance of principal leadership to schools and their students has been amplified through recent work by Grissom and his colleagues, which examined the relevant US research base since 2000 and concluded that "principal leadership matters substantially" (2021, xiv). A second area of work has drawn attention to the importance of more distributed forms of leadership where leadership extends across and engages multiple individuals and their materials (Spillane, 2012; Spillane & Diamond, 2007). Among other things, this work has drawn attention to the educational context beyond the schoolhouse as an additional source of leadership affecting schooling and student learning (Childs & Russell, 2017; CPRL, 2017; Spillane et al., 2019a, b) and has prompted a framing of educational leadership as both multi-level and distributed rather than situated solely within the school and tethered to the role of the principal (Spillane et al., 2019a, p. vi). However, if multi-level forms of distributed leadership are to be amplified and harnessed in service of schools, it will be critical to gain more insights about the educational ecosystem that surround schools.

In this report, we draw from this recent work of Spillane and his colleagues (2019a), who propose a multi-level distributed leadership framework, as we begin to explore the educational ecosystem that surrounds schools as a leadership resource to schools. Such a perspective conceptualizes educational leadership as "broadly embedded in social relationships of influence [that extend] across multiple individual players and organizations,"(p. xi). Additionally, this framing concurrently elevates the influence of various ecosystem relationships and resources on leaderships and schools, and it presses for greater attention to be given to the cultivation of relationships between and access to resources from various ecosystem entities as ecosystems are explored.

Given that global trends over the last several decades have given rise to intermediary organizations (IOs), and particularly non-system IOs, as a primary and proximal conduit of external sources of leadership into schools, these organizations are now likely to play an oversized role in the educational ecosystem that surrounds a school. This is particularly true with respect to the most vulnerable and struggling schools, in part because of their amplified needs but also in the face of mounting policy expectations and funding opportunities that require such external collaboration (Meyers & VanGronigen, 2018). The position that IOs hold—one that straddles the school and the larger educational ecosystem—generates opportunities for interactions with other ecosystem actors (Spillane et al., 2019a), and for using their vantage point as an important

window into the broader educational ecosystem more generally. Thus, exploring the interactions and relationships between these organizations and other ecosystem entities hold potential for deepening our understanding of educational ecosystems more generally and for helping us to identify the types and flow of resources across the ecosystem and to IOs as a primary conduit into schools.

Such an examination is likely to also be of high value to IOs more specifically. Importantly, recent studies have called into question the impact of many of these organizations on schools as well as the their general lack of internal capacity for taking up such work (Hatch et al., 2019; Meyers & VanGronigen, 2018; VanGronigen et al., 2020). As Hatch and his colleagues concluded: "policymakers cannot assume that external support providers already have the resources and the expertise that schools need to improve outcomes" (p. 27). These sorts of findings press for greater attention to be given to the broader educational ecosystem and to the kinds of supportive connections and relationships that can be forged between these organizations and other ecosystem actors (Hatch et al., 2019). This perspective recognizes that IOs operate within the broader educational ecosystem which holds potential as a space for developing relationships with, as well as gaining critical resources from, an assortment of other actors and organizations within the ecosystem—relationships and resources that are likely to shape and be consequential to their work with schools as well as to schools and students more directly (Hatch et al., 2019; Spillane et al., 2019a, b).

With this assortment of issues in mind, we chose to study a set of IOs to gain important insights about their work in cultivating relationships within and gaining vital resources from these expansive and diffuse ecosystems. We examined five IOs within one national context —the United States (US)— selected as a setting because of the relative maturity of this ecosystem context, which we expected to offer more robust insights into ecosystem interactions, relationships, and resources. We chose to examine non-system IOs, sometimes called non-governmental organizations (NGOs), because this type of IO is commonly engaged as a direct support to schools in a wide range of contexts globally. Remarking on this phenomena in the US, Russell and her colleagues (2015) called non-system actors "key players in the modern era of [educational] reform" (p. 16). Additionally, the five IOs were selected because of their longevity of experience, each with at least 15 years in more direct work with schools, and because of their collection and report of impact data. Beyond these similarities, we also sought some variability across our set of five cases, which led us to include organizations with different geographical reaches, that deployed different types of interventions, and that included a mix of for-profit and not-for-profit organizations.

Through this work, we asked and answered a set of related research questions:

1. How do these IOs interact with the broader educational ecosystem and for what purposes? What can we learn about the initiation and stability of these interactions?
2. What types of relationships exist between these organizations and other ecosystem entities? What are the factors that shape relationship formation and mutuality?
3. What are the key resources within the broader educational system that are accessed and made use of by these organizations? What are the factors that shape resource access?

Below we briefly summarize key findings in three broad areas: (a) ecosystem interactions, (b) ecosystem relationships, and (c) ecosystem resources.

1. Ecosystem interactions

What we learned about the nature, range, and types of IO ecosystem interactions

- IOs were invested in and actively engaged with a wide range of ecosystem players. We noted interactions that were frequent and diverse, in time intervals that ranged from occasional to routine and across a wide range of settings and circumstances.
- IOs interacted with the following types of system entities: districts, federal agencies, state agencies, boards of education, local government councils, and special committees.
- IOs interacted with the following types of non-system entities: businesses; professional organizations; peer not-for-profits; university and non-university research partners; local and national philanthropies; and community-based organizations.
- IOs also interacted with key ecosystem actors: those who championed the IO within their professional contexts; "angel" donors; and intellectual and thought partners.
- Beyond organizations and individuals within the educational ecosystem, IOs also sought access to more free-standing research and practice literature.

What we learned about the nature, range, and types of IO ecosystem interactions

IO interactions with others in the educational ecosystem were for a broad assortment of purposes including:

- Developing and accessing financial resources
- Accessing non-financial, mission-critical resources
- Accessing expertise and intellectual capital
- Testing and validating program theories and claims
- Understanding and influencing critical policy contexts
- Building standing and reputation through participation in networks
- Solving technical problems

What we learned about the directionality of interaction initiation

Three primary patterns of initiation were evidenced by all five IOs including;

- Direct outreach to potential partners and client organizations
- Direct "in-reach" from potential partners and client organizations
- Mediated initiation of contact through third-party associations

What we learned about the stability of IO's ecosystem interactions

- The relationships formed by the study's IOs are moderately to highly stable.
- This reflects the relative maturity of the five IOs, most of which had been operating for multiple decades.
- Sustaining stable ecosystem relationships requires overcoming turbulent and disruptive factors in the ecosystem itself.

2. Ecosystem relationships

What we learned about the types of ecosystem relationships

We identified four primary modes or types of relationships that were formed between IOs and others in the ecosystem:

- Contractual relationships and financial arrangements
- Bridging, brokering, facilitating relationships
- Collaborative relationships
- Consultative relationships for sharing expertise

What we learned about factors that shape relationships formation

Several factors were implicated in the formation of ecosystem relationships.
Some factors were features of the ecosystem at large:

- Financial constraints within the broader ecosystem
- Active influence of field-engaged bridging or brokering agents

Some factors were internal to the IOs themselves:

- Balancing mission "non-negotiables" and collaborative flexibility
- Investments in roles, structures and routines of outreach
- Developing a graduated structure of engagement

What we learned about relationship mutuality

Our data suggest a continuum of common interest in these associations, from the transactional, to more sustained alliances, to the integral and "symbiotic."

Three contexts of partnership were notable for their synergy and mutuality:

- Alliances featuring knowledge sharing and skill set complementarity
- Alliances with organizational thought partners
- Joint work organized around strong common values or identifications

3. Resources

What we learned about resources gained by IOs

Each of the five focal IOs reported accessing a moderate to wide range of resources from their ecosystem interactions.

Types of resources included:

- Material resources, particularly financial resources, research or knowledge and frameworks, and tools
- Human resources, particularly practitioner knowledge, special and technical expertise, and talent/personnel
- Social resources, particularly long-term collegial relationships yielding opportunities to influence policy, vie for financial support, and sustain lines of communication

What we learned about factors that shape resource flow

Several factors shaped the flow of ecosystem resources to the case IOs, including:

- The type of organization affording the resource
- The context in which the organization is situated
- The prominence of the organization within the greater ecosystem
- The IO's participation in collaborative networks.
- Participation in collaborative networks was the most-frequently mentioned factor shaping resource flow.

Conclusions and implications

Broadly, this report generates important insights into the relational and resource landscape within educational ecosystems surrounding schools in the national context of the United States as well as about the value of these contexts for non-system IOs. Although we looked at only five such IOs to understand their ecosystem relationships, we surfaced the names of dozens of organizations and individuals with which the five organizations were engaged in substantive relationships that delivered significant ecosystem resources to each organization. The sheer scale and density of the educational ecosystem and the range of ecosystem resources that were accessed by these organizations is noteworthy. All five organizations reported an assortment of interactions with and resources gained from the ecosystem. Given that little attention has been given to unearthing and understanding the kinds of interactions that occur between various educational ecosystem entities, this finding is noteworthy. Additionally, the extent of interactions that were evidenced and the range of resources that were gained also suggests the importance of ecosystems to this collection of more mature non-system IOs. To be specific, these findings suggest that more mature national contexts, like the US, are likely to hold promise as a relational and resource rich ecosystem context that could be leveraged by non-system IOs for capacity building, and by extension, in their service to and work with schools.

The prospect of leveraging educational ecosystems as a facet of non-system IO capacity development is important for several reasons. First, as we elaborate in Chapter Three, a broad assortment of factors have contributed to the current global presence of non-system IOs working directly with schools, and especially those schools that have historically been underserved and proven the most challenging to improve. Given the pressure for improving student learning and the pervasive lack of adequate resources experienced by so many schools across the globe, two issues that are not likely to subside in the near future, there is no reason to expect a reduction in the "demand for" (Hatch et al., 2019, p. 2) non-system IO engagement with schools. Certainly, this amplifies both the concern about the internal capacity of IOs to provide adequate leadership resources and supports to schools (Hatch et al., 2019; Meyers & VanGronigen, 2018) as well as the need for insights that might be vital to their capacity development. This study contributes to the latter need by revealing the ecosystem as a context that could prove viable for supporting such capacity building, and by making visible how such a strategy might be enacted by non-system IOs as they seek to better access and make use of the surrounding educational ecosystem in their capacity building efforts.

More specifically, this report generates important insights about the educational ecosystem interactions, relationships, and resources that were accessed by five non-system IOs. Importantly, it makes visible the nature, types, and purposes of interactions that could prove vital to such IOs as well as issues associated with interaction initiation and stability. Although prior research has more generally explained ecosystem interactions between various ecosystem entities for the purposes of collaboration, when organizations have shared interests or goals, and resource attainment (DeBray et al., 2014; Haddad, 2020; Hatch et al., 2019; Russell et al., 2013, Massell et al., 2012; Orphan et al., 2021), our findings provide more granular insights about the kinds of organizational needs that could be addressed through ecosystem interactions.

Although seven distinct ecosystem interaction purposes were noted, we draw two purposes forward for additional discussion. Research suggests that the collection and analysis of impact data is not likely to be a common practice among IOs (Meyers & VanGronigen, 2018). As a result, many IOs are not likely to have evidence about the impact of their work on schools or students. Not only did each of these organizations report such areas of work, but they engaged the educational ecosystem for such purposes. Thus, these organizations provide insights that could be of value for other non-system IOs that have yet to make

traction on assessing their impact. Second, each of these organizations allocated time for ecosystem interactions for the purpose of building standing and reputation. There is certainly reason to suspect that these two actions, independently as well as in combination, may have contributed to their relative success at gaining resources from their ecosystems (Bloemraad & de Graauw, 2020; Walker & Grossman, 1999).

Our findings also reveal the types of relationships that are likely to be formed with others in the ecosystem and shed light on the key factors--both internal to the organization and associated with the border ecosystem--that are likely to shape relationship formation. Related to the latter point, prior research largely draws attention to external factors, such as key events or networked gatherings, as catalyzing relationships (Cooper, 2012; DeBray et al., 2014; Haddad, 2020; Russell et al., 2013). Our findings suggest that both internal and external factors are at play in shaping relationship formation between non-system IOs and other entities in the ecosystem. Chief among these internal factors is the organization's investment in roles, structures, and routines within the organization that lend support for ecosystem scanning and outreach, particularly as the scope and scale of the organization's work increases. Not surprisingly, the importance of infrastructure to organizations has emerged in other contexts and for other purposes (Hopkins et al., 2018). Thus, this finding helps to connect this concept to IOs and their ecosystem interactions, and these cases offer illustrations of infrastructure considerations and designs that could be of value to other non-system IOs.

Lastly and importantly, our findings make visible an array of resources that might be accessible within the ecosystem that could prove vital to non-system IOs, and by extension, the schools served by such organizations. Although we have come to regard three categories of resources as useful to IOs—material, human, and social resources (Russell et al., 2013, 2015), this study provides more granular insights about particular kinds of resources within these three broad category types that might be accessed by non-system IOs from their ecosystem. Importantly, our findings begin to fortify the bridge between various resources and the kinds of key organizational needs that could be addressed through such resource access. Taken collectively, this constellation of insights about ecosystem interactions, relationships, and resources are likely to be of value to non-system IOs as they look to their ecosystems for capacity building support.

Beyond implications for non-system IOs, these findings also generate implications for policy and practices intended to shape educational ecosystem or ecosystem development. We draw attention to several points for deeper consideration. First, understanding the assortment of ecosystem entities and resources that these organizations drew upon makes visible key entailments of an educational ecosystem of value to non-system IOs, which could in turn be drawn upon for considering the nature and quality of such ecosystems more generally. Thus, this information would be of value for those in positions to act on shaping or cultivating these sorts of ecosystems or addressing ecosystem gaps. Consistent with prior research (Cooper, 2012; DeBray et al., 2014; Russell et al., 2013), we saw strong evidence of multiple benefits of networks that were formed to bring together some segment of an educational ecosystem—oftentimes groups of peer IOs and one or more philanthropic organizations. On the one prior research points to the importance of such networks for harnessing non-system actors "expertise and other resources not found in sufficient concentration in the formal [education] system" (Russell et al., 2015, p. 16). But our findings also make visible an assortment of benefits that can be accessed by non-system IOs through network engagement. Beyond brokering important connections between organizations/individuals and raising member organization visibility, networks are likely an important strategy for substantive knowledge sharing and practice inquiry in the ecosystem. However, there are many network implementation and management issues to consider if the utility of networks is to be achieved (Russell et al., 2015). Although beyond the scope of our study, others have pointed to the complexity of network management and to the kinds of issues that should be considered (Russell et al., 2015) by those undertaking network design and management as part of an ecosystem development approach.

Lastly, these findings suggest areas for future research. Broadly, our study bolsters arguments for more systematic study of the range, breadth, and geographical or national diversity of ecosystem entities as they engage with non-system IOs as a conduit of resources to schools and districts. Such examinations may, among other things, help to clarify the difficulties faced by non-system IOs in other national contexts with much more sparse ecosystems to draw upon. Second, although we took important steps to make sense of the kinds of ecosystem interactions, relationships and resources that prove useful to these organizations, we left several related questions for further exploration. Given that we conducted this study during the pandemic, at a time when most schools were physically shuttered for large portions of time and all were facing considerable disruption, we did not engage schools to further trace the flow of ecosystem resources from these organizations into schools. Given that these organizations are likely to be a primary source of external leadership for schools, it would be useful to make sense of how accessed resources are activated by these organizations and transferred to, or otherwise made use of by them, in their work with schools; how these resources shape the work in schools and/or become connected in some fashion with educators in schools. Third, given the maturity of the five non-system IOs, an indication of their survival over time, and levels of impact data, our study may point to skillful ecosystem engagement as a positive contributor. Both the attention given to ecosystem engagement by the case organizations and the diversity of the resources captured through this engagement suggest the need to further investigate the hypothesis that a potentially potent factor in non-system IO success, especially under competitive conditions, hinges on the capacity of such organizations to forge and sustain targeted ecosystem partnerships, selectively and strategically.

CHAPTER TWO
INTRODUCTION

The last several decades have evidenced considerable interest in the improvement of schooling for students. Over this period of time new insights have also been advanced along two related fronts that are of consequence to this endeavor. One of these fronts relates to the importance and role of within-school leadership to various school and student outcomes. Among a broad assortment of studies, our collective understanding of the importance of leadership to schooling outcomes took a notable step forward in 2004 with work advanced by Leithwood and his colleagues (2004). Another such leap occurred more recently in 2021, through work by Grissom and his colleagues, which examined the relevant US research base since 2000 and concluded that "principal leadership matters substantially" (2021, xiv). A second related front draws attention to the importance of educational contexts beyond the schoolhouse as additional sources of leadership affecting schooling and student learning (Childs & Russell, 2017; CPRL, 2017; Spillane et al., 2019a, b). Such attention to these educational contexts has advanced a framing of educational leadership as both multi-level and distributed rather than situated solely within the school (Spillane et al., 2019a). If multi-level forms of distributed leadership are to be amplified and productively harnessed in service of schools, it will be critical to deepen our understanding of the educational ecosystems that surround schools.

Exploring educational ecosystems that surround schools

In this report, we explore educational ecosystems as an important context that both surrounds and affects local schools. This is a slightly different framing of the educational ecosystem than examined by Hannon et al. (2019), for example, whose work foregrounds educational ecosystems that give rise to innovative programs and pathways for supporting youth learning and development. Drawing from the work of others, we conceptualize educational ecosystems as expansive and diffuse environments that are likely to be inclusive of an assortment of educationally-oriented organizations, individuals, and somewhat free-standing resources (eg., educational research) (Abdul-Jabbar & Kurshan, 2015; Bandyopadhyay et al., 2021; Barokas & Barth, 2018; Glazer & Peurach, 2013; Hannon et al., 2019; Potochnik & Romans, 2015; Spillane et al., 2019a, b; Williamson & DeMeyer, 2012). Beyond local school districts, the ecosystem that surrounds schools is likely to include various individuals as well as a wide assortment of organizations that might be very broadly classified as "intermediary organizations" because of their provision of some form of support to other educational organizations in their environment (Honig, 2004). These organizations might include system actors—those situated within the formal educational system—such as regulatory, policy, or governmental organizations, from those that are more municipal and state level to those that operate at a national and international level (Brown et al., 2011; Coburn, 2005; Cooper, 2012; Honig, 2004; Massell et al., 2012). Non-system actors—those outside of the governmental umbrella—are varied. These may include philanthropic organizations or individuals who make resources of various forms available to schools (Coburn, 2005; Cooper, 2012; Hannon et al., 2019; Honig, 2004). Beyond a wide array of educational vendors (eg. curriculum or assessment system vendors or providers) or individual researchers or consultants with expertise to share (Hatch et al., 2019), an educational ecosystem is also likely to include a wide range of non-system, intermediary organizations that work directly with schools to support capacity building efforts for leaders and their schools (Barokas & Barth, 2018; Coburn, 2005). Universities, research centers, and other profit or not-for profit organizations also play a key role in supporting the capacity of schools to improve (Coburn, 2005; Cooper, 2012; Hatch et al., 2019; Honig, 2004; VanGronigen & Meyers, 2019). Across the literature a broad assortment of additional terms have been used to describe these types of organizations such as partner providers, external partners, support providers, innovation brokers, knowledge brokers, third party agencies, non-system actors, facilitators, and boundary spanners (Coburn, 2004; Cooper, 2012; Horne, 2008; VanGronigen & Meyers, 2019). Although we consistently use the term IO within this paper, and study a particular kind of IO as we elaborate below, we draw upon literature that has used an assortment of these terms.

Non-system IOs: A critical conduit between the ecosystem and schools

As we sought to learn about educational ecosystems as a source of leadership for schools, we quickly focused our attention on IOs. Many contexts across the globe have seen a dramatic uptick during the last several decades in the presence of IOs and particularly non-system IOs—those not affiliated with formal governmental or public structures—that work directly with schools. Such organizations appear to be particularly prominent in educational ecosystems in Latin America and the Middle East, where they are engaged in significant development and capacity-building work in schools (Berkovich, & Foldes, 2012; Education International, 2009; Yemini et al., 2018). The United Nations, International Monetary Fund, European Union, World Economic Forum, United States Agency for International Development, World Bank, and Organization for Economic Cooperation and Development are all key organizations that have been driving partnerships between schools and IOs, especially within the global South (Education International, 2009; Ginsburg, 2012). According to a report by Education International (2009), "the World Bank contends that in developing countries, the rationale for partnerships is driven by the demand for access to schooling, and the need to tap private resources when the state cannot afford education for all" (p. 22). In other words, partnerships between schools and IOs are likely driven by the ability of these organizations to support capacity-building in schools where the government cannot (Bandyopadhyay et al., 2021; LaLonde et al., 2015). Additionally, Trujillo and Woulfin (2014) associate the growing presence of IOs within the national and international school reform arena with the growing reliance of the formal national and international educational systems on non-system providers of technical assistance to address resource needs within schools.

Like these other international settings, the United States has also seen a dramatic increase in the number of non-system IOs that are working directly with schools. The prevalence of these organizations has increased dramatically since the 1960s (Orphan et al., 2021; Rowan. 2002). The amplified presence of such organizations in direct work with schools is evidenced in the recent work of Hatch and his colleagues (2019), who found over 100 such organizations working in the space of K-3 reading improvement in New York City, as well as the work of Meyers & VanGronigen (2018) who located over 150 such organizations working in the space of school turnaround in just 13 US states. The increased press for school improvement, turnaround, and transformation as well as the sustained presence of various federal and philanthropic funding streams have converged to play an important role in the further expansion of IOs within the US educational landscape (Coburn & Penuel, 2016; Finnigan et al., 2009; Karcher & Knight, 2021; LeFloch et al., 2016; Meyers & VanGronigen, 2018). Within this context, schools have experienced increased needs to provide professional development, deepen teachers' curricular expertise, develop instructional and evaluation tools, to manage data, and even form partnerships with community organizations (Honig, 2004; Jaquith & McLaughlin, 2010). At the same time, school districts have been simultaneously more constrained in their ability to meet these needs. This combination of circumstances has escalated the need for external supports to schools (Chang, 2020; Goertz et al., 2013; Honig, 2004).

Federal legislation, such as the No Child Left Behind Act (NCLB), Race to the Top grant program (RttT), and the Title I School Improvement Grants (SIGs), has made more prominent the role of IOs in school improvement efforts. In fact, Hatch and his colleagues (2019) suggest that an "entirely new industry of 'intermediary organizations' and 'support providers' has emerged to help schools and districts improve" (p. 2). NCLB created a requirement that states create systems of support for low-performing schools, which prompted many states to engage IOs as part of their formalized state-sponsored support networks or lists of approved vendors for schools and districts (VanGronigen & Meyers, 2019). The 2009 RttT grant competition program created additional incentives for system actors to engage IOs in their improvement work. One portion of RttT encouraged states to connect low-performing schools with stakeholders external to the formal educational system, such as community-based organizations, businesses, and universities, in their improvement efforts

(Russell et al., 2015). For example, New York's state education agency proposed the creation of an "Office of External Partnerships" that would manage public-private partnerships to support school improvement (Childs & Russell, 2017). Finally, under the Every Student Succeeds Act states may use school improvement grants, or SIGs, authorized under Title I, to engage IOs, which may offer new perspectives on effective turnaround strategies, in school improvement work (Childs & Russell, 2017). In an analysis of schools receiving SIGs, LeFloch et al. (2016) found that a majority of schools included within their study worked with an external provider (or IO) to support school improvement efforts.

The importance and utility of examining non-system IOs in ecosystem explorations

Given that non-system IOs are interacting as a primary and proximal conduit of external sources of leadership into schools, they are likely to play an oversized role in the educational ecosystem that surrounds a school, particularly with respect to the most vulnerable and struggling schools. Their position, which straddles the school and ecosystem, generates opportunities for interactions with other ecosystem actors (Spillane et al., 2019a), and for using their vantage point as an important window into the broader educational ecosystem more generally. Thus, exploring the interactions and relationships between these organizations and other ecosystem entities hold potential for deepening our understanding of educational ecosystems more generally and for helping us to identify the types and flow of resources across the ecosystem and to these organizations as a primary conduit into schools. Such an examination is likely to also be of high value to these organizations more specifically. Importantly, recent studies have called to question the impact of many of these organizations on schools as well as the their general lack of internal capacity for taking up such work (Hatch et al., 2019; Meyers & Van Gronigen, 2018; VanGronigen et al., 2020). As Hatch and his colleagues concluded: "policymakers cannot assume that external support providers already have the resources and the expertise that schools need to improve outcomes" (p. 27). These sorts of findings press for greater attention to be given to the broader educational ecosystem and to the kinds of supportive connections and relationships that can be forged between these organizations and other ecosystem actors (Hatch et al., 2019). This perspective recognizes that these organizations operate within the broader educational ecosystem which holds potential as a space for developing relationships with as well as gaining critical resources from an assortment of other actors and organizations within the ecosystem—relationships and resources that are likely to shape and be consequential to their work with schools as well as to schools and students more directly (Hatch et al., 2019; Spillane et al., 2019).

Our study

With these assorted issues in mind, we examined a group of IOs as an entry point for examining the broader educational ecosystem that surrounds schools. Importantly we focused our examination in several ways. First, because ecosystems can vary along a continuum of emerging to mature (Hannon et al., 2019), we opted to focus our attention on a national context likely to be more mature in nature—the US. From a national perspective, a mature setting is one that is likely to have spurred the existence of a wide assortment of educational organizations, individuals, and more free-standing resources with educational ecosystems. We made this decision because we expected such a setting to have potential for illuminating insights and opportunities that could be considered, harnessed, or otherwise acted upon and made portable to less mature settings. Next, we examined a subset of non-system IOs distinguished by its direct engagement with schools (and typically, with and through school districts) to strengthen the schooling processes and student learning outcomes. Henceforth we use the term IO in relation to this subset of non-system IOs. Thirdly, we examined a group of mature IOs—each recognized as mature because of the longevity of their experience working directly with schools. We viewed these organizations as likely to be positioned to offer

more robust insights into issues associated with educational ecosystems. Lastly, we also included some variation in the sample to allow us to learn from: (a) organizations with different geographical reaches, (b) both for-profit and not-for-profit organizations, and (c) organizations that deploy different types of intervention strategies in their work with schools. Using this sample of organizations, we sought to surface the key relationships and interdependencies that connect these organizations to the broader ecosystem. To do this, we focused our attention on three more specific research questions:

1. How do these organizations interact with the broader educational ecosystem and for what purposes? What can we learn about the initiation and stability of these interactions?
2. What types of relationships exist between these organizations and other ecosystem entities? What are the factors that shape relationship formation and mutuality?
3. What are the key resources within the broader educational system that are accessed and made use of by these organizations? What are the factors that shape resource access?

This paper proceeds as follows. In Chapter Three we review existing literature on intermediary organizations as elements of educational ecosystems. Chapter Four then presents our research methods. Chapter Five presents our study findings that relate to each of our research questions. Throughout this chapter we also feature a vignette on each of the five IOs. Chapter Six presents conclusions and implications.

CHAPTER THREE

INTERMEDIARY ORGANIZATIONS AND THEIR ECOSYSTEM ENGAGEMENTS

Schools do not operate independently or self-sufficiently but are instead situated within large ecosystems, or sectors, composed of a vast array of diverse, interdependent actors upon which many schools tend to rely. As Spillane et al. (2019a) noted, "Schools need parents to send children, sometimes regional, national, or even international agencies to certify their work, and *a combination of government and non-government organizations for everything from textbooks to tests and technical assistance"* (emphasis added, p. 33). In relation to the last point, a key subset of actors within educational ecosystems consists of a vast array of system, or governmental, and non-system, or non-governmental, organizations operating independently, each with separate areas of expertise and theories of action that are meant to affect what occurs within schools (Coburn, 2005; Russell et al., 2013; Spillane et al., 2019a). Within the United States, these include actors grounded within the formal educational system, such as state education agencies, regional educational service centers, state-sponsored collaboratives, publicly-funded research centers (eg., those located within districts), as well as those outside of the formal system, such as textbook publishers, instructional program vendors, media organizations, consulting companies, community-based organizations, university and other research centers, policy advocacy groups, philanthropic organizations, unions, networks, and professional organizations. These organizations have been identified throughout the research as belonging to a category of organizations referred to as "intermediary organizations" (IOs).

Within the educational ecosystem, IOs are broadly conceptualized as actors that mediate the space between policy makers and policy implementers to facilitate reforms in schools (Honig, 2004). One helpful way to conceptualize IOs is to think of them as "go-between" organizations, as they link two previously disconnected parties (Chang, 2020; Haddad, 2020). They occupy the space between two parties in a way that adds value neither party could without the presence of the IO (Coburn, 2005). For example, by connecting two disparate organizations, they may bring the strengths of both organizations to joint efforts to solve a problem of practice. IOs play the roles of connector, broker, bridger, and boundary-spanner, forming many connections and complex relationships across the educational ecosystem that foster the sharing of educational knowledge and resources across vertical and horizontal layers (Jaquith & McLaughlin, 2010). These roles may lead to work such as identifying opportunities for improvement and connection, brokering relationships between unconnected parts of the educational system, and working to facilitate innovative change within the school system (Horne, 2008). They may do this work within various levels of the formal educational system, such as directly with schools, districts, or at the state or federal level.

Within the remainder of this paper, we examine what is known about the broad types and key roles of IOs. We also examine what is known about the nature and purpose of the relationships that IOs form with other ecosystem actors within an educational ecosystem as well as what is known about the ecosystem resources that may flow from other actors to the IO through such relational interactions. Lastly, we draw attention to what is known about factors that enable or influence ecosystem connections that are forged between IOs and other ecosystem actors.

Broad types of intermediary organizations

Intermediary organizations can be broadly divided into the two categories, governmental and non-system organizations. In turn, non-system organizations can be further recognized as for-profit sector, not-for-profit sector, and membership-oriented organizations (Rowan, 2002). Each of these utilize different strategies, yet all serve the same function of making connections between research, policy, and practice.

Governmental IOs are typically grounded within the formal educational system, meaning that they are directly funded and overseen by local, state, or federal policymakers (Rowan, 2002). These may include state education agencies, regional educational service centers, state-sponsored collaboratives, publicly-funded

research centers (eg., those located within districts), and others (Coburn, 2005; Cooper, 2012). While operating within the formal educational system, governmental IOs help to bridge the gap between disparate actors within the system, such as policymakers and local practitioners. For example, regional educational service centers may bridge gaps between policy and practice in that they help state educational agencies translate research into practitioner-friendly language and provide technical assistance in relation to policy implementation (Massell et al., 2012). Another example is that of state education agencies, which may interpret federal educational policy and, either alone or in partnership with other intermediary organizations, foster policy implementation within individual schools (VanGronigen & Meyers, 2019).

Organizations in the for-profit sector operate externally to the educational system and are privately funded. However, in many cases for-profit organizations receive public funding when educational system entities (eg., schools, districts) contract them for goods or services (eg., textbooks, training, evaluation) (Karcher & Knight, 2021), but the research has not described these organizations as receiving public monies in the form of grants. These organizations may include textbook publishers, instructional program vendors, media organizations, and other consultant companies providing goods and services to entities located within the formal educational system (Coburn, 2005; Cooper, 2012). For-profit IOs may serve an intermediary function in that they interpret and deliver policy to practitioners; for example, textbook publishers make connections between policy and practice by interpreting learning standards set forth in policy and then carrying those policy ideas to practitioners in the form of learning and teaching materials (Coburn, 2005). Many of these organizations play a capacity-building function within schools and districts; for example, states may hire improvement or reform specialists to facilitate school improvement processes (Karcher & Knight, 2021).

Intermediaries within the not-for-profit sector operate externally to the educational system but often engage in formal partnerships with schools and other system actors. They may receive funding from both public and private sources (such as federal grants and philanthropic grants) (Coburn, 2005). These include organizations such as community-based organizations, university and other research centers, policy advocacy groups, and philanthropic organizations, among others (Cooper, 2012). Non-profit IOs may fill in knowledge or other gaps that exist within individual schools; for example, Hatch et al. (2019) showed how a wide range of IOs with expertise in reading improvement supported efforts to improve K-3 reading outcomes in New York City. They may also build the capacity of school stakeholders; for example, Lopez et al. (2005) examined a non-profit organization involved in building families' capacity to support their children's education. This organization operates at an international level, but conducts its work in partnership with local, community-based non-profits. Interestingly, philanthropic organizations can build the capacity of other IOs both by providing financial resources and by brokering connections between multiple disparate entities, such as through collaborative networks of grantees (Haddad, 2020).

Finally, membership organizations include unions, networks, and other professional organizations that collect fees from their members (Coburn, 2005). These organizations may include professional organizations that focus on research use, such as American Educational Research Association and the University Council for Educational Administration, or unions, such as the American Federation of Teachers. They also may be other network organizations designed to maintain connections across stakeholders, such as the National Association of Secondary School Principals. Membership organizations may serve a network weaving role as described below, through which they connect many individuals and organizations who would not otherwise be connected. The literature is sparse in examples of these organizations working directly with schools, suggesting that membership organizations are less likely to engage in this work than the other organization types described above.

Three key roles of intermediary organizations

Intermediary organizations are crucial to the success of many other educational ecosystem actors —particularly, schools and school districts. Within the educational ecosystem, the relationships between and across IOs, system entities, and non-system entities tend to be interdependent with a high degree of mutuality. In other words, the system and non-system actors situated within an ecosystem often depend on each other —directly or indirectly— to achieve their aims (Honig, 2004). For example, policymakers often depend on IOs to support the implementation of instructional policy, as IOs may develop curricular materials, provide professional development, and other forms of support to schools (Coburn, 2005). In fact, IOs are often integral to federal educational policies in that funding allotments are made for external providers to support policy implementation at the district level (Trujillo & Woulfin, 2014). To name another example, districts often need assistance from external IOs to produce change given their increasingly limited internal resources and capacity (Marsh et al., 2005).

Intermediary organizations' role within the ecosystem is often to fill gaps that exist between research, policy, and practice, meaning that they tend to connect with multiple, disparate entities (LaLonde et al., 2015; Lubienski et al., 2011). Cooper (2012) focused on IOs' place in filling gaps of knowledge, and described IOs as engaging in a process of knowledge mobilization through which they broker knowledge between researcher producers, such as those working at universities, and research users, such as those involved in policy and practice. In addition to connecting research producers with research users, IOs may possess their own expertise that builds the capacity and enhances the quality of work done by others within the ecosystem (Lopez et al., 2005). They may also connect multiple disparate entities, such as school districts, into a community or network through which those districts work together to solve a problem of practice. The work IOs conduct and the system entities (eg., schools, districts) with which they work typically depend upon the IOs theory of action and envisioned unit of change.

The Center for Public Research and Leadership (CPRL, 2017) described IOs as performing three key categories of essential functions across these levels: capacity building, network weaving, and system cultivating. Importantly, LaLonde et al. noted (2015) that IOs are not limited to performing a single function: "Intermediary organizations can include multi-faceted entities that may themselves produce or use research evidence, but also serve a brokering function within larger networks" (p. 6). The following paragraphs review each of these key functions, noting how they relate to the three levels of interaction (the individual, relational, and organizational levels).

Capacity building

Intermediaries that engage in capacity building provide other organizations or individuals with knowledge and resources that promote partner organizations' ability to engage in their work (CPRL, 2017). They may engage in capacity-building with system (eg., schools, districts) or non-system actors (eg., community-based non-profits, research organizations). Capacity-building roles are incredibly varied. For example, some IOs filling a capacity-building role provide coaching, professional development, mentoring, and other services meant to develop the people working within schools (CPRL, 2017). Capacity-building work may relate specifically to school improvement. VanGronigen and Meyers (2019) showed how IOs built and supported the capacity of state educational agencies to engage in school-level improvement and reforms, as state agencies lacked the infrastructure to do this work on their own. Other intermediaries, such as private philanthropies, may engage in grant-making that supports schools directly or other non-system IOs driving improvement within the educational ecosystem (CPRL, 2017). And still other IOs may act in an oversight capacity through which they set standards and evaluate and strengthen educational entities' ability to meet those standards (CPRL, 2017). This work is likely to occur at the individual level (Lopez et al., 2005), as many of these actions would impact individuals in particular (eg., coaching, professional development, provision of tools).

This may also relate to the organizational level (Lopez et al., 2005) in that providing professional development across a school district would be intended to enhance the entire district's capacity to meet its goals.

Network weaving

Intermediaries engaging in network weaving connect individuals and organizations to one another via a network or community, through which these entities may then share resources and knowledge and learn from one another (CPRL, 2017). As mentioned above, membership organizations often fill a network weaving role. Additionally, some philanthropic organizations may fill this role by convening grantees into networks, and other organizations may use networked improvement communities (NICs) as a key form of work. In an interview, Karen Pittman, a sociologist and leader in the youth development field, contended that "intermediaries come into being to help achieve more efficient, effective relationships between layers" of an ecosystem (Pittman, 2014). By creating formal networks or even just brokering connections between individuals, IOs allow resources and information to flow more effectively across the many vertical and horizontal layers within the educational ecosystem. This network weaving work connects to the relational level described by Lopez et al. (2005), in that IOs are actively attempting to broker connections amongst multiple disparate groups and individuals.

System cultivating

Finally, intermediary organizations engaging in system cultivating promote positive conditions within the political, economic, and social systems surrounding the educational ecosystem to ensure that organizations and individuals within the ecosystem will be able to work effectively (CPRL, 2017). In the introduction we briefly described how system cultivation is a newer role for IOs operating within the educational sphere. System cultivating work may include advocacy organizations, organizations conducting policy analysis, and those working to build political systems to support other ecosystem entities. In relation to IOs' role in shaping policy, LaLonde et al. (2015) observed that, "We can conceive of these [intermediary organizations] as 'brokers' that may neither produce nor use research per se, but instead seek to match consumers in policymaking positions with particular research evidence from producers. They may be 'marketers' who want to 'push' certain evidence to shape policy; or they can be 'aggregators' selecting or 'pulling' evidence to support a particular agenda" (p. 5). Interestingly, philanthropies may play a key role in shaping the educational services and policy landscape because organizations seeking philanthropic funding are often beholden to the philanthropies' agendas; philanthropies are most likely to fund IOs that match their own theories of change (Scott & Jabbar, 2014). This can result in IOs catering their work to what is most likely to get funded, meaning that philanthropic funding priorities may then shape the educational services available. This system cultivation work is likely to occur at the organizational level (Lopez et al., 2005), as IOs' work to shape policy would be intended to support educational systems' ability, whether district or state or national (or even international), to meet goals in line with the intermediary organizations' theory of action.

Nature and purposes of relationships that intermediary organizations form within the ecosystem

The existing literature provides some overly general insights about the nature and purposes of relationships that various intermediary organizations might establish with other ecosystem organizations and actors. In broad strokes, there is an assortment of other ecosystem organizations and actors with which IOs might interact, including governmental, or system, actors, and non-system actors (Coburn, 2005). System actors may include local, state and federal governments, regional service

centers, and other actors working within the formal educational system (Coburn, 2005; Cooper, 2012; Honig, 2004; Massell et al., 2012). An assortment of non-system organizations also holds potential for IO interaction, such as universities, philanthropies, professional associations, community-based non-profits, private businesses, and research organizations (Cooper, 2012, Education International, 2009; Haddad, 2020; Jaquith & McLaughlin, 2010; Russell et al., 2013).

With a few notable exceptions, few studies have paid particular attention to unearthing and understanding the kinds of interactions that occur between various educational ecosystem organizations. Research by Massell and colleagues (2012) revealed that important interactions can occur both between and within the categories of system and non-system IOs. Specific to this study, state educational agencies relied heavily on other system and non-system organizations, such as research centers, regional education service centers, and professional organizations, for gaining access to relevant research knowledge (Massell et al., 2012). Several additional studies have drawn attention to interactions between non-system IOs as they engage as partners with various districts and schools (DeBray et al., 2014; Hatch et al., 2019; Jaquith & McLaughlin, 2010).

Scholars have suggested that interactions with others in the ecosystem are likely to occur when these organizations have resources, such as information or connections, that the intermediary needs (Russell et al., 2013). Connecting with organizations that hold resources or that are working toward similar goals can be beneficial to IOs, as educational problems of practice and policy can be complex and difficult for just one organization to solve (Russell et al., 2013). Individual ecosystem actors cannot possibly possess expertise on all areas of knowledge; interactions, then, may occur because external IOs may possess expertise that an intermediary does not (Massell et al., 2012). External organizations may also have a "neutral" lens that can assist IOs in assessing the appropriateness and efficacy of their work, which can lead to improvement (Massell et al., 2012). In addition to providing enhanced information and expertise, ecosystem actors partnering with IOs may also provide social capital, such as access to networks of other similarly-minded organizations, to those they partner with (Hatch et al., 2019).

Interactions across intermediaries may also occur because those organizations share similar goals to the intermediary (Orphan et al., 2021). IOs often interact with other organizations working toward similar goals within collaborative networks, such as those organized by philanthropic entities, through which organizations can share resources (Haddad, 2020). DeBray et al. (2014), for example, provided illustrations of several IOs working together to support mutually-desired change by collaborating in two coalitions within the New Orleans educational landscape: one coalition that favors charter schools and one that has opposed charter reforms. When multiple IOs work together they are better able to coordinate and enhance the services they provide, which can increase the likelihood that their work within schools is successful (Hatch et al., 2019).

How intermediary organizations form ecosystem connections

Research has tended to focus on interactions between intermediaries and their system clients (ie., schools and districts) rather than interactions across IOs, but there is some information that can be gleaned from the literature in relation to this topic. IOs may form connections with other organizations via requests for proposals or the grantmaking process, word of mouth, or by being connected via other organizations. Williamson and DeMeyer (2012) described this formation of connections within an educational ecosystem as occurring through "serendipity and self-organization" (p. 25). In other words, IOs may connect with one another by chance.

In addition to serendipitous connections, purposeful structures may also encourage interactions amongst IOs. In particular, collaborative networks or communities are one key connection point that has been explicitly mentioned within the literature (Cooper, 2012; DeBray et al., 2014; Russell et al., 2013). These networks may be local or national, and multiple networks may interact in a web of complex relationships (DeBray et al., 2014). Through

collaborative networks, IOs make connections with other organizations that are working toward similar goals. As described above in the preceding section, these collaborative networks also support the sharing of resources amongst organizations. Collaborative networks of grantees are often organized by philanthropies to support a policy agenda (Haddad, 2020; Hatch et al., 2019). For example, in 2017 the Bill and Melinda Gates Foundation started a collaborative —The Frontier Set— which brought together institutes of higher learning and state educational state systems to develop and share institutional redesign strategies related to promoting equity in education (Haddad, 2020). (Interestingly, in this case, the Gates Foundation is also serving as an IO in that it is bridging the space between previously disparate entities.) Networks may also be organized by IOs themselves or by other system or non-system actors that then request an individual IO's participation (CPRL, 2017; Jacquith & McLaughlin, 2009). For example, LaLonde and colleagues (2015) described how Teach for America and Teach for All operate as hub IOs that connect other ecosystem actors, such as lobbyists, think tanks, foundations, researchers, and members of the media.

Ecosystem resources of value to IOs

Research has shed some light on the kinds of ecosystem resources that are likely to be of value to IOs and where these resources may be located within the ecosystem. Russell et al. (2013; 2015) categorized the resources IOs may gain from networks to include material, human, and social. Although Russell's categories stemmed from an analysis of resources IOs obtain from networks, we use these categories as a framework for discussion of the resources IOs gain throughout the educational ecosystem.

One broad type of resource that might be gained through ecosystem interactions includes material resources, and financial resources tend to be a critical material resource. Material resources may be financial, such as funding via public or private grants (Russell et al., 2015). Funding may flow from public sources, such as the federal government, through schools, which then allocate a portion of their funding to secure an IO's services (Trujillo & Woulfin, 2014). While public funding is an important resource for IOs, philanthropies are a crucial source of funding for many IOs. In fact, many IOs depend on philanthropic funding, which can result in IOs attempting to match their own work and theories of action to funders' agendas, as philanthropic organizations have discretion to choose the types of initiatives they will support, and may be more likely to support work that matches their own priorities (Chang, 2020; Jaquith & McLaughlin, 2010; LaLonde et al., 2015).

Additionally, material resources may also include knowledge-based resources, such as ideas, frameworks, tools, and other information that intermediaries may incorporate within their work (Russell et al., 2015). For example, an IO may utilize frameworks describing instruction that supports social and emotional learning within their own work. Forming connections with other like-minded organizations via collaborative networks provides one key space in which IOs may gain material resources such as knowledge, strategies, and tools from one another (Haddad, 2020; Russell et al., 2015).

Human resources refer to the expertise and services that actors located within an educational ecosystem can offer to others (Russell et al., 2015). Human resources are dependent upon the skills, knowledge, and dispositions of the individuals involved within the ecosystem (Hatch et al., 2019). For example, individuals or organizations may provide training or assist in the development of tools or curriculum (Potochnik & Romans, 2015); in this case, the resource is the expertise of a person or group of persons. If an educational ecosystem has few individuals possessing expertise on a topic of importance within that ecosystem, human resources may be lacking. This sharing of human resources is likely to occur via collaborative networks as mentioned above (Russell et al., 2015), or within membership organizations, which convene many ecosystem actors.

Finally, social resources are resources to which ecosystem actors can connect intermediaries to facilitate their work (Russell et al., 2015). These resources relate to social capital, such as connections an IO may make that promote its ability to meet goals, or the ability to enhance

its reputation. Social resources differ from human resources in that social resources are related to the skills and dispositions of ecosystem actors while social resources are more related to the network connections actors can make (Hatch et al., 2019). For example, social resources may include ecosystem actors' ability to connect disparate parties such as schools, researchers, policymakers, and others. To elaborate a specific example, the ability of one ecosystem actor to connect a policymaker to an IO could result in that policymaker lending political support to the IO. Collaborative networks play a role in the provision of social resources in a few ways. First, there is strength in numbers for intermediaries concerned with promoting a particular agenda; large collaborative networks can give voice to a large number of stakeholders that share similar theories of action (Orphan et al., 2021). This is especially true when communities are supported by prominent foundations such as the Bill and Melinda Gates Foundation (Orphan et al., 2021). Additionally, networks can connect IOs to ecosystem actors who are well-placed to support their work and who they would otherwise not have connected with.

CHAPTER FOUR
RESEARCH METHODS

The focus of the study, which seeks to examine educational ecosystems in a way that centers on particular IOs, has been relatively under-explored in prior studies and under-theorized in prior literature. Thus, we employed qualitative methods to identify and map the range of ways that IOs connect with other entities and actors in the educational ecosystem. The study was part of a broader investigation of how IOs impact the capacity of schools and districts to improve, including their role in gathering and funneling resources from other sources in the educational ecosystem.

Given that we undertook this study during 2021, the pandemic shaped our work in important ways. Specifically, our research center has operated remotely since March 2020. This meant that all of our research planning and research activities were conducted remotely and virtually. We used Zoom for all our research meetings. As we briefly describe below, we also used Zoom for all of our participant interviews.

Sample of five IOs

Five focal case organizations were selected from the US, which we viewed as a likely national setting for more mature educational ecosystems surrounding local schools. To identify these focal organizations we began by developing a broad pool of potential candidate IOs and considering these organizations against three primary criteria: (1) a focus on working directly with K-12 schools, (2) a focus on improving schools' instructional resources as either a primary focus of intervention or an intended outcome of the organization's primary intervention strategy, and (3) provision of professional learning for educators as part of the IO's intervention strategies. Candidate IOs were identified through extensive internet searches and recommendations from associates of the UIC Center for Urban Education Leadership. From this group of IOs, preliminary emails were addressed to senior officials of roughly 40 organizations inquiring into their willingness to be solicited for participation.

Senior officers of ten organizations replied affirmatively and were invited by email to a preliminary screening interview. These interviews were used to determine the degree to which each organization met the qualifying criteria and the capacity of the organization to participate in interviews within the study's designated timeframe. Based on these interviews, we prioritized final invitations to five of these organizations. All five organizations had at least 15 years of experience working with schools at the point of selection and were collecting impact data related to their work with schools. Thus, these organizations were likely to be positioned to offer more robust insights into issues associated with educational ecosystems. We also included some variation in the sample to allow us to learn from: (a) organizations with different geographical reaches, (b) both for-profit and not-for-profit organizations, and (c) organizations that deploy different types of intervention strategies in their work with schools. Table 1 presents the five organizations invited to participate and a selection of signature characteristics. The final five IOs for study included one large for-profit professional learning provider; one not-for-profit with a focus on developing capacity for out-of-school learning; one large not-for-profit IO with a legacy focus on teacher retention; one university-based IO with a focus on high school instructional capacity; and one IO focused on school innovation centered on principles of interest-driven learning.

Data sources and collection

We prioritized key informant interviews with five to six senior and mid-level leaders from each organization. We complemented these data with the collection and review of a wide assortment of artifacts data. We elaborate these two data sources and their collection below.

Interviewees were selected as key informants of their IO's because of their modes and purposes of engagement with schools, districts, and the surrounding organizational ecosystem.

Table 1.

Selected characteristics of the study's five focal intermediate organizations (IOs)

Focal Case EP/ pseudonyms are used throughout	Practice Domain/ Focus	Status	Scope	Approx. Annual Budget	FTE Staff
Big Picture Learning (BPL)	Innovating school designs around student-centered, interest-driven curriculum and instruction	Not-for-profit	International	$7 million	27
ExpandED Schools (EES)	Addressing learning and equity gaps through closer articulation between enriched school-day and after school learning experiences	Not-for-profit	City/State	$13 million	50
Network for College Success (NCS)	Build students' post-secondary success through networked and job-embedded professional learning for teachers and school leaders	Not-for-profit	National	$5.5 million	35
New Teacher Center (NTC)	Improve student outcomes (academic and social-emotional) through comprehensive professional development services at district and school levels.	Not-for-profit	National	$40 million	100 FTE + (20 PTE)
Solution Tree (STR)	Transform educational outcomes by translating proven research to a tiered system of supports for professional development.	For profit	International	$58.75 million (Annual Revenue, 2020)	170

Identification and recruitment of key informants proceeded in three phases. We first interviewed the highest available officer from each IO to gain a strong general overview of the organization and its goals and strategies for engaging other ecosystem organizations and/or partners. We interviewed five CEO-level officers (in one case, interviewing co-directors together) and one high level senior advisor. Second, we asked these senior interviewees to nominate other senior-level leaders with in-depth knowledge in one or both of two focal areas: (a) how the IO engaged schools and districts to aid school improvement, and (b) how the IO engaged ecosystem organizations in service of schools and districts. In some cases we asked CEOs about the availability of potential second phase interviewees based on reviews of the IO's website and leadership team listings (also using resources such as LinkedIn and Facebook). We subsequently invited these nominees to interview, and conducted interviews in order of positive response to invitations. CEO nominators were not informed by researchers about the participation decisions of nominees.

We designed a semi-structured interview protocol to explore varied sub-dimensions of ecosystem relationships, connection strategies, and resource flow implicated in the three main research questions. Following protocol training, interviews were conducted by three members of our research team via Zoom conference call. Interviews ranged from between 75 and 90 minutes per interviewee. Twenty-seven interviews (with 28 interviewees) were conducted across the five organizations. All interviews were transcribed for analysis.

We also collected a range of official documents and artifacts of practice associated with each focal case IO. Documents and artifacts were collected for two primary purposes: (1) to provide illustrations and examples to accompany material surfaced in interviews, and (2) to identify and investigate signature features of key structures, routines, tools, and protocols employed by the IOs in engaging ecosystem actors, schools, and districts. Two primary sources were developed. First, the interview regularly asked key informants if there were documents or artifacts that reflected or corroborated their interview narratives. Interviewers tallied these answers during the interview, and sent interviewees follow-up emails requesting these artifacts or documents. Second, and throughout the life of the project, internet sites of the IO and their ecosystem partners were harvested for publicly available documents and artifacts. Google Sheets was used to store and index all digital artifacts for subsequent retrieval and analysis. A total of 77 artifacts were assembled as supporting evidence for the study. Most of these artifacts were products of the IOs themselves, including official reports (eg. annual reports) and publications; tools, guidance, and other protocols used to engage school and district staff; strategic plans and related organizational planning documents; internal guidance, manuals, and related protocols used for internal professional development; and samples of web pages bearing on ecosystem partnerships. Other artifacts were from external sources, including third party studies of each IO (eg. evaluation reports); documents and web pages linked to coalitions and networks that include the IOs; tools, protocols, and other resources acquired by IOs from external sources; extant research studies mentioned as influential texts within each organization by interviewees.

Data analysis

All data were stored and analyzed using the qualitative data coding package Dedoose.com to permit team coding and memo development within one shared dataset accessible through the Dedoose platform. Development of an initial coding scheme derived primarily from the research questions and existing literature and involved both deductive and inductive coding. Data analysis for this paper proceeded through the following steps. The team broadly coded the data set within the following primary thematic categories: (a) IO background codes, capturing organizational characteristics of the

five focal case organizations, (b) organizational categories within the educational ecosystem/ sectors with which the IOs interacted, (c) modes of interaction, (d) purposes of interactions, (e) manner and direction of interaction initiation, (f) factors that shape interaction, (g) resources gained through interactions, and (i) factors that shape access of resources.

Analysis of the fully coded interview set (27 interviews) proceeded in two phases. At the intra-case phase, we assigned each of the five focal case IOs to a project team member for a detailed description of its ecosystem relationships based on the ecosystem coding themes, using a common interrogatory protocol. This produced five detailed summaries for use in cross-case analysis. At the cross-case phase, the two senior research members developed thematic analyses for each of the primary research questions, distinguishing further between relationships with ecosystem organizations, and relations with other ecosystem entities (eg. individual persons; bodies of literature). Issues addressed with a cross-case interrogatory protocol included:

- Patterns of variation in key areas like ecosystem connection and resource exchange
- Consensus and diverging views among the IOs in areas like the benefits and complexities of engaging with varied sectors of the educational ecosystem (eg. philanthropy vs. national not-for-profit organizations)
- Major categories of challenges posed by engagement with different ecosystem sectors as well as features of the policy and funding environments.

CHAPTER FIVE
FINDINGS

We approach our primary research findings in the order of our research questions. Overall our analyses surfaced important insights into the extent and range of interactions between our focal IOs and the surrounding educational ecosystem, and the purposes of those connections; the ways in which ecosystem connections were initiated and sustained; and the resources that our five IOs gained access to through the agency of these connections.

IO interactions within educational ecosystems

What we learned: IOs' interactions

- IOs were invested in and actively engaged with a wide range of ecosystem players. We noted interactions that were frequent and diverse, in time intervals that ranged from occasional to routine and across a wide range of settings and circumstances.
- IOs interacted with the following types of system entities: districts, federal agencies, state agencies, boards of education, local government councils, and special committees.
- IOs interacted with the following types of non-system entities: businesses; professional organizations; peer not-for-profits; university and non-university research partners; local and national philanthropies; and community-based organizations.
- IOs also integrated with key ecosystem actors: those who championed the IO within their professional contexts; "angel" donors; and intellectual and thought partners.
- IOs also sought access to more free-standing research and practice literatures.

We found that IO interactions with organization types in the ecosystem are both frequent and diverse, with IOs differing considerably in their profiles of engagement across a range of organizational types and sectors. Our evidence pointed to a varied and extensive range of organizations, persons, and non-organizational entities in the surrounding educational ecosystem with which IOs interact in the course of enabling their intermediary work with schools and districts. These interactions ranged in timing from the occasional (eg. annual meetings with peer organizations at conferences) to the episodic (eg. quarterly work sessions with collaborators in grant contexts) to the frequent (eg. bi-weekly meetings in policy consultation settings) and even routine (eg. regular communications between CEOs in closely allied partner organizations). They occurred in a wide range of settings and circumstances, from professional convenings and governmental offices to community centers and universities, and transpire between individuals and groups, in-person and remotely. And while our data did not support precise estimates of IO investment in these relationships, they suggest that they are a ubiquitous, vital, and time-intensive focus of the internal capacity and strategic priorities of intermediary organizations.

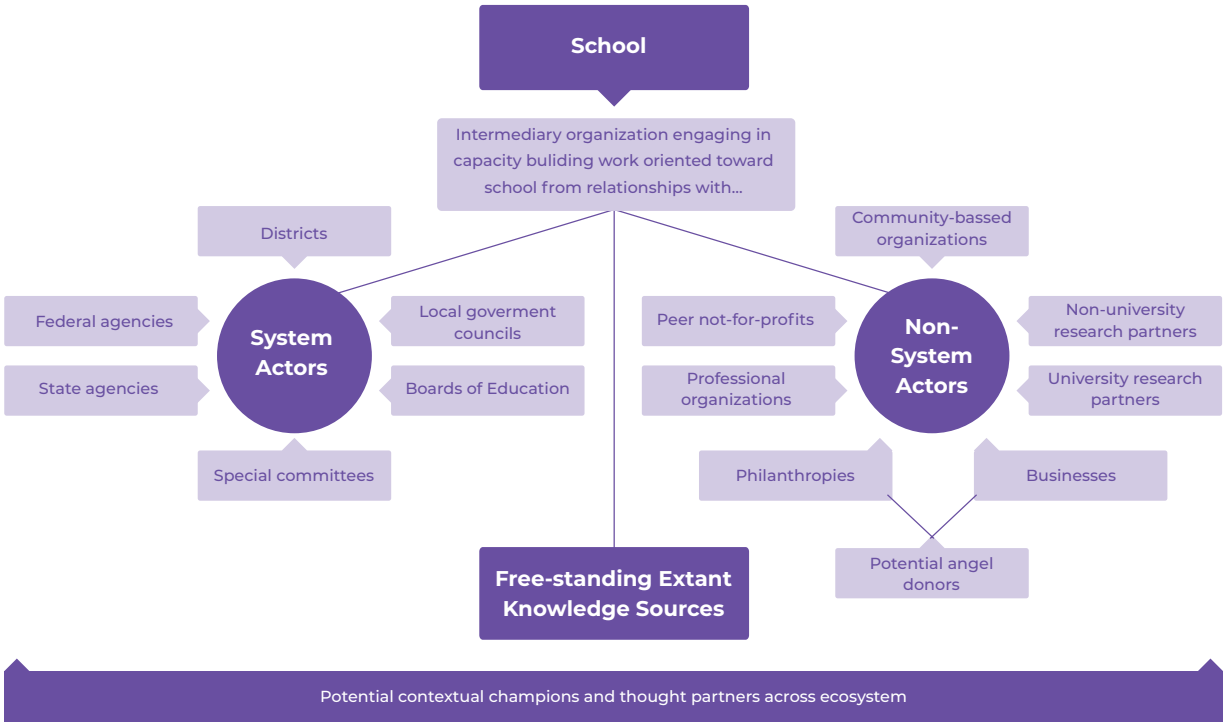
Even with a small focal sample of IOs, our analyses surfaced a wide range of organization types with which the majority of IOs were interacting for an array of purposes. Most frequently mentioned among those types were: (a) government departments and specialized offices (from city hall offices and regional offices of education (ROEs) to state and local education authorities (LEAs) and units of the federal DOE), (b) business/for profit entities (such as publishing and tech companies that provide key services to these IOs), (c) professional organizations at the regional or national level, d) peer organizations in their specific fields (eg. professional development providers), both individually and within the context of networks of such organizations, (e) universities, (f) non-university research partners, (g) the spectrum of private philanthropies, and h) local, community-based organizations. While the government and philanthropic sectors were a ubiquitous presence in the organizational lives of our IOs, the IOs otherwise differed in the frequency and intensity of their engagements with different types, as well as the geographic focus of these interactions (ie. local, state level, or national government or philanthropies). IOs seemed equally intent upon developing ecosystem relationships, however, regardless of the geographic specificity or breadth of their organizational missions.

A few organization types with a prominent presence in United States civil society and education discourse were rarely or not mentioned as interacting with the five IOs. For example, there were no indications of interactions with faith-based organizations, and only one IO discussed connections with teacher unions, which in that case were contacts mediated by partnerships with school districts. Interactions with newspapers or other journalistic organizations were also lacking, although attending strategically to press coverage was discussed. Interestingly, interactions with state-level professional organizations were frequent for the for-profit IO, but rare or entirely absent for the remaining four IOs.

In addition to connections with organizations, our interviews surfaced two other common sources of resources residing in the ecosystem —persons engaged by IOs primarily as individuals rather than organization members; and publicly accessible bodies of literature and practice knowledge, including tools, protocols, and other publicly accessible assets associated with those bodies of knowledge. A few categories of individual persons were particularly prominent; we briefly elaborate each below. Figure 1 below reflects the assortment of ecosystem interactions that were unearthed.

Figure 1

IO Ecosystem interactions by type



Contextual champions

These individuals were key bridge contacts who attested to the quality and integrity of these IOs among their colleagues, and often took an active role in brokering meetings and other fruitful connections. In the case of Big Picture Learning, recommendations from principals and district superintendents with prior experience of BPL schools were often the catalyzing events for districts to approach BPL about starting a new school [1]. In another case involving Solution Tree, a member of the Arkansas legislature had participated in STR professional learning events as a school teacher, and took a small delegation of fellow lawmakers to an STR event as part of the group's consideration of making "professional learning communities" (PLC) a centerpiece of state policy for school improvement. This champion legislator eventually brokered meetings between STR and the Arkansas Department of Education that yielded a significant contract to train district leaders in PLC processes.

Philanthropic agents as angel donors

An officer of BPL, for example, distinguished the support provided by "angel donors"[2] —especially donors who provide funding as individuals or through small family foundations— as important to the early phases of initiative design. "The angel individual donors are especially helpful in the early stages of innovation," he noted, "because they're more willing to take a risk and more willing to innovate something new that you can't - you can't do an evidence-based when… you're, when it's something new."

Thought partners

These individuals were also mentioned at several junctures in the interviews of all five IOs, both in terms of their thinking and their personal support for the IO's mission. In three organizations, for example, boards and special committees (eg. the Educational Equity Commission of the New Teacher Center (NTC)[3] assembled critical friends to contribute to thinking in complex areas of growth and practice, and cultivated these contacts for a wider range of consultations for the organization. The influence of thought partners was particularly visible in the case of Solution Tree (STR), given the centrality of recruiting and contracting prominent educational authors as anchor assets within its business models. While these authors were engaged primarily to interact with clients, they also served as internal consultants and advisors in shaping and evaluating new business ventures, and were often pulled into conversations with prospective clients like state LEAs and professional organizations. For BPL[4], artists have been important partners to integrate into school innovation work, "…not just to perform at our events, but [they] also bring the artists' way of thinking and developing into our work."

[1] A BPL officer described the influence of a "single champion" on the adoption of the new internship tracking application: "And she knew about this, this platform. I probably, two years ago, did a demo for her and she just kept sticking around and just be like, we need this more for everybody here in our region, we need it more. And she just kept pushing. She found partnership with a local nonprofit at the same time, in the state of New Hampshire."

[2] This term has it origins in corporate start-up circles; see: https://en.wikipedia.org/wiki/Angel_investor.

[3] NTC's rationale for convening its EEC recognized the critical role of wide-ranging expertise from beyond the confines of the organization: "We want to push the paradigm on what we know to be true. To do so, we need help identifying what's hidden from view. So we've built a community of perspectives to ensure NTC is serving students experiencing poverty, BIPOC students, English-language learners, students with learning differences, and immigrant students. The Equity Commission (EC) is a partnership, shining a spotlight on the roots of systemic problems that harm our most vulnerable kids." See: https://newteachercenter.org/team-and-leadership/.

[4] Elaborating on the contributions of their associated authors to client conversations, an STR executive observed, "Not only does it enhance our accountability, it enhances the work, so we'll bring them in. So, for something like that example that I just used, we had some of our very high level associates participate in the planning. So it not only helped in terms of credibility, it helped in terms of the plan that was laid out and then subsequently implemented was based on that expertise, as well as our internal expertise around how these work well, as well as the organization that we're working with their expertise around their state and their culture and the way we need to do things. And so it enhances the actual plan. You can't deliver it without that expertise."

Free-standing extant knowledge sources

Finally, and in addition to the importance of individual ecosystem actors, our five IOs drew selectively from extant research and practice literature as resources for organizational development. For Network for College Success (NCS), for example, several bodies of literature informed their "freshman success" framework for high school improvement, including the research literature on "9th Grade On-Track" and "Foundations for Young Adult Success" from the UChicago Consortium on School Research, the Search Institute's developmental framework, and Zaretta Hammond's work on culturally responsive teaching. For the NTC, consequential literatures for developing professional learning training and coaching modules include the Wallace Foundation's series of reports on instructional leadership in schools, along with complementary literatures from the Education Trust and the Aspen Institute; and the emerging body of improvement science concepts and practice resources from the Carnegie Foundation for the Advancement of Teaching.

What we learned: Purposes of IOs' interactions

IOs interacted with other ecosystem organizations for several reasons:

- Developing and accessing financial resources
- Accessing non-financial, mission-critical resources
- Accessing expertise and intellectual capital
- Testing and validating program theories and claims
- Understanding and influencing critical policy contexts
- Building standing and reputation through participation in networks
- Solving technical problems

Our data also surfaced several common purposes that united the five IOs as they engaged a wide range of organizations at the local, state, national, and even international levels. These purposes were pursued in different sectors of the ecosystem, and often through varied channels and strategies.

Developing and accessing financial resources

A ubiquitous reason for development of ecosystem relationships, and one never far from the minds of EP leaders, was to develop and access financial resources to fund operational and mission-focused expenses. Three sectors of the ecosystem were most implicated in fund-raising activities —philanthropies, government agencies at various levels with a role in education policy, and other organizations with which to pool and augment funds in partnership arrangements. All four not-for-profit organizations financed their activities through a mix of private foundation grants, federal and state LEA grants and contracts, and fee-for-service contracts with school districts and individual schools. In turn they were well organized to identify, pursue, and administer a mix of private and public dollars. STR, the for-profit IO, had traditionally focused on building sales of its books and large-group events in combination with fee-for-service contracts with suburban and rural school districts. More recently, though, STR has been developing a system for cultivating state-level relationships with LEAs and professional organizations that includes full time state-level coordinators and national office support. This would allow STR to pursue district relationships with more resources and at greater scale.

Accessing non-financial, mission-critical resources

Both our interviews and organization artifacts reflected a strong commitment in each IO to a vision and mission to support deeper student learning and greater educational equity. Thus, the five IOs made ecosystem connections to secure non-financial resources critical to executing their core missions. In this regard the IOs were both vigorous and selective in developing relationships in several ecosystem sectors to assemble key resources necessary to act upon their theories of action. For both BPL and EES, for example, this meant helping their affiliate schools recruit and deepen relationships with local community-based organizations that could help foster relationships with parents and serve as settings for after school and out-of-school learning. NTC sustained relationships with several peer professional learning organizations in part to gain access to tools and practice protocols to sharpen the delivery of core professional development activities (eg. SmarterBalanced; Teaching Lab). Commitment to mission and vision was equally evident in the ways that STR cultivated relationships with state-level principal and superintendents organizations to expose more school leaders to the ideas and research-based practices of their affiliated authors. STR interviewees emphasized that the rigor of their outreach process to districts or education organizations distinguished STR from other vendors who were more intent on completing sales of a narrower range of products.[5]

Accessing expertise and intellectual capital

A third motivation for outreach to ecosystem partners was to gain access to expertise and intellectual capital linked to each organization's problems of practice. Each organization acknowledged some debt to philanthropies, research organizations, and national not-for-profits whose missions included original research, policy analyses, and reviews of extant research in key fields of interest. For some organizations these connections are close and integral, such as NCS' foundational relationship to the staff and publications of a research consortium located within their home institute as key resources for shaping their tools and practices. Similarly, EES has engaged experts in social and emotional learning from Collaborative for Academic, Social and Emotional Learning (CASEL) to advise on the development of after school SEL modules.

[5] As one senior STR officer framed their shared commitment with customers, "Over time they understand that we're after the same goals here and we chase those results in ways that a vendor wouldn't. So it's not a 'you write the check, you get the service, and we all go about our daily lives.' That's not how you generate better results for kids. So what we do is typically more deeply embedded."

Testing and validating program theories and claims

A fourth purpose of interactions related to testing and validating program theories and claims. Partnerships with research organizations provided opportunities to collect and analyze data for the purpose of independently testing and evaluating the efficacy of features of their service models, with a yield of information for program improvement and communication of impact. In some cases these relationships were mediated and even mandated by federal, state, and philanthropic grant programs. For BPL, association with the Hewlett Foundation's Deeper Learning Network led to a connection with the Learning Policy Institute that led to an extensive report on the BPL school innovation design. In some instances, impact findings were also of value to the research organizations as these organizations advanced ongoing lines of inquiry. For example, NCS's close association with their home institute's research consortium included deep consideration of problems and findings with their research collaborator:

> The Consortium is always interested in knowing what we are learning on the ground that can fuel their research agenda… And then, you know, as the consortium research agenda evolves, there are pieces of it where the connection makes a whole lot of sense, and we want to be deep in talking a lot.

Understanding and influencing critical policy contexts

A fifth purpose involved building capacity both to understand and influence critical policy contexts. An important motivation for developing ecosystem relationships was the opportunity to better map the constraints and affordances of local, state, and federal policies, and to advocate for better policy alignment to objectives shared with similar organizations. EES actively engaged the lead officers of the state education agencies in New York State to position themselves as an ally in the after-school learning space, and alert them to policy quandaries. Senior leaders at BPL used both direct engagement and affiliation with networks of progressive education organizations to influence policy makers and spaces[6]. "I've been on calls or interacted with probably, I don't know, seven top state level officials in the last year," one BPL leader explained, "…so I think what we're trying to do sometimes is discuss with state level leaders, here's what you can do to remove barriers and impediments, just to start with… And here's what you could do to more actively support and create fertile ground[7]." In turn, STR recently has been building a state engagement infrastructure with two purposes linked to policy —to gather regular intelligence about the state policy context, and to deepen understanding among state policy makers regarding the alignment of STR resources to state education priorities.

[6] Examples include BPL's affiliations with the SoLD Alliance, Upstream Collaborative (in California), and Deeper Learning Alliance (supported by the Hewlett Foundation), along with the Coalition for Multiple Pathways to a Diploma, in New York State.

[7] He continued: "...what we're really after in some ways is trying to influence the people with money, wealth, influence, and power, and people who are making policy and decisions, you know, whether that's even a formal public education structure or in elected positions or in philanthropy, like what we're trying to do is to demonstrate to them that it is possible to radically re-imagine and shift that system. And so...we're trying to do really systemic change. But we believe that you do that one kid at a time, that that's what matters."

Big Picture Learning

Big Picture Learning (BPL) is a non-profit organization endeavoring to catalyze fundamental changes in education through creation of innovative and personalized learning designs associated with real world experiences. Their purpose is to activate the full potential of students by putting students at the center of their own learning, with a particular emphasis on personalized learning projects and out-of-school, work-based learning in community-based settings. Since its founding in the mid-1990s BPL has grown to include 75 schools in the United States, while independent affiliate organizations are propagating schools closely modeled on BPL principles in several countries, including Australia, Barbados, Belize, Canada, China, India, Israel, Italy, Kazakhstan, Kenya, the Netherlands, New Zealand, and the United Kingdom. The majority of BPL affiliate schools in the U.S. are high schools with a few at the middle and elementary level. Most are public with a few private or charter. They frequently work with alternative and career and technical education schools within public school districts. The schools are located in roughly half the U.S. states in primarily urban areas with a smaller number in rural or suburban regions. BPL's annual budget is approximately $7 million.

While headquartered in New England, BPL manages its school relationships both virtually and in the field with a national staff of about 27 persons distributed across 16 states. Those working closest to the field are the program manager, a cadre of regional directors, and school design coaches. In addition, BPL pursues grants from a broad range of philanthropies to fund two leader fellowship programs and special projects aimed at shaping the policy landscape. BPL's process for spreading its approach in partnership with school districts emphasizes profiling the accomplishments of BPL students, educators, and system level leaders through word-of-mouth and web-based communication strategies. While affiliated with BPL, educators staffing BPL schools are employed by the partner school district. Schools affiliated with BPL also form a loose "network" which is convened periodically for collective learning. BPL staff serve to support individual schools, groups of schools, communities of practice, and the national network of schools.

Big Picture Learning	
Who was interviewed?	■ Co-Executive Director ■ Chief Learning and Strategy Officer ■ Director of Technology ■ Regional Director ■ Director, Career Pathways Project ■ Director, Regional Consortium for School Innovation, and current BPL School Principal
Building standing and reputation through participation in networks	■ *"The [NAME] Foundation, they've invested in this now for one year and we're hoping they're going to renew soon for a second year…How did they come to us? I mean, again, BPL has a legacy, and philanthropies have money that they need to spend on impact. And we're a reliable partner."* ■ *"A lot of these networks are sponsored and supported by funders. So for example, [Foundation Name], we were part of a cohort of innovators and entrepreneurial organizations that they put together and they funded and supported and did cohort learning with them."*

Building standing and reputation through participation in networks and convenings

Participation in networks and other events sponsored by the federal DOE, state LEAs, philanthropies and national advocacy organizations allowed the IOs in our study to advance their influence and reputations in their respective practice fields. For BPL, for example, inclusion in New York State's Coalition for Multiple Pathways to a Diploma has yielded opportunities to address options for career internship learning with state officials, and establish BPL as an influential voice in the career and technical learning arena. Close and sustained collaborative partnerships with the key city departments, in turn, has afforded EES deep access to city and state policy makers along with a voice in shaping funding and practice conversations in the after school services space. By extension, all five IOs were clear that cultivating long-term relationships with government agencies, national philanthropies and advocacy groups helped build the public profile of the IO in ways that translated to more opportunities to influence policy, vie for financial support, and sustain lines of communication relevant to strategic and long-term planning.

Solving technical problems

A sixth motivation for ecosystem engagement was to gain leverage on technical challenges involved in advancing key organizational priorities. In most cases the ecosystem partners engaged for this purpose were for-profit firms with strong reputations in their respective

specialties. BPL as one example, engaged the international firm Salesforce to provide an SAS platform for its new cloud-based internship tracking system. With this system, BPL can generate income through licensing with schools and not-for-profit organizations while influencing conversations about the quality and focus of real world learning experiences. In turn, BPL employed another web design specialty firm to help construct a searchable artifact repository to facilitate access to a wide range of NTC's tools and protocols for its clients and partners.

Directionality of interaction initiation

What we learned: Directionality of interaction initiation

Three primary patterns of initiation were evidenced by all five IOs:

- Direct outreach to potential partners and client organizations
- Direct "in-reach" from potential partners and client organizations
- Mediated initiation of contact through third-party associations

All five of the focal case IOs had reached a level of maturity so that their patterns of ecosystem initiation were both complex and multi-directional. Three primary patterns of initiation were evidenced to varying degrees by all five IOs: (a) direct and intentional outreach to potential partners and client organizations, both first-time and follow-up or sustaining contacts; (b) direct and intentional "in-reach" from potential partners and client organizations, reflecting the IO's word-of-mouth reputation in their field and their established presence on the internet and other media outlets; and (c) mediated initiation of contact (both from and to the IO) through common third-party associations, for example, the intentional convening structures and channels of contact of field-shaping philanthropies like the Wallace and Schusterman Foundations, as well as public sector request for proposal (RFP) processes. Given the on-going pressures to sustain funding, all five organizations had developed outreach strategies and structures (including dedicated staff roles) to map and track the ecosystem for funding and partnership opportunities aligned to their visions and mission. And they also had developed varied mechanisms for screening overtures from potential partners that accounted for issues like internal capacity, opportunity costs, alignment to the IO's mission and core values, and potential for vital organizational learning. Sense-making structures like boards of directors, regional offices, and state coordination functions played vital roles in discerning the long-term value and likely yield of ecosystem engagements, both those identified for outreach and those coming from the IO's organizational environment.

Stability of IO's ecosystem interactions

What we learned: Stability of IO's ecosystem interactions

- The partnerships formed by the study's IOs are moderately to highly stable.
- This reflects the relative maturity of the five IOs -most of which had been operating for multiple decades.
- Sustaining stable ecosystem relationships requires overcoming turbulent and disruptive factors in the ecosystem itself.

Overall we found that the connections the five case IOs have formed are moderately to highly stable, meaning that they succeed in maintaining long-standing partnerships with other ecosystem entities. These sustained relationships are likely related to the organizational maturity of the five IOs, most of which had been operating for multiple decades. In this regard, each of the focal case IOs had invested significant resources in

roles, structures, and organizational routines designed to nurture on-going partnerships and networks. STR's work at the state level, for example, was stable to the point that it had created structures and formal employee roles designed to manage relationships with and provide support to individuals working in state education offices and within state-level professional organizations. At BPL in turn, the role of regional director was specifically designed for mobility, to sustain funding relations and network participation among peer organizations while helping schools to extend the commitments of local community-based organizations to provide internship positions for students. All five IOs were actively equipping national development teams to enlist and sustain robust relationships with partners and networks, often with the aim of scaling their work from the regional to the national and international levels.

At the same time, while on balance our study's IOs have sustained stable ecosystem relationships, doing so has meant overcoming entropic and disruptive factors in the ecosystem itself. In particular, institutional turbulence and leadership turnover remain chronic features of the educational ecosystem above the district level, resulting in policy and personnel shifts in state and federal education agencies, cyclic funding crises at all levels of the not-for-profit sector, and periodic shifts in philanthropic priorities (see Peurach et al., 2019). Given this turbulent context, the study's IOs were well organized to scan the ecosystem for new partners and cultivate new relationships. In addition, concerted efforts by government and philanthropies to support ecosystem stability in the service of sustaining advocacy for educational improvement also contributed to the longevity of our IOs' organizational relationships. The CEO of EES for example, reflected on the impact of sustained networking among powerful philanthropies in New York State both on their IO's fiscal stability and their involvement in long-term policy conversations with peer organizations.

> New York is lucky to have... a Philanthropy New York group that convenes the youth funders. I would say about 20 funders regularly meet, every six weeks. There are chairs that rotate, and a part-time staffer who helps organize those. And I have presented to that group probably four times this year... And there's a network of probably six of those who have funded us for the last ten years with a high level of stability and who I have deep trust in continuing to support us, you know? And so that really becomes a conversation and they play a big role in influencing particularly the local level.

Types of ecosystem relationships

What we learned: Types of ecosystem relationships

Four primary modes of relationship that were identified by our analyses:

- Contractual relationships/financial arrangements
- Bridging/brokering/facilitating relationships
- Collaborative relationships
- Consultation relationships for sharing expertise

Our analysis pointed to four primary types or modes of relationship that were enacted between these organizations and others in their larger ecosystem. These broad modes of relating among organizations included financial and funding arrangements, bridging and brokering interactions, collaborative and joint working relationships, and consultation and expertise-sharing relationships. These modes of interaction were well represented in the ways that interviewees in at least four of the five IOs discussed their ecosystem relationships.

Contractual relationships and financial arrangements

Funding arrangements were the most commonly discussed dimension of ecosystem relationships and resource acquisition across all five IOs. As we observed in our discussion of relationship purposes, these arrangements typically involved either philanthropic grants, government awards or fee-for-service contracts, or contracts with schools or districts that might involve task orders, fee-for-deliverable agreements, or sub-contracts to other service providers. For two IOs, an entrepreneurial dimension was also at play, involving the licensing of access to a new product (for BPL, their internship tracking application) or sales of books and other practice support materials (in the case of STR).

ExpandED Schools

ExpandED Schools (EES) is a non-profit organization dedicated to closing the learning gap by increasing access to enriched education experiences. EES mediates and supports partnerships between schools and youth-oriented community-based organizations (CBOs) in order to elevate their capacity to provide enriched, extended learning experiences in the afterschool hours. A distinguishing feature of their partnership support is attention to creating greater synergy between school day and afterschool curricula through intentional collaborations between teachers and afterschool staff on afterschool program designs. EES staff also work extensively with school leaders to assure logistic and system support for expanded learning opportunities. They also assist schools to locate and raise funds in order to support after-school programs.

EES is headquartered in New York City, partnering closely with the city›s educational and youth service agencies. But it is expanding its national profile in order to collaborate with stakeholders and policy-makers to «reimagine» the conventional school day in several US cities. EES has just over fifty staff. They have a small research team and a practice team. EES operates with an annual budget of about $13 million to cover costs of subcontractor providers, teacher professional development, and staff salaries. About 70 percent of its funding is public and 30 percent private. Positioned as a citywide intermediary, EES currently has about 110 schools and community partners located in New York City that receive direct coaching. They also offer a wider set of resources related to technical support that are available to schools across the city. Their third set of offerings is related to providing professional development, training, and coaching and/or various types of curriculum to schools. They have several demonstration site schools in Baltimore, New Orleans, and New York. Overall, they estimate that they work with nearly 6,000 educators annually, a mix of classroom teachers and community educators not yet certified.

ExpandED Schools	
Who was interviewed?	■ Chief Executive Officer ■ VP, Program Excellence ■ Chief Operating Officer ■ Director, STEM Programs ■ Director, After-School and Expanded Learning Programs ■ Director, HS Options Program
Bridging, brokering & facilitating relationships	■ *"I think one of the important roles that EES plays is as a convener and connector in the city... I think those networks and the partners who are part of them, jointly informing our practice back at our home organization, their home practice back at their home organizations, and collectively a more holistic advocacy and policy message that we can be part of the conversation around."* ■ *"…we regularly introduce people at the DOE to other people at the DOE. So one of our roles is that - it is a big, complicated, crazy system. We will regularly serve to help inform, essentially, colleagues who have not had access to one another and to help them connect the dots to their shared purpose."*

Bridging/brokering/ facilitating relationships

Also common across all five focal case IOs was activity focused on forging connections among organizations, negotiating the terms of those connections, and removing barriers to harmonious working relationships. Bridging and brokering work was initiated by both the focal IOs and a range of other ecosystem actors discussed in our interviews, most prominently philanthropies, government LEAs, and national not-for-profits in the policy arena, through diverse means that included grant-driven convenings, webinars, and calls for proposals. For their part, our IOs were continually reaching out to new and familiar funders and partners to augment resources for internal capacity building, as well as to draw resources toward third party clients to underwrite collaborative relationships. Third party brokering was particularly evident as a mode of ecosystem interactions for EES, BPL, and STR. As one STR executive described the process:

> The way that works usually with the client is they say, we would love to address our boys' middle school math scores. We have a program, we got all of our programs in place...There aren't more resources to have another program or outreach to solve a very relevant problem. Then I coach people to say, if you could get the help and support, would you accept it now? And Solution Tree would reach out to stakeholders like foundations or associations and say, would you support this work, here's what we want to do. That would manifest itself probably in a grant.

A particularly powerful way for our IOs to bridge and broker relationships was to convene meetings and sustain networks among peer organizations in their respective fields. All five IOs were experienced conveners, although the degree to which they included ecosystem actors in those events (as opposed to schools and districts) varied. For BPL, convenings and coalitions were among their most effective means for building regional interest in student/interest driven educational practices, as evidenced in the recent activities of their Upstream Collaborative and Puget Sound Consortium for School Innovation. For STR, convenings are a core component of their business model for propagating use of their publications and associated lines of service. STR often engages government and professional organizations as co-designers of content. In the case of EES, convenings were a primary vehicle for educating and advocating for out-of-school learning options, both nationally (through a series of conferences in cities across the US), and in New York City. An EES officer described the import of these gatherings:

> I think one of the important roles that EES plays is as a convener and connector in the city... I think those networks and the partners who are part of them, jointly informing our practice back at our home organization, their home practice back at their home organizations, and collectively a more holistic advocacy and policy message that we can be part of the conversation around.

Collaborative relationships

All five IOs discussed relationships with peer and partner organizations that involved joint and coordinated work on problems of significant common interest. Some of this work occurred in networks of organizations in the same field with common problems of practice to solve. A regional leader of BPL, for example, discussed joint work on developing a common framework for school-level leadership in schools with student-centered and interest-focused curricula, convened by the Puget Sound Consortium for School Innovation. A senior leader at NTC described the beginnings of joint work on a common evaluation framework for professional learning activities based on Thomas Guskey's seminal work (Guskey, 2000), as part of regular convenings by the Schusterman Family Philanthropies. Chicago's Network for College Success reported close and consequential working relationships around the creation of professional learning experiences linked to school equity practices with collaborators in California, emerging from Gates Foundation networked learning initiatives. As one senior NCS leader described that joint work:

> San Francisco Coalition of Essential Schools, we've had a long standing partnership. I'm going to guess at least eight years. And it's where we have learned a lot about equity... So we rely on them for continued work development partnership. When we have to train our own staff, we ask them to come in and support us, so we're not facilitating ourselves. There's an organization called Core Districts in Southern California, where we learn a lot, we have an exchange with them. We teach them what we know about freshmen success and they teach us what they know about improvement science. And we're both working on both of those things.

Other instances of collaborative activity occurred within partnership and project contexts. EES worked closely on a seasonal basis with New York City agencies tasked with school-community partnerships to match schools with local agencies well suited to a school's after school goals and vision. And they used networked settings to engage in joint work with colleagues to produce advocacy and policy briefs.[8] STR informants discussed the advantages of collaborating with professional organizations (eg. a state-wide superintendents association in the State of Washington) to co-design large-scale events that would inform their members about contemporary educational issues at a large scale (see quote above, Solution Tree vignette, "Collaborative Relationships").

[8] As one EES interviewee related: "...there are national networks and groups... where we have taken an issue and then very deliberately worked on a report that looks at the same issue from multiple vantage points."

Solution Tree

Solution Tree (STR) is a for-profit, privately-held corporation founded in 1998 that provides professional development and resources to K-12 educators. STR has a catalog of more than 500 published resources such as books, videos, online courses, and tools. Services also include conferences, workshops, consultation, virtual and in-person coaching, and online courses. STR's business model is built around the recruitment of educational authors with solid reputations for research-based content. Their mission is to serve educators and schools across the globe through advancing the work of these affiliated authors. This makes STR unique in their approach to teacher professional development in relation to most other for-profit providers. Their service levels are built around the books and content from identified experts which clients decide are best-aligned to their organizational needs and practice issues. They have a rigorous vetting process for the presenters and products in their catalog to ensure they are research-based, have promise of impact on educational practice, and promote the reputation of the company.

STR's headquarters are located in a small midwestern city but they have national and international reach, with annual revenues of $58 million reported in 2020. In recent years they report direct service relationships with over 6,200 American school districts, over 67,000 individual schools, and almost 2.3 million teachers. Continued growth is likely following the launch of a global professional development program in 2014 for schools unable to implement in-person professional development. In the United States, they have begun opening satellite offices in several states with an intent to continue to open state offices based on business volume. As of 2020, they have representatives assigned to regions of every U.S. state, in every Canadian province, and 27 other countries.

Solution Tree	
Who was interviewed?	■ Chief Executive Officer ■ President and Chief Operations Officer ■ Executive VP, Business Development ■ Chief Marketing Officer ■ Director of School Improvement
Collaborative relationships	■ *"We partnered with a superintendent's organization a while back to do several years of deeply embedded work with superintendents and their teams. And so we met weekly on that project. We did for the first several months - we go to them, sit around their tables and have conversations about what's going well, what's not. We plan together. We make adjustments together. So it's very much a collaborative process… And I think over the course of three, four months into a project, I think people would tell you, we didn't just purchase a service or goods here. We were building a relationship with folks who bring experience to the table. And then we bring in the expertise that we need."*

Consultation relationships for sharing expertise

In various ways the five focal IOs in this study were acknowledged experts in their respective fields, and were often called upon to consult with clients and partners on the basis of their accumulated knowledge and insights. Indeed, creating access to their expertise was a dimension of bridging, brokering, and collaborative interactions. As the STR quote above suggests, collaborative work benefits from mutual respect and receptivity to expertise among partners, along with skill and Judgment among collaborators about how and when to share expertise in the give and take of joint work. Similarly, and in a brokering context, EES leaders could operate as good faith brokers of new relationships among key administrators in different federal agencies with portfolios that include extended learning and after school activities. As their CEO observed,

> …we regularly introduce people at the DOE to other people at the DOE. So one of our roles is that, you know, it is a big, complicated, crazy system. We will regularly serve to help inform, essentially, colleagues who have not had access to one another and to help them connect the dots to their shared purpose.

Interviews with NTC informants noted a shift in practice emphasis at NTC toward the stance of a consultancy organization at several levels of government, districts, and with funders and NFP partners. As one observed, "…we work with SmarterBalanced… [as] their preferred professional development partner…We work with...all the other curriculum providers in the space, because they don't always want to do their own professional development, or they don't have the capacity." In turn, all five IOs reported the importance of key relationships built in part on the expertise of their partners in areas where they lacked capacity or extensive experience.

Another context for sharing expertise involved the design and provision of professional learning experiences for peer organizations and collaborators. Given that the five focal case IOs were specialists in providing professional learning and development experiences for teachers and district leaders, it is not surprising that they also engaged with ecosystem colleagues in relationships that included orientations and learning experiences in IO's area of expertise. NCS, as one example, provided the members of a network in California focused on high school freshman success practices with thorough orientations to the research and teaching teaming practices pioneered in Chicago beginning in the late 1990's. In turn, ecosystem relationships also were channels through which each IO secured vital information and built professional capacity within their own staffs. As is often true with adult learning, learning-rich interactions seemed most often to be associated with joint reflection and discussion of problems of professional practice, as well as opportunities to clarify emerging research findings as they bear on professional practice. As an interviewee from NCS explained, these sources of learning could be gained through intense and committed thought partnerships, requiring considerable commitment of time and staff effort. But they could also emerge richly from more episodic connections if the focus was highly relevant to an urgent problem such as the clarification of equity practices.

> ...organizations I'd point out as people who deeply influence our practice are Core Districts of California, and… the San Francisco Coalition for Essential Small Schools. Those are the folks we've picked up our equity work from; we are in deep partnership with them around our approach to equity. So they deeply influence our practice. And then there's other folks that we kind of run into from time to time, and we get a lot out of. I always learn a lot anytime I'm in a room with Emojis' people; I think their approach to youth development and how being a youth development expert puts a slightly different lens on your adult capacities within your organization. And we've been doing a lot of work lately with the Search Institute that has a developmental relationships framework. I think we're going to start collaborating more intentionally with them.

While the data suggest that several modes of relationship are ubiquitous in the ecosystem interactions of IOs, we also found intriguing differences in the relative balance of these modes across our five focal case IOs. NTC interviewees were most likely to discuss providing consultation and expertise to ecosystem partners, and were also much more likely to discuss research and evaluation partnerships. This was consistent with a recent, strategic shift in NTC's embrace of a consultancy paradigm as a more adaptive and strategic approach to engaging school districts and ecosystem collaborators. For EES, three types of interaction were prominent: bridging and brokering, collaboration, and prospecting financial support. This was quite consistent with EES's primary focus, namely, to mediate partnerships between schools and community-based, after school service providers, elevate the quality of collaboration between them, and convince a phalanx of government and private funders to sustain their professional learning activities linking teachers to after-school educators. Among the other EP cases, BPL was distinguished by its combination of bridging/brokering activities with its commitment to convenings as a mode of organizational learning. NCS was distinguished by its focus on addressing adult learning issues with ecosystem partners, perhaps reflecting the particularly high coherency of its school and district engagement model. And STR, while exhibiting a diversified profile of ecosystem interaction types, was most prominent in the diversity of its contractual arrangements.

[8] As one EES interviewee related: "...there are national networks and groups... where we have taken an issue and then very deliberately worked on a report that looks at the same issue from multiple vantage points."

Finally, we note that one mode of interaction that presumably might operate in ecosystem interactions —competition— was notably absent from the reflections of our interviewees. Given our focus on how ecosystem partnerships are formed, it is possible that competitive dynamics among ecosystem organizations may have been under-played. This absence of attention to competition may be an artifact of our interview focus. That said, our data suggests that potent factors are operating within the educational ecosystem to neutralize competition in favor of collaborative learning and resource sharing —the work of convenors like the Gates Foundation and Schusterman Family Philanthropies, for example, that have increased incentives and conditions for cooperative interactions. As a senior officer from NTC reflected:

> We are friendly and work in conjunction with quite a few other organizations in this space. I think there's a lot of shared learning. I think we all see the same experiences in classrooms and move forward on that. And, you know, when someone puts out a report about unfinished learning like UnboundEd, we all use that as the basis of work that we're doing… we don't all need to codify the same learnings. And so I think we all build on that within the field.

The relationship between competitive and cooperative dynamics among ecosystem actors certainly deserves more concerted attention in future studies.

Factors that shape relationship formation

What we learned: Factors that shape relationships formation

Several factors were implicated in the formation of ecosystem relationships.

Some factors were features of the ecosystem at large:

- Financial constraints within the broader ecosystem
- Active influence of field-engaged bridging/brokering agents

Some factors were internal to the IOs themselves:

- Balancing mission "non-negotiables" and collaborative flexibility
- Investments in roles, structures and routines of outreach
- Developing a graduated structure of engagement

Our interviews surfaced several factors that appeared to be implicated in the formation of ecosystem relationships. Some factors were features of the ecosystem at large, and external to the focal IOs, while others were features of the IOs themselves. Two examples of external factors include:

Financial constraints within the broader ecosystem

As a macro issue, our five IOs clearly were aware of the need to scan and proactively engage ecosystem support sources, and distinguish themselves as clearly as possible to attract financial resources. These resources resided primarily with private philanthropies and offices of government with a stake in educational improvement. While all five IOs stressed their openness to (and even preference for) collaborative relationships, both with clients and peer organizations, they were also acutely aware of the implicit pressure to distinguish themselves and their practice frameworks from similar organizations. In this regard, an organization's capacity to engage and operationalize generative research frameworks —as was true particularly of NCS (ie. ninth grade on track research) and NTC (ie. the Wallace Foundation's school leadership frameworks)— was crucial not only to their modes of practice but also to their ability to attract and retain financial support.

Active influence of field-engaged bridging/ brokering agents

Each of the five IOs appeared to benefit from and exploit connections to other organizations (as well as individual persons) that actively sought to deepen ecosystem relationships among potential partners with similar goals and conceptual affinities. In the cases of NTC, NCS, and BPL, the data bear out how many organizational allies they gain from investing time in the field-shaping agendas of Wallace, Schusterman, and Gates Foundations. An intriguing finding from our analysis involves the role of intentionally convened organizational networks in accelerating the formation of mission-relevant connections and the exchange of resources among IOs engaged in school improvement support work. For both EES and NCS, for example, involvement in Gates Foundation grant programs brought them into close and consistent contact with other organizations seeking to network schools more effectively for sustained improvement. For NCS, this yielded a close collaborative partnership with the Core Districts of California involving exchanges of expertise around continuous improvement, and connections with Bank Street Education and the Center for Leadership and Educational Equity around equity practices. In turn NTC has made extensive use of connections with peer professional learning organizations through its affiliation with the national network of professional learning providers convened by the Schusterman Family Philanthropies. A notable function of these networks, then, is to create a neutral space and incentive structure by which potential competitors in fields like professional learning can share problems of practice to mutual benefit. More broadly, we found evidence that philanthropic organizations are playing both a funding role but also a role in brokering connections between other peer IOs and creating learning networks with other peer IOs. There is a difference between work centered on primarily funding IOs and convening IOs that is within and extends beyond to have both practice and policy impact. At the same time, features of each IO's internal organization and culture appeared to impact how and with whom they initiated or pursued ecosystem relationships. Three examples include:

Network for College Success

Established in 2006, Network for College Success (NCS) is a non-profit education organization affiliated located in Chicago and affiliated with the University of Chicago. The mission of NCS is to improve teaching and learning, support freshmen transitioning into high school, prepare students for post-secondary options, foster a positive school culture and climate, and ensure that research and data inform practice. The NCS transformation design at the school level focuses on building school leadership capacity through professional development, job-embedded coaching, and sustaining teacher learning communities. District leaders, school leaders and principals, teachers, and counselors are all included in some form of professional development and participate in applicable learning groups to address problems of practice. NCS also uses networking strategies to organize cohorts of its affiliated high schools for joint inquiry into instructional improvement.

NCS began as a voluntary group of principals working together in association with university staff. But over several years, NCS grew to become an integral partner with the Chicago Public Schools in supporting high school reform, leading to a marked increase in the district's freshman success rate. Today NCS has about 35 full-time staff and an annual operational budget of $5 to 6 million. It continues to work primarily in its home city, supporting in 2020 a diverse cohort of eighteen city high schools, about 15 percent of the total number of high schools in the district. In addition, NCS has been strengthening its national profile, starting with a seven-day summer institute event oriented based on their school leadership capacity building model, and consulting increasingly with state departments of education. NCS receives financial support from more than a dozen philanthropic foundations nationally and many city-centered foundations known for their interest in urban educational improvement. NCS views networking with other educational organizations and those who support those organizations as a critical dimension of their own strategy for organizational growth and development.

Network for College Success	
Who was interviewed?	■ Co-Executive Directors (2 person interview) ■ Senior Director, School Partner Network ■ Director, Research and Continuous Improvement ■ Director, Equity and National Impact ■ Development Director
Balancing mission "non-negotiables" and collaborative flexibility	■ *"So we've got our non-negotiables, we've got our sets of work that we think need to happen. We've got a very clear sense of the design principles of what we're doing... the driver diagram. But we are endlessly flexible at the level of the "how." So that's where we're going to spend a lot of time. And we're going to try to also push them on this area, even though they don't see it as important. And then, you know, we don't have a manual; we don't have a program, really, that we're implementing."*

Balancing mission "non-negotiables" and collaborative flexibility

In various ways the IOs exhibited an adaptive combination of resistance to compromising their core practices and mission "non-negotiables," together with flexible responsiveness to the needs, aspirations, and starting points of their ecosystem collaborators (see quote above). On the one hand, interviewees from all five IOs were clear about the great value placed by their organizations on preserving the integrity of their core principles and practices. As a result they avoided ecosystem partnerships that threatened core values. As one informant observed in the case of philanthropic alliances, "I know there are some philanthropic partners we wouldn't enter into an agreement with, if there were some distinct differences and beliefs about individual humanity and how we identify that." In similar terms a senior officer of STR discussed the firm's staunch resistance to compromising its delivery of research-based content and practices in a potential contract with a state department of education:

> If you're ever in a conversation where someone says to you, "I know what your authors say. I know what many people say is the best research or the best practice... However... we're in a relationship with a publisher, someone who delivers a product, a literacy program, uh, we have a statewide RPI document we've written. You're going to find that research and best practice and what we're doing here aren't aligned. Don't talk about best practice because we've got this program and we're not going to let you diminish people's perception of what we're delivering." We have to pause right there, if there's a conflict that is research based and best for teachers and ultimately for students, but it's not the current program. We just have to exit that conversation. And that has happened….

At the same time, at the level of collaborative enactment of core strategies, the study's IOs took stances of broad flexibility in meeting partners' needs and building joint capacity. Speaking of why other organizations seek them as collaborators, the CEO of EES observed,

> …we are known for having a good sort of inside strategy… we want to be in coalition with you, and we'd like to invite you to serve and for us to help work on this together. And... we have what we think is this fully baked soufflé, and we're hoping you can help us take it through, or, you know, let's all work on this together.

Investments in roles, structures and routines of outreach

In various ways the five IOs in this study had been willing to invest time in developing talent and resources in the allied functions of ecosystem relationship development and management. In the case of three IOs, national boards appeared to figure crucially both in brokering relationships with well-resourced organizations, and in advising on the development of outreach strategies. For BPL, the development of the regional director position has helped BPL to build relationships with state and local education officials more effectively, and supported BPL national staff to better understand affordances and barriers to educational innovation in varied political and fiscal contexts. STR has built a similar set of roles and structures connecting their state offices to national relationship managers, as has NTC. Attention to the flow of information and consultation between these levels of action has afforded these IOs a clearer picture of emerging opportunities for impact in a wider range of locations nationally. As a step in this direction, NCS recently has invested time in developing an "ecosystem map" to better understand the range of organizations with which they might collaborate productively.

Developing a graduated structure of engagement

Service structures that permit potential ecosystem partners to sample an IO's services at graduated levels of commitment also have advantages for attracting early, exploratory connections. This is often an important function of larger scale events and presentations which provide an overview of service options and ascending levels of engagement with the IO. In various ways all five of our IOs offered these kinds of introductory or orienting events to inform potential collaborators, including state and regional LEAs and educator professional groups. But STR's system of gateway and advanced structures for engagement was probably the most elaborated, including one-day introductory events, multi-day events focused more narrowly on specific topics and authors, and on-site coaching arrangements matching the background and skills of STR associates with the expressed goals and assessed needs of schools and districts.

Given that all five organizations are engaging the same U.S. educational ecosystem, we found that these factors are implicated to varying degrees within the strategic orientations and resource investments of all five IO's. For instance, similar bridging and brokering dynamics, and particularly those involving powerful convening agents, were at play in similar ways for all five not-for-profit IOs. At the same time, variation in emphases and engagement strategies was also evident among the five IOs. As the sole for-profit representative in our case sample, for example, STR did report encountering barriers to partnership and funding on the basis of its for-profit status, especially in relation to private philanthropies and to some degree, federal education funding programs. This was attributed by STR interviewees to perceptions among not-for-profit funders that market orientation was not compatible with investments in addressing the needs of poor and urban students, as well as building capacity for equity work in the NFP sector. At the same time, STR's robust budget and revenue streams enable it to invest in staff, logistics, and training necessary to build sustained and productive relationships with state-level policy and regulatory officials. These connections appeared to be less accessible to other IOs with smaller staffs and leaner budgets.

Another difference implicating for-profit vs. not-for-profit differences involved orientations to intellectual content and identity. That is, for-profit STR was the only IO among our focal five which was not invested in developing a signature theoretical framework or a unified, coherent practice framework. Instead, STR's business model involved marketing a range of authors whose work was deemed theoretically coherent and research-tested. In turn, STR used an evaluation algorithm to assess whether potential professional associates —that is, educators who would support and coach the implementation of an author's recommended practices in schools and districts— could claim a three-year track record of leading and supporting school and district improvement. As a result, STR devoted much more attention to engaging non-organizational ecosystem partners as potential collaborators than did the not-for-profit IOs. And STR had a wider palette of content options by which to attract some categories of ecosystem organizations, most notably state education departments and educator professional organizations.

Extent of relational mutuality and factors that shape relationship mutuality

What we learned: Relationship mutuality

Our data suggest a continuum of common interest in these associations, from the transactional, to more sustained alliances, to the integral and "symbiotic."

Three contexts of partnership were notable for their synergy and mutuality:

- Alliances featuring knowledge sharing and skill set complementarity
- Alliances with organizational thought partners
- Joint work organized around strong common values or identifications

In organizational studies, the term "mutuality" refers to the extent to which organizational partnerships exhibit shared interests and goals, trust, interdependence of purpose, and perceived parity in terms of outcomes for each organization (eg. Guest & Peccei, 2001; Mayo-Gamble et al., 2017). In turn, high levels of mutuality in partnerships has been linked to greater effectiveness in collaborative enterprises (eg. Brinkerhoff, 2002). We found pervasive evidence for strong common interests in the range of ecosystem relationships surfaced by our interviews. At the same time our data suggest a fairly broad continuum of "mutuality" in these associations, ranging from transactional agreements for goods and services, to more sustained alliances to shape the policy terrain or standards of practice, to partnerships whose levels of affinity our IO leaders described as integral and "symbiotic." Speaking of STR's close association with the professional learning organization Learning Forward, for instance, a senior officer commented:

> …their director emeritus is one of our authors…we became relevant in both directions and at times intertwined with the leading organization when it comes to PD and its framework. And we really value that. There's not one contract right now that we're working together, but [our CEO] could pick up the phone and get any kind of cooperation from them and vice versa. They ask us for anything, we would do it just because, um, our relationship is symbiotic for sure.

A senior leader at NCS characterized their relationship with a close ally within their home institute's research consortium, in similar terms:

> I think one of the things they value in us is that we, um, we develop and cultivate their audience to be able to understand and translate it. And, you know, they, they care about that. 'Cause they're not, um, they're not academic in the sense of simply speaking knowledge, right. They're trying to change something, and we help them to do that. So it's very symbiotic in that way.

Three contexts of exchange and partnership were notable for nurturing higher levels of synergy and mutuality:

Skill set complementarity

First, several interviewees reported cases of relationships with organizations operating in the same problem space that drew upon each IO's knowledge and skill sets in a complementary and mutually beneficial manner. An officer of NTC, for example, reported several relationships that hinged on using and adapting the tools and protocols of key partners in their own work, and sharing lessons from the work of adapting those tools, thus benefiting both organizations. Network of College Success formed a close association with the Core Districts of California that emerged from their common involvement in building a knowledge base about networking schools for accelerated improvement, funded by the Gates Foundation. While NCS recognized in Core Districts a potential mentor in applying improvement science methods, Core Districts gravitated toward NCS' expertise in organizing high schools to keep ninth graders on track to graduate.

Alliances with organizational thought partners

Interviewees among all five IOs identified relationships with key actors in peer organizations that evinced a strong common commitment to thinking through problems common to the IO's field or practice. One lead officer from EES, for example, distinguished between the majority of their funder relationships and a few that had deepened into collaborative partnership:

> I think there are some of the foundations that we work with where it does feel like a reciprocal relationship where like when a foundation I'm thinking in particular that has a real interest in work-based learning. And they see us as doing really important and innovative work in that area. And they're interested in learning from us and hearing from us how we want to scale and grow the work, and what new directions. And they will then fund what we want to do. And I think there are some foundations where it really does feel more like a true partnership.

Joint work organized around strong common values or identifications

Contexts in which organizations share high levels of commitment to a common movement or set of professional values can help propel deep and sustained work around problems of practice. The proclivity of BPL to invest time in networks with other progressive education organizations, for example, reflects its experience that the resulting learning will prove particularly relevant to addressing problems of student-centered learning practice. In a similar way, an interviewee from NTC was enthused about work recently undertaken in a Schusterman convening, in which several peer teacher professional development organizations pushed hard on problems of measuring and evaluating PD quality based on the work of Thomas Guskey. As he noted:

> The thing that came from the Schusterman conversation was, um, what might it look like if we started actually committing to a common… program evaluation? What would it look like if, you know, we were all talking about net promoter as our way of really thinking about participant experience? What are the things that we might be thinking about in terms of student learning? It's very nascent, but the idea that… we're kind of all on the same track here, but how much more powerful would it be for systemic change if we're measuring similar things.

Resources gained through ecosystem interactions

What we Learned: Resources gained by IOs

Each of the five focal IOs reported accessing a moderate to wide range of resources from their ecosystem interactions.

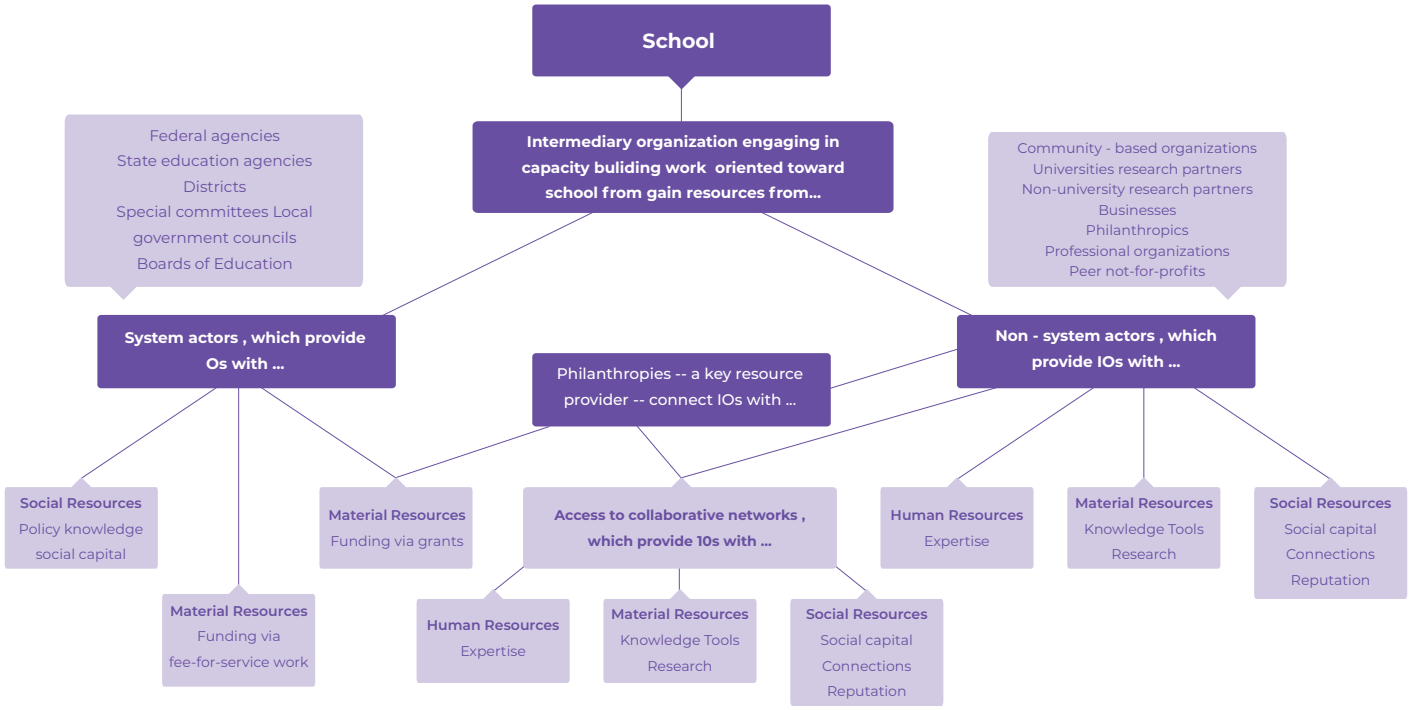
Types of resources included:

- Material resources, particularly financial resources, research/ knowledge and frameworks, and tools
- Human resources, particularly practitioner knowledge, special and technical expertise, and talent/ personnel
- Social resources, particularly long-term collegial relationships yielding opportunities to influence policy, vie for financial support, and sustain lines of communication

Findings revealed a moderate to high range of resources that each of the five focal IOs reported accessing or gaining from their ecosystem interactions and relationships as reflected in Figure 2 below. Russell and his colleagues' (2013; 2015) broad framing of resources that may be gained through ecosystem interactions as material, human, and social provides an entry point for considering ecosystem resources. Within this study, we identified a range of different resources belonging to each of these categories, including: (a) financial resources; (b) tools and other materials; (c) research/ knowledge and frameworks; (d) special and technical expertise (eg., external evaluators, various technology systems or system designs); (e) social capital including such socially-constructed resources as visibility, reputation, trust, credibility; and (f) other forms of human capital (eg., staff roles, ad hoc collaborators, board members). It is important to note that these categories are not mutually-exclusive; some resources may sit in multiple categories (for example, tools may be gained through ad hoc collaborators). In the following paragraphs we categorize and describe each of these using Russell and colleagues' (2013, 2015) framing.

Figure 2

Resources accessed from the educational ecosystem by IOs



New Teacher Center

New Teacher Center (NTC) is a not-for-profit national educational organization headquartered in California that seeks to improve academic and social emotional outcomes for students in the U.S. by providing professional development services to districts, school leaders, and classroom teachers. NTC provides services to state departments of education, districts and other LEAs, schools, and school personnel in nearly half of the states in the U.S., including both urban and rural areas. They impact approximately 8,000 school leaders, 25,000 teachers, and thereby nearly 2 million students each year. NTC serves public schools and districts, charter schools, and some private schools at the pre-K through high school level. At the state and federal levels, they have frequently been policy influencers and collaborators.

NTC was founded in the late 1990›s and originally was situated within a public university setting with a particular mission to support and mentor novice teachers. In the early 2000s, it became a stand-alone non-profit 501-C3, and expanded its mission to include the professional development needs of all teachers and instructional leaders, including school administrators. This was a significant shift in terms of scale of work. Today their mission is to disrupt educational inequity by supporting educator effectiveness, including the capacity of school leaders. They endeavor to do this through developing teacher coaches and mentors, school leader coaches, and fostering the systemic conditions that enable teachers and leaders to be successful. New teacher induction remains a subset of this broader work.

NTC operates from an annual budget of approximately $40 million, combining resources from private philanthropy, government contracts, and local fee-for-service arrangements. NTC employs approximately 100 full-time and 20 part-time personnel, many of whom are "on the ground" working directly with and in schools and school districts. NTC also has a policy team that engages policymakers at the state and federal levels to shape legislation, rules, regulations, and professional standards.

New Teacher Center	
Who was iInterviewed?	■ Senior Advisor, School Leadership and Impact ■ VP, Programs ■ Director, School Leadership ■ Senior Director, Federal Grants ■ Senior Director, Program Solutions
Accessing material resources & alliances featuring knowledge and skill set complementarity	■ NTC has a strong reputation as a designer of effective tools and protocols to support teacher learning. In addition, NTC reported several relationships with ecosystem partners that afforded additional tools and protocols as resources to help accelerate NTC's capabilities in emerging practice areas. ■ *"So in terms of tools, there were some areas where we just needed partnership and support… And so we partner with a couple of organizations to provide us with tools. Student task analysis is one thing. So we partner with the Education Trust to use their math and literacy guide that has multiple parts. And so we use that as a part of our trainings as well. Another partnership is Student Achievement Partners… we partner with them just to use some of their tools for classroom observation, and measuring the standards and shifts in classrooms. And we applied some of that to the coaching work too, over the last few years."*

Material resources

Material resources tended to be the most-commonly acquired by case IOs and we noted a broad assortment of material resources including financial resources, research/knowledge and frameworks, and tools. In terms of financial resources, IOs sought financial resources through various sources such as grant funding from philanthropic sources in the educational ecosystem. For example, an EES staff member recounted the importance of having a strong group of funders within New York City:

> You were asking about private funders… [Our city] is lucky to have an enormous national and local philanthropic community around youth and education. And those funders are relatively well-organized. So there is a philanthropy group that convenes the youth funders [in the city], I would say about 20 funders regularly meet every six weeks, and there are chairs that rotate... And I have presented to that group probably four times this year. So it is a wonderful way to help... You're not allowed to solicit them when you present to them. Although most people do. It's like, 'If only someone would fund this.' It's also a chance to influence their thinking and to have a real conversation with them about the opportunity to influence the system and the kinds of work that needs to happen.

Importantly, philanthropic funds can enable IOs to work with particular schools or districts in fee-for-service work, as this NTC leader reported:

> So who funds the work? So, districts are able to use a lot of their federal funds and a variety of ways to fund the work. So there's federal funds that they use. There's local funds that they use. We also work to partner with local foundations to help fund it. So we'll partner with, say, the Houston Endowment and we'll say, 'Hey, we're really looking to do this work with the district. The district is putting in this much money. If we get this much money from you, we can do X, Y, Z.' So we broker small, philanthropic partnerships that are place-based.

As this example makes clear, IOs may broker financial resources on behalf of system entities such as school districts to ensure that system entities will not face financial barriers to engaging IO services. In this way, philanthropic funding can meet gaps in funding available to schools and districts.

Findings also revealed that case intermediary organizations also receive financial resources from system entities such as state and federal departments of education, which occurs in a few ways. First, IOs may receive funds from system entities in the form of grants. For example, EES receives grants from its home city's city council and from the state's Office of Family and Child Services. EES in turn sub-grants some of these funds to other IOs within the system--primarily community-based organizations conducting after school programs with schools. The NTC currently has a large grant from the Education Innovation and Research Program, a prominent and competitive federal grant program run through the Office of Elementary and Secondary Education.

Intermediary organizations may also receive financial resources from state and federal funding sources via their work in schools. Essentially, schools and districts receive funds from higher levels of government, which the schools and districts then funnel to IOs. An interviewee from NCS revealed a helpful example of this:

> Federally, when federal funds come in, such as through school improvement grants, ... that will impact us because it means there might be new services or new opportunities for educators in schools. And districts might say, 'Hey, we have this funding, help us think about what we should be doing with it, or how we should implement it, or what's the best way to think about building capacity with it.' So we might provide thought -partnership and there might be new opportunities. More districts might be able to come to our fee for service events because there's kind of an increase in funding.

As this example makes clear, financial resources can be spurred by educational policy at the federal level by way of increased funding being sent to schools and/or districts, which then may use that increased funding to secure services from IOs. Funding earmarked in COVID-19 legislation, such as the CARES act, was mentioned by a number of interviewees across the IOs as a recent source of financial resources; funding went to schools, which then funneled that funding to the IOs.

Interviewees also provided examples of gaining research/knowledge and frameworks from other ecosystem actors. Each organization acknowledged the contributions to their knowledge base through specific interactions with a range of ecosystem players — philanthropic, research organizations, and national not-for-profits whose missions included original research, policy analyses, and reviews of extant research in key fields of interest. EES has drawn material resources from experts within the ecosystem, such as a coalition centered around research, CASEL, to support the development of their work:

> We've drawn a lot from CASEL at Yale around our social and emotional learning work. We're really invested in after school being a space that supports the social and emotional learning needs of children. And so we've learned a lot from experts in that field about what that looks like and trauma-informed care and healing-centered practices, and really what that looks like and how we should be training after school educators to meet those needs of our youth.

Another example is that of NCS, which has built its own work off a research report on adolescent development needs published by a research consortium located within its home university in addition to work done by the Carnegie Foundation for the Advancement of Teaching in relation to continuous improvement. Similarly, an interviewee from the NTC stated that, "We took a lot of research actually from the Wallace Foundation. So the frameworks that we use, that we built upon, it was actually a series of research briefs that the Wallace Foundation has written in the last ten years". As is revealed in this example, another ecosystem actor —the Wallace Foundation— produced knowledge that was instrumental to NTC's current work. This makes clear that ecosystem actors may depend on resources from one another to carry out their work.

Finally, IOs may also gain material resources in the form of tools from other ecosystem actors. For example, the NTC has partnered with multiple organizations to acquire tools that are crucial to their work:

> …in terms of tools, there were some areas where we just needed partnership and support. So we realized that things like, if we talk about the instructional core, we realized that in terms of our PD, we needed more. And so we partner with a couple of organizations to provide us with tools. Student task analysis is one thing. So we partner with the Education Trust to use their math and literacy guide that has multiple parts. And so we use that as a part of our trainings as well. Another partnership is Student Achievement Partners. And so with Student Achievement Partners, we partner with them just to use some of their tools for classroom observation, and measuring the standards and shifts in classrooms. And I applied some of that to the coaching work too, over the last few years.

In this example we see that NTC has utilized tools from a variety of organizational partners to guide their work in schools. In another excerpt, NTC described using tools stemming from Thomas Guskey's five levels of data for evaluating professional learning in the professional learning that they conduct. Similarly, EES has utilized CASEL's Out-of-School Time Tools to examine social and emotional learning in environments outside of traditional school hours—appropriate for EES given that it focuses on after school opportunities. Finally, NCS has also derived tools that they consider to be instrumental to their work:

> SF-CESS [San Francisco Coalition of Essential Small Schools] has been instrumental for us when we think about the equity work that we do both internally, because we believe that we can't work on racial equity with our schools, if we're not committed to doing the work ourselves as an organization. SF-Cess has created a number of different tools regarding race and identity and equity and, and protocols in terms of how we can talk and do this kind of work, which is really emotional work, which is really personal work that has historically been seen outside of the realm of professionalism. They've really helped us think about how to do that both as an organization and with schools.

Each of these examples make clear that IOs are likely to make use of other organizations' tools in their own work.

Human resources

Case intermediary organizations also obtained human resources from the ecosystem, including special and technical expertise, and other forms of human capital. One key form of human resources the IOs reported obtaining from the ecosystem was that of special and technical expertise. Solution Tree provided an interesting example of this, as their model is reliant upon special expertise; the expertise of its affiliated authors are the key service STR provides and draws profit from. Additionally, STR engaged the international firm Salesforce to provide an SAS platform that would support a cloud-based internship tracking system. Similarly, the NTC drew on the technical expertise of Extension Engine to help design a searchable artifact repository to facilitate client access to a wide range of NTC tools and protocols. EES has also drawn on the expertise of other individuals within its ecosystem. Specifically, interviewees reported that EES participates in a policy working group related to youth issues and takes learnings from that group back to its own work. Evaluation services were a type of technical expertise of particular use to the study IOs in that evaluations allowed IOs to ascertain the efficacy and impacts of their intervention models. For example, BPL connected with the Learning Policy Institute, which then conducted a study of the BPL school innovation design, yielding helpful information related to BPL's work.

Individuals with talent or expertise located within the ecosystem may also provide resources to IOs. In relation to human-oriented resources, while IOs gained material resources from ecosystem actors via research, internet searches, books, and other methods, case IOs sometimes gained human resources through actively collaborating with or bringing in individuals to support their work. Interviewees from BPL provided multiple examples of this form of resource acquisition. BPL has collaborated with individuals from other organizations who have been key connections and sources of support for BPL's work: "Clay Christianson was an advisor to our executive director, who you spoke with. He was on their issue committee, and I'm guessing that's how the connection to his institute happened. And Julia Freeland Fisher, who leads the work on social capital out of their shop, has been a partner and a supporter of BPL for a number of years." Another example from BPL is that they brought in Nikole Hannah-Jones, a prominent journalist who covers racial injustice for The New York Times Magazine, and created the 1619 Project, to lend her expertise related to issues of racism in the United States. Similarly, they brought out author Linda Nathan to talk about the implications of her latest book, *When Grit Isn't Enough* (2017), which explored issues of systemic inequity in education. In each of these examples, BPL worked directly with particular individuals who possess expertise or technical capital of use to the organization.

Social resources

Finally, IOs obtained substantial social resources, or social capital, from the ecosystem. In general, all five case IOs echoed the perception that cultivating long-term relationships with government agencies, collaborative networks, and national philanthropies helped build their public profile in ways that translated to more opportunities to influence policy, vie for financial support, and sustain lines of communication relevant to strategic and long-term planning. In relation to cultivating relationships with government stakeholders, the CEO of EES provides an example:

> The place where we seek to have the most influence is in kind of the school support services [in the district]. So, the person who runs that agency, we've spent time building a relationship and reaching out and communicating. So, making sure to the point where if something comes up that's affecting the field or is serving as a barrier, we could ask for 15 minutes of her time and would get it because we have trust and we know her and vice versa.

By connecting with the person running the school support services agency within the district, EES was able to access the social capital of that agency individual in that EES can speak directly with her as needed. This facilitated EES's work in that the agency official could potentially address barriers to EES's work or lend support in other ways. An interviewee from STR discussed the importance of having a "legislative champion" who can connect their IO to resources and opportunities—especially financial. And, an interviewee from BPL also discussed the importance of connecting with government officials in their work:

> Interviewer:
> Are state education agencies something that you engage with at various levels to both influence and bring BPL to their attention? How did, how, if at all, are you engaging with state agencies?
>
> Interviewee:
> Not that much, but I think that's an area that we definitely want to connect more intentionally with. As we think about policy and trying to help and shift policy, I feel like we have a lot to say about what personalization is, how we think of it... so I think we really have strong opinions about some of those things. And so those things rest at a policy level. So it's definitely an area that we want to be more intentionally engaged with...That's I think an opportunity for us to be seen and heard in ways that could impact policy.

While BPL does not currently work directly with government agencies, this quotation shows how government agencies could provide the social capital for IOs to impact policy. Being "seen and heard" could lead to the ability to impact policy; given that many of the IOs involved in this study envision influencing policy as a key goal, being provided the opportunity to do so is a key resource to these IOs.

Collaborative networks also provided study organizations a source of social capital. Working with other, similarly-minded organizations within a network can provide opportunities that IOs may otherwise not have access to. For example, BPL participates in a coalition that advocates for multiple pathways to high school diplomas. This coalition has provided BPL opportunities to advocate for career internship learning options in meetings with state officials, and has generally established BPL as an expert practitioner in the career and technical learning arena. Being more visible in the field may well-position BPL to receive grants. For the EES Director of STEM programs, engaging in networks and other teams provided opportunities to interact with policymakers (and therefore influence policy):

> I would say that at the federal level, there is, through our participation in some national networks there, opportunity for us to be part of a larger sort of advocacy community providing guidance for the federal government, either in the form of policy or funding priorities in line with the needs that we see in the field.

By interacting with the federal government, EES is able to influence policy and funding in a way beneficial to the field, and to EES.

Finally, national philanthropies were a source of social capital for case IOs. In particular, considering the learnings elsewhere within this report that national philanthropies are likely to be entities that have organized collaborative networks, interactions with philanthropies can connect IOs with social capital. We further review the role philanthropies and their collaborative networks play in shaping resource flow in detail within the following section.

Factors that shape resource flow

What we learned: Factors that shape resource flow

Several factors shaped the flow of ecosystem resources to the case IOs, including:

- The type of organization affording the resource
- The context in which the organization is situated
- The prominence of the organization within the greater ecosystem
- The IO's participation in collaborative networks
- Participation in collaborative networks was the most-frequently mentioned factor shaping resource flow.

A number of factors shaped the flow of ecosystem resources to the case organizations. These factors included the type of organization, context in which the organization is situated, the prominence of the organization within the greater ecosystem, and participation in collaborative networks. Of all of these factors, participation in collaborative networks was the most-frequently mentioned factor that shapes resource flow.

First, organization type was likely to impact resource flow, with for-profit organizations being potentially limited in the resources they may gather from the ecosystem. A key example of this is STR, which faced particular challenges in connecting with and deriving resources from other ecosystem entities. When asked whether STR's for-profit status impacted its work, the STR interviewee stated,

> Absolutely. One of the first things that an expert consultant said is, 'Have you ever thought of having a companion nonprofit?' --because you can be completely transparent about it. You could have this thing called Solution Tree Inc. and you could have this thing called Solution Tree Foundation, and you would get people to come to the meeting that won't come because you send them an email that ends in 'dot com' and they're not gonna participate in that. They need the optics to be right. Let alone the substance of who they work with."

For STR, having a for-profit status makes it challenging to secure philanthropic funding (ie., the same informant quoted above stated "there isn't one" when asked about important relationships with funders) and to form relationships that could result in the flow of resources.

The context in which an IO is situated (eg., state, city) also shaped the flow of resources to IOs. For example, per the quote above in the section on material resources, EES has access to a group of around 20 philanthropies based within EES's home city that provide access to funding and social capital. As the interviewee said, EES is "lucky to have a… local philanthropic community around youth and education." Locating funding and other resources may be more challenging for IOs located in smaller cities or other contexts without a strong philanthropic community. While we did not see examples of this within the data, EES's experience suggests that organizations located in areas without a strong philanthropic community may struggle to locate material resources.

Another factor that shaped resource flow to IOs

is the prominence of IOs within the ecosystem. IOs that are well-known and well-perceived may be more likely to receive financial or other resources. For example, an interviewee from BPL described the importance of BPL's legacy in securing philanthropic funding:

> One of our funders has invested in this now for one year and we're hoping they're going to renew soon for a second year. It seems like they will. How did they come to us? I mean, again, BPL has a legacy, and philanthropies have money that they need to spend on impact. And we're a reliable partner.

This interviewee asserts that because BPL has a legacy —presumably of making an impact in schools— BPL is likely to receive funding for a second year. This same interviewee subsequently discusses the importance of being known when trying to get state contracts (which would provide funding for services):

> A big corporation like Pearson can come in and sell to a state... they have the lobbying power, they have the marketing muscle and the legacy experience to go into state education offices and people pay attention to them. We don't have that. We just don't. We have little cracks once in a while, but nothing's proved fruitful yet. And most of those cracks come from the long-established relationships that our co-founders had.

In other words, because BPL does not have a strong legacy or strong connections, it has been challenging for BPL to win state-level contracts. For EES, a strong reputation has catalyzed fee-for-service work in other districts outside of EES's home city:

> And so, even though most of our work is in New York City... I've done technical assistance work with other parts of the state. So I've worked in Rochester, Port Chester, Yonkers, did some work for a short period of time in Connecticut. So those were instances where school districts may have reached out to us and said, 'Hey, we know ExpandED Schools. We're just starting an out-of-school-time program, or we'd love to be able to access your professional development. How could we make that happen?' And then we customize a plan. So a big piece of how the outreach work works or bringing new schools on board is definitely reputation because we were a pioneer in bringing schools and community-based organizations together.

Because EES is a prominent pioneer in its field, other entities within the ecosystem seek it out, providing financial or other resources. Similarly, for the NTC, a strong national reputation has resulted in NTC being on an approved list of vendors with states and districts, meaning that it is more likely to receive financial resources. To put all of this data concisely, who you know matters, and who knows you matters. IOs that are well-known and well-connected within the ecosystem are likely to have access to ecosystem resources. The prominence of IOs closely relates to networks, as networks can and often do bring IOs to the attention of other organizations that are able to provide material, human, and/or social resources. We discuss networks in the next paragraph.

A final key factor that shaped the flow of these resources was that of collaborative networks and the convenings held by these networks. A notable function of these networks was to create a space within which ecosystem stakeholders sharing common problems of practice could share material, human, and social resources to the greater benefit of the field. For both EES and NCS, for example, involvement in grant programs brought them into close and consistent contact with other organizations via collaborative networks run by philanthropies. For NCS, a Gates Foundation network yielded a close collaborative partnership with the Core Districts of California involving exchanges of expertise around continuous improvement, and connections with Bank Street Education and the Center for Leadership and Educational Equity around equity practices. For EES, affiliation with the Charles and Lynn Schusterman Family Philanthropies and its national network of professional learning providers catalyzed multiple connections with peer professional learning organizations. Quotations related to these networks have been listed elsewhere within this report. On the other hand, STR did not enjoy access to this kind of professional network because its for-profit status created challenges to its ability to partner with granting organizations.

CHAPTER SIX
CONCLUSIONS AND IMPLICATIONS

Broadly, this report generates important insights into the relational and resource landscape within educational ecosystems surrounding schools in the national context of the United States as well as about the value of these contexts for non-system IOs. Although we looked at only five such IOs to understand their ecosystem relationships, we surfaced the names of dozens of organizations and individuals with which the five organizations were engaged in substantive relationships that delivered significant ecosystem resources to each organization. The sheer scale and density of the educational ecosystem and the range of ecosystem resources that were accessed by these organizations is noteworthy. All five organizations reported an assortment of interactions with and resources gained from the ecosystem. Given that little attention has been given to unearthing and understanding the kinds of interactions that occur between various educational ecosystem entities, this finding is noteworthy. Additionally, the extent of interactions that were evidenced and the range of resources that were gained also suggests the importance of ecosystems to this collection of more mature non-system IOs. To be specific, these findings suggest that more mature national contexts, like the U.S., are likely to hold promise as a relational and resource rich ecosystem context that could be leveraged by non-system IOs for capacity building, and by extension, in their service to and work with schools.

The prospect of leveraging educational ecosystems as a facet of non-system IO capacity development is important for several reasons. First, as we elaborate in Chapter Three, a broad assortment of factors have contributed to the current global presence of non-system IOs working directly with schools, and especially those schools that have historically been underserved and proven the most challenging to improve. Given the pressure for improving student learning and the pervasive lack of adequate resources experienced by so many schools across the globe, two issues that are not likely to subside in the near future, there is no reason to expect a reduction in the "demand for" (Hatch et al., 2019, p. 2) non-system IO engagement with schools. Certainly, this amplifies both the concern about the internal capacity of IOs to provide adequate leadership resources and supports to schools (Hatch et al., 2019; Meyers & VanGronigen, 2018) as well as the need for insights that might be vital to their capacity development. This study contributes to the latter need by revealing the ecosystem as a context that could prove viable for supporting such capacity building, and by making visible how such a strategy might be enacted by non-system IOs as they seek to better access and make use of the surrounding educational ecosystem in their capacity building efforts.

More specifically, this report generates important insights about the educational ecosystem interactions, relationships, and resources that were accessed by five non-system IOs. Importantly, it makes visible the nature, types, and purposes of interactions that could prove vital to such IOs as well as issues associated with interaction initiation and stability. Although prior research has more generally explained ecosystem interactions between various ecosystem entities for the purposes of collaboration, when organizations have shared interests or goals, and resource attainment (DeBray, 2014; Haddad, 2020; Hatch et al., 2019; Russell et al., 2013, Massell et al., 2012; Orphan et al., 2021), our findings provide more granular insights about the kinds of organizational needs that could be addressed through ecosystem interactions.

Although seven distinct ecosystem interaction purposes were noted, we draw two purposes forward for additional discussion. Research suggests that the collection and analysis of impact data is not likely to be a common practice among IOs (Meyers & VanGronigen, 2018). As a result, many IOs are not likely to have evidence about the impact of their work on schools or students. Not only did each of these organizations report such areas of work, but they engaged the educational ecosystem for such purposes. Thus, these organizations

provide insights that could be of value for other non-system IOs that have yet to make traction on assessing their impact. Second, each of these organizations allocated time for ecosystem interactions for the purpose of building standing and reputation. There is certainly reason to suspect that these two actions, independently as well as in combination, may have contributed to their relative success at gaining resources from their ecosystems (Bloemraad & de Graauw, 2020; Walker & Grossman, 1999).

Our findings also reveal the types of relationships that are likely to be formed with others in the ecosystem and shed light on the key factors --both internal to the organization and associated with the border ecosystem-- that are likely to shape relationship formation. Related to the latter point, prior research largely draws attention to external factors, such as key events or networked gatherings, as catalyzing relationships (Cooper, 2012; DeBray et al., 2014; Haddad, 2020; Russell et al., 2013). Our findings suggest that both internal and external factors are at play in shaping relationship formation between non-system IOs and other entities in the ecosystem. Chief among these internal factors is the organization's investment in roles, structures, and routines within the organization that lend support for ecosystem scanning and outreach, particularly as the scope and scale of the organization's work increases. Not surprisingly, the importance of infrastructure to organizations has emerged in other contexts and for other purposes (Hopkins et al., 2018). Thus, this finding helps to connect this concept to IOs and their ecosystem interactions, and these cases offer illustrations of infrastructure considerations and designs that could be of value to other non-system IOs.

Lastly and importantly, our findings make visible an array of resources that might be accessible within the ecosystem that could prove vital to non-system IOs, and by extension, the schools served by such organizations. Although we have come to regard three categories of resources as useful to IOs — material, human, and social resources (Russell et al., 2013, 2015)-- this study provides more granular insights about particular kinds of resources within these three broad category types that might be accessed by non-system IOs from their ecosystem. Importantly, our findings begin to fortify the bridge between various resources and the kinds of key organizational needs that could be addressed through such resource access. Taken collectively, this constellation of insights about ecosystem interactions, relationships, and resources are likely to be of value to non-system IOs as they look to their ecosystems for capacity building support.

Beyond implications for non-system IOs, these findings also generate implications for policy and practices intended to shape educational ecosystem or ecosystem development. We draw attention to several points for deeper consideration. First, understanding the assortment of ecosystem entities and resources that these organizations drew upon makes visible key entailments of an educational ecosystem of value to non-system IOs, which could in turn be drawn upon for considering the nature and quality of such ecosystems more generally. Thus, this information would be of value for those in positions to act on shaping or cultivating these sorts of ecosystems or addressing ecosystem gaps. Consistent with prior research (Cooper, 2012; DeBray et al., 2014; Russell et al., 2013), we saw strong evidence of multiple benefits of networks that were formed to bring together some segment of an educational ecosystem—oftentimes groups of peer IOs and one or more philanthropic organizations. Further, prior research points to the importance of such networks for harnessing non-system actors' "expertise and other resources not found in sufficient concentration in the formal [education] system" (Russell et al., 2015, p. 16). But our findings also make visible an assortment of benefits that can be accessed by non-system IOs through network engagement. Beyond brokering important connections between organizations and individuals, and raising member organization visibility, networks are likely an important strategy for substantive knowledge sharing and practice inquiry in the ecosystem. However, there are many network implementation and management issues to consider if the utility of networks is to be achieved (Russell et al.,

2015). Although beyond the scope of our study, others have pointed to the complexity of network management and to the kinds of issues that should be considered (Russell et al., 2015) by those undertaking network design and management as part of an ecosystem development approach.

Lastly, these findings suggest areas for future research. Broadly, our study bolsters arguments for more systematic study of the range, breadth, and geographical or national diversity of ecosystem entities as they engage with non-system IOs as a conduit of resources to schools and districts. Such examinations may, among other things, help to clarify the difficulties faced by non-system IOs in other national contexts with much more sparse ecosystems to draw upon. Second, although we took important steps to make sense of the kinds of ecosystem interactions, relationships and resources that prove useful to these organizations, we left several related questions for further exploration. Given that we conducted this study during the pandemic at a time when most schools were physically shuttered for large portions of time and all were facing considerable disruption, we did not engage schools to further trace the flow of ecosystem resources from these organizations into schools. Given that these organizations are likely to be a primary source of external leadership for schools, it would be useful to make sense of how accessed resources are activated by these organizations and transferred to others or otherwise made use of by them in their work with schools; how these resources shape the work in schools and/or become connected in some fashion with educators in schools. Third, given the maturity of the five non-system IOs, an indication of their survival over time, and levels of impact data, our study may point to skillful ecosystem engagement as a positive contributor. Both the attention given to ecosystem engagement by the case organizations and the diversity of the resources captured through this engagement suggest the need to further investigate the hypothesis that a potentially potent factor in non-system IO success, especially under competitive conditions, hinges on the capacity of such organizations to forge and sustain targeted ecosystem partnerships, selectively and strategically.

ABOUT THE AUTHORS

ABOUT THE AUTHORS

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ABOUT THE CENTER FOR URBAN EDUCATION LEADERSHIP

About the Center for Urban Education Leadership

The Center for Urban Education Leadership (CUEL) is a research and development center housed in the College of Education at the University of Illinois at Chicago in Chicago IL, USA. We are researchers, developers, and policy advocates with expertise in educational leadership, organizational development, continuous improvement and equity/social justice. We are driven to use our expertise and passion to IMPACT the lives of PK-12 urban students locally and throughout the world. Independently and in collaboration with other research/development organizations, CUEL has secured over $16 million to fuel a broad assortment of research and development projects. Learn more about our work at: https://urbanedleadership.org/

ABOUT WISE

The World Innovation Summit for Education was established by Qatar Foundation in 2009 under the leadership of its Chairperson, Her Highness Sheikha Moza bint Nasser. WISE is an international, multi-sectoral platform for creative, evidence-based thinking, debate, and purposeful action toward building the future of education. Through the biennial summit, collaborative research and a range of on-going programs, WISE is a global reference in new approaches to education.

The WISE Research series, produced in collaboration with experts from around the world, addresses key education issues that are globally relevant and reflect the priorities of the Qatar National Research Strategy. Presenting the latest knowledge, these comprehensive reports examine a range of education challenges faced in diverse contexts around the globe, offering action-oriented recommendations and policy guidance for all education stakeholders. Past WISE Research publications have addressed a wide range of issues including access, quality, financing, teacher training and motivation, school systems leadership, education in conflict areas, entrepreneurship, early-childhood education, twenty first century skills, design thinking, and apprenticeship, among others.

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DISCLAIMER

The views and opinions in this publication are solely those of the authors. Errors and omissions remain the responsibility of the authors.

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