

University-Agency Partnerships to Strengthen Preschool: Four Examples of Improving Preschool at Scale

In 2013, President Obama highlighted pre-K as “among the smartest investments that we can make” and called for making “high-quality preschool available to every single child in America.” Likewise, states and cities nationwide have made major investments in publicly-funded pre-K expansion over the last several years (Barnett et al., 2016). Evidence that pre-K is cost-effective and produces impressive long-term impacts decades following participation (Belfield, Nores, Barnett, & Schweinhart, 2006; Campbell et al., 2012; Schweinhart et al., 2005) has been cited to justify this substantial investment.

In order to fulfill the promise of pre-K, we have to identify ways to ensure high quality at scale. Public and private investments have led to greater rigor in research on pre-K, on the one hand, and a push for districts to implement evidence-based programs, on the other. Despite these parallel and seemingly reinforcing trends, the gap between research and practice remains large (Tseng, 2012). In short, the problem is that research findings often offer only limited guidance to navigate the system-level challenges faced by district personnel in actual, highly-varied educational contexts, with constraints and opportunities not well represented in highly-controlled studies (Bryk, 2009; Easton, 2014; Raver, 2013). To address this gap, leaders in education research have called for innovation in how social science is deployed to solve educational problems—and research-practice partnerships have emerged as a uniquely effective solution for this issue (Easton, 2012; Tseng, 2012).

In this proposed *SREE* session, we will highlight four examples of research-practice partnerships to delineate key activities that characterize such partnerships, while simultaneously using the examples to highlight the ways in which this approach has provided effective solutions to inform policy and practice in the early childhood education field. Our papers represent partnerships underway in four distinct locations: New York City, Boston, Chicago, and three communities in Connecticut and discuss four key unique features of partnerships: a) seeking questions from the field; b) building capacity for research infrastructure; c) conducting “fast-response” research for timely answers, and d) embedding rigorous evaluations in programs at scale. Two discussants have agreed to provide comments: an IES Project Officer will do so from the perspective of a federal funding agency; an Education School Dean will speak to the contribution to scholarship and practice of this kind of work, as well as how this may or may not fit with the strategic direction for schools of education in university settings.

By helping early education leaders answer questions of high practical relevance as the programs are being implemented in cities and counties, these partnerships aim to provide the kind of information that policymakers and practitioners overseeing these initiatives need to strengthen their program and thus meet their long-term goals of supporting the learning and development of young children through pre-K.

A University-District Partnership to Support NYC's Pre-K for All: Embedding Rigor inside a Scaled-up System

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Background:

Based on research that early education is key to addressing children's risk of academic failure, New York City (NYC) leaders launched a historic undertaking in 2014 to offer "Pre-K for All". This program marked a commitment of NYC's Department of Education (DOE) under a strong directive from the Mayor to provide free, full-day, high-quality pre-K to every NYC four-year-old child. Through Pre-K for All, the city transformed a system that originally served 19,000 students to one that served nearly 70,000 children. While the speed and scale of this expansion is impressive by itself, what has been equally noteworthy is the city's accompanying effort to building a strong quality infrastructure, with data-informed decision-making to differentiate supports such as on-site coaching and Professional Development (PD).

This project leverages the successful partnership that has developed over the past several years between researchers at the Steinhardt School at New York University (NYU) and NYC's early education leaders at the Department of Education (DOE). The partnership was initially designed to address relatively straightforward descriptive questions to provide an early read of the program to city leaders. It has since evolved to comprise co-development of an increasingly robust professional development system and accompanying research infrastructure and pilot studies for ongoing quality monitoring. This paper describes the next step in the partnership—building in a rigorous analysis of a core component of the professional development system.

Objective:

The aim of this phase of the partnership project is to examine an innovative model of PD within the program. This is a jointly-conceived project that evaluates a centerpiece of the program in which sites are assigned to one of four PD tracks that differ in area of focus and targeted teacher practice. We do so by leveraging natural occurring lotteries that assign children to "treatment" and others to "control" through NYC's pre-K application process and pairing that with a strategy that attends to issues of generalizability (using propensity score methodology). This paper will discuss the process by which the city and university partners designed the study to simultaneously balance the need to be responsive to DOE questions while still ensuring the questions were "answerable", addressed rigorously, leveraged the city's commitment to parental choice, and contributed to the early childhood education field. We will also discuss the benefits and challenges of such a design in a large-scale system like NYC.

Setting and Sample:

Pre-K for All, the city's commitment to providing free, full-day, high quality pre-K to every 4-year-old in NYC, was launched as a citywide mayoral initiative involving multiple agencies and partners. Through Pre-K for All, the city expanded a system that originally offered 19,000 students pre-K in 560 programs to one grew in two years to 68,500 children in 1,850 sites (2015-2016). The city currently serves approximately 70,000 children across about 2,000 sites. Our collaborative study focuses on approximately 2,500 children in 250 sites.

Intervention:

Pre-K for All sites are assigned to one of four professional development tracks:

- *NYC Pre-K Explore* combines an evidence-based math curriculum known as Building Blocks (Clements & Sarama, 2008; Sarama, Clements, Starkey, Klein, & Wakeley, 2008) with research-based interdisciplinary units developed by the DOE.
- *NYC Pre-K Thrive* sites receive instructional and family-level tools with evidence-based strategies (from Parentcorps; Brotman et al.) for supporting children's social-emotional development, behavioral regulation, and family engagement.
- *NYC Pre-K Create* is an arts-based approach with the goal of incorporating visual arts, dance, theater, and music into ongoing instruction to promote learning across domains.
- *NYC Pre-K Inspire* has professional learning sessions that are tailored to the needs of pre-K teachers and leaders, and include a variety of topics aligned to the district's quality standards that support early child instructional goals.

Our expectation is that each track, because of its specific focus, will have differing effects on varying aspects of teachers' practice and, in turn, outcomes for children. Our partnership study is designed to test these effects.

Research Design:

Pre-k assignments of children to sites in NYC are conducted through a complex algorithm, and, following the innovative methodological approach used by Bloom and Unterman (2013, 2014), our study intends to leverage this complex assignment process to estimate causal impacts of PD tracks on outcomes for children. On the pre-K application form, NYC parents list up to 12 pre-K sites they wish their child to attend, in order of preference. At the same time, the NYC DOE specifies the "priority grouping" of each child, which is based on residence within a geographic area and whether the student has a sibling at the site. This approach produces "lotteries" within priority grouping when applicants exceed site slots.

We will rely on two complementary analytic approaches to address our aims. First, we will leverage a natural experimental design (i.e., pre-K site lotteries which create natural treatment and control groups) to estimate causal impacts of winning seats and enrolling in sites in a given PD track. Second, we will use propensity score analyses that aim to create equivalent "treatment" and "control" groups based on observed indicators at the site and child levels. Data collection includes measures of teacher practice embedded in the Pre-K for All system and measures of outcomes for children collected in Pre-K and in Kindergarten.

Conclusion

This partnership provides the kind of information the city needs to make decisions about the strength of their PD system and the ways in which differing PD tracks may support differing aspects of children's school readiness when implemented at scale in Pre-K for All sites. Doing so will guide the city's efforts to refine the PD system and meet quality-improvement goals. We will discuss how we came to select this question to address, how we designed the analysis approach in collaboration, and, finally, how that question allows us to maximize the city's commitment to quality while still meeting standards of rigor that define contributions to the broader early childhood field.

Addressing Rigor and Timeliness Tensions in a Research-Practice Partnership in the Boston Public Schools

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Introduction. A primary goal of many research-practice partnerships is producing rigorous, timely research that can inform policy and practice decisions in a given context. However, rigor and timeliness often conflict; careful studies can take years, while policy and practice decisions are often made in a matter of weeks or months.

This tension is one that we have felt deeply in our ten-year research-practice partnership between the Boston Public Schools Department of Early Childhood and a university-based research team. The goals of our partnership include: 1) identifying and answering questions from the ground and questions from the broader field that can inform district decisions, with particular attention to overlap between the two (Authors, 2013a); 2) producing rigorous evaluations of the district's P-3 programming (Authors, 2013b); and 3) producing timely research that can inform district and departmental policy and practice decisions (Authors, 2010).

In our SREE presentation, we will focus on all three of these goals and how our work reflects them. We will give particular attention to goal 3 -- producing *timely* research that can inform partner policy and practice decisions -- as it has proven to be the most challenging in our context. Below, we present two examples of how we have experienced and navigated this tension.

Example 1. One critical decision the district faced was whether to pursue National Association for the Education of Young Children (NAEYC) accreditation for all district elementary schools. In brief, the NAEYC accreditation process is intended to improve program quality through ensuring that participating early childhood programs meet a set of ten program standards focused on four main domains: children, teachers and staff, management and

administration, and family and community relations. Though NAEYC accreditation is widely considered a marker of quality by the early childhood field, our literature review revealed that there is limited empirical evidence on the effects of NAEYC accreditation on classroom quality and child outcomes (Minnesota Department of Human Services, 2005; Whitebook et al., 1997). Accordingly, in 2008, using available district data, we examined whether undertaking accreditation was associated with higher classroom quality in the group of early adopters of the approach in the district versus other district classrooms. Importantly, schools had selected into accreditation and the level of rigor we would have preferred was not possible in time to inform the district's decision making process. As shown in Figure 1, NAEYC accreditation was associated with meaningful improvements in classroom quality (Authors, 2010). The district subsequently used results of this analysis as one piece of evidence in informing its decision to expand NAEYC accreditation to more district schools. Analyses in 2010 and 2015 also examined the role of NAEYC accreditation in the district; the 2015 results led to a shift in NAEYC work to emphasis on cognitively demanding tasks for students.

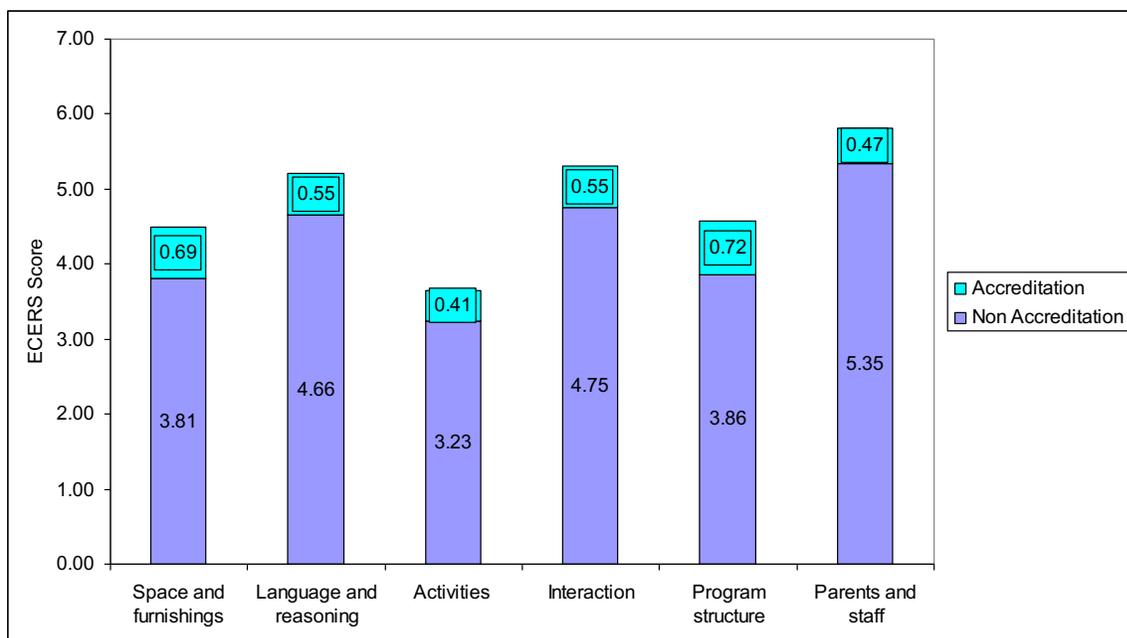
Example 2. In 2010, the district faced a decision regarding whether to continue to offer a summer reading program to kindergarten and first grade students and whether to extend the program to incoming prekindergarten students. The district was well aware of research showing that low-income children commonly experience summer learning loss (Entwisle & Alexander, 1992) and that high-quality summer enrichment programs have been shown to be effective in combatting this problem (Borman & Bowling, 2006; Jacob & Lefgren, 2002). In late fall 2010, within the structure of our research-partnership, we identified key data from the summer 2009 district summer program that could help inform the decision (which children chose to attend the program, attendance data, and student outcome data) and the key research questions. The challenge in answering the research questions rigorously was that students had selected into the program. The research team decided to create two quasi-experimental control groups in order to increase study rigor – 1) students who applied to the program but did not attend and 2) all other students attending the same schools as summer-program attenders. Analyses showed that program attendance was strong – 80% of students had attendance rates of 73% or higher. The program also reached children more in need of help than their peers; participants had lower literacy skills than their peers prior to the program and were significantly more likely to have previously repeated a grade. Students who attended the program had stronger post-program literacy skills scores than children in either of the two control groups. On the basis of this evidence along with feedback from teachers involved the program, the district decided to continue to offer the program and to offer it to incoming prekindergarten students as well.

Conclusion. These two vignettes illustrate several themes we will expand upon at SREE. First, timeliness and rigor in a research-practice partnership can be challenging. The most rigorous work produced by our partnership took multiple years (Authors, 2013) – a time span too long to have many practice implications in Boston context. Our fast-turnaround work, though considerably less rigorous, has been more useful in informing district decisions. Second, there are incentives for researchers to produce peer-reviewed publications, but the most pressing questions a practitioner faces may not lend themselves to work that is publishable in top journals due to design, budget, and data availability. Ultimately, the NAEYC work, for example, was published in a non-peer reviewed journal for practitioners and the Summer Reading analysis is unpublished. Third, researchers have to be careful to make the limitations of their fast-turnaround work very clear to practitioners. Particularly when rigor is suspect, the partner

should view the results of produced work as just one piece of evidence to inform a decision (e.g., not as decisive evidence). Finally, despite the limitations and challenges we have faced in our fast-turnaround work, producing research that has informed district decisions has been beneficial on both sides. For Boston, some information has proven more useful than the alternative of no information. For the university partner, a focus on timeliness has aided our understanding of how programs operate, how district decision making occurs in the district, and increased our focus on striving to look for opportunities to be helpful.

Figures

Figure 1: The relationship between NAEYC accreditation and classroom quality in Boston Public Schools prekindergarten and kindergarten classrooms



Source: Authors, 2010; Internal analysis, 2008

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Developing a Collaborative Research Agenda among Three Connecticut Communities

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Background

The Partnership for Early Education Research (PEER) is a partnership among early childhood education (ECE) researchers, practitioners, advocates, and policymakers in Connecticut. PEER was founded in 2014 by three key member organizations: Yale School of Medicine, Cooperative Educational Services (C.E.S.) and Education Development Center, Inc. (EDC), in collaboration with the Connecticut Office of Early Childhood (OEC), the Connecticut State Department of Education (CSDE), and the communities of Bridgeport, Norwalk, and Stamford. PEER aims to produce rigorous, collaborative, actionable research that can inform early childhood education policy and practice at the local and state levels, increase access to high-quality early childhood education, and reduce disparities in educational outcomes. The structure of PEER most resembles what Coburn, Penuel, and Geil (2013) refer to as a *research alliance* in that its work is collaborative and actively engages the school districts in all three communities, as well as the largest community-based provider of early childhood education in each of these cities. To ensure that its research serves the needs and interests of local stakeholders, PEER actively engaged its member organizations in the development of its long-term research agenda. This paper describes the process by which stakeholders were engaged in the initial and ongoing development of the agenda.

Setting and Population

Across these three partnership communities, there are approximately 4,500 preschool children during any given year. With a population of 146,425, Bridgeport is the State's largest city and mostly consists of working class residents with a median household income of approximately \$40,947. Bridgeport Public Schools serve over 21,000 students in grades PK-12, of which over 900 are preschoolers. The city of Norwalk, generally have a higher socio-economic standing than those in Bridgeport with a median household income of \$76,385 and an educational attainment level comparable to the State of 89% of its residents having a high school degree or higher. Norwalk Public Schools serve approximately 11,000 students, 259 of which are preschoolers and there are 28 community early learning centers in Norwalk serving 736 children. Stamford has a population of 125,000 residents with a median household income of \$78,200. Stamford Public Schools run two preschools serving 128 children and there are approximately 48 additional community center-based early learning centers in the city serving 842 children.

Research Design

The key intention of the PEER research agenda was for it to be a “living document,” in that the research questions could be modified over time to be responsive to shifting partner priorities. To accomplish this, it was important to develop a set of topic areas that would have more long-term stability and a set of initial research questions that would be continually reshaped over time. To establish the initial research agenda, PEER engaged stakeholders in agenda-setting workshops where the PEER management team (consisting of two researchers, a practitioner, and a program manager) facilitated identification and prioritization of problems of practice that would benefit their organizations and communities. This process included engaging stakeholders during two agenda-setting workshops during 2015 with representatives from each of the three PEER communities. The first workshop engaged stakeholders in identifying and prioritizing research topics that would benefit member organizations and communities. Following this event, the PEER management team compiled the ranked workshop topics and shared them with the PEER network. The second workshop engaged stakeholders in confirming the priority research topics and brainstorming research questions for each of these topics. The PEER management team then refined the brainstormed research questions from the work session and used them to create a draft research agenda, which was shared with workshop participants for feedback. Finally, the management team revised the draft based on partners’ feedback and then shared PEER’s initial long-term research agenda with its network of stakeholders in early 2016.

Results

The resulting research agenda focused on four areas, each with its own set of research questions. The four areas consisted of: (1) Program Quality (including Pedagogy & Curriculum and Teacher Training & Professional Development), (2) Preparing for the Kindergarten Transition, (3) Dual Language Learners, and (4) Family & Community Services. The types of research questions in each area ranged from systematic reviews, to secondary data analysis, to original research. Following the creation of the research agenda, the management team engaged selected partners in deciding which of the topic areas to first pursue and seek funding to support. Since the topic of Dual Language Learners was determined to be of high need, funding was sought and secured to support this project at the end of 2016. Additionally, in 2017, another stakeholder meeting was held to revisit the research agenda with a goal of identifying more research questions that could be addressed by existing data. Through conducting organized stakeholder group discussions and using a ranking system for prioritizing input, this process produced a refined set of research questions more focused on secondary data analysis and original research.

Conclusions

In addition to detailing the process of the collaborative research agenda development and revision, the paper discusses the benefits and challenges of a partnership agenda driven by community stakeholders. Benefits focus on enhancing the usefulness of research for practitioners and improving research through advancing knowledge of local contextual factors important for young children’s academic success. Challenges focus on the management of input from multiple partnership entities, shifting research interests, and meeting the short-term and unique needs of partners. [Word Count: 914]

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Abstract Title Page

Title: Building the Infrastructure: Leveraging Research Partnerships to Improve and Scale an Instructional Leadership Professional Development Program

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Abstract Body

Background:

Increasingly within the early childhood care and education (ECCE) field there is strong emphasis placed on data-driven decision making and the development and use of evidence-based programs. Yet the infrastructure needed to effectively achieve these ideals is substantial, and is rarely achieved by researchers or practitioners alone (Tseng, 2012). In recent years, research-practice partnerships have garnered support as an important solution to improving ECCE programs, systems, and services (Tseng, Easton, & Supplee, 2017). Five key principles define successful research-practice partnerships: mutualism, commitment to long-term collaboration, a focus on problems of practice, the use of intentional partnership strategies, and trusting relationships (Coburn, Penuel, & Geil, 2013). We posit that these principles may be more effectively and reliably achieved when program infrastructure is built such that research and practice capacity are inextricably entwined from the beginning—within the organizational structure, on the program development team, and in the program model itself.

Objectives:

This presentation will explore opportunities to build sustainable program and research infrastructure that expands internal capacity for continuous quality improvement and evidence-based decision making at all levels. In doing so, we draw examples from our experiences in a research-practice partnership focused on improving and scaling a professional development program for ECCE leaders. Specifically, we will discuss strategies for adapting and embedding data collection tools and approaches that originated as part of an external evaluation into program implementation such that it continues to collect and learn from robust implementation and outcomes data as an integral part of the program model, even after the formal evaluation has ended.

Program:

The Lead Learn Excel program is designed to strengthen ECCE leaders' capacity to improve the quality of classroom instruction through implementation of job-embedded professional learning routines for teachers. The model was recently expanded to include professional development supports at two levels (local professional development providers and instructional leaders) that include training, coaching, and peer learning, as well as practical tools and resources, across 9 or 16 monthly learning cycles. This year, Lead Learn Excel will be implemented in four states.

Research-Practice Partnership Design and Approach:

Since 2001, federal funds—first an Investing in Innovation grant and then Race to the Top-Early Learning Challenge funds—supported our nonprofit organization to develop and implement what is now Lead Learn Excel, and a team of university-based researchers to conduct external evaluations of two successive iterations of the model. As this work progressed, a cross-institution research-practice partnership emerged among our organization's program implementation and research teams, and the university-based evaluators. This research-practice partnership originally included three teams—program implementation, research, and evaluation—overseen by an organizational steering committee (Figure 1). The organization-based implementation team included trainers, coaches, and operations staff who are responsible for implementing the program. The university-based evaluation team included faculty and students from the college of

education responsible for the evaluation design and execution. The organization-based research team included doctoral and master's level researchers who functioned as liaisons between the two to promote mutual understanding and improvement of both the evaluation and the program by the evaluation and implementation teams, respectively.

This structure created ongoing feed-back loops that enabled collaborative and timely review, interpretation, and application of data and evaluation findings to practice. It also served as a model and inspiration for a sustainable research-practice partnership within our nonprofit organization that has become even more robust now that a formal relationship with the university-based evaluation partners has ended. In the absence of external evaluators, the role of the organization-based research team has grown to include the co-design and -construction of a robust data collection and research infrastructure that is embedded within the program itself to support program implementation and inform improvements, sustainability, and expansion. As such, this research-practice partnership is an *embedded* version of what Coburn and colleagues (2013) call a “design research partnership” in that it aims to “build and study solutions at the same time in real world contexts” (p. 8).

In this partnership, researchers work side-by-side with practitioners to apply the approaches and principles of research—including careful attention to issues of measurement, data collection procedures (temporal sequencing, longitudinal consistency, and response rates), specialized technological platforms, and analytic approaches—to program design and improvement. That is, the infrastructure is created first and foremost to support the implementation of a multi-component program; the fact that it ensures robust data collection that meets research standards is understood as a “bonus” of implementation-as-usual. The goal is thus to sustain ongoing collection and learning from reliable implementation and outcomes data as an integral part of the program model. In this sense, the research-practice partnership is not a collaboration between two separate entities (as is often the case), but rather an interdisciplinary program model in its own right.

Results:

Successes to date include final evaluation reports that are comprehensive, accurate, and meaningful, such that findings have informed a series of large and small changes to program design, implementation, and scaling strategy (e.g., target audiences and policy contexts).

Most notably, the research-practice partnership has resulted in meaningful changes in administrative data collection infrastructure and processes. Specifically, we have leveraged reliable outcomes measures and data collection protocols initially developed as part of the external evaluation to create sustainable, embedded systems of information gathering and documentation that promotes reflection among program implementers and enables the delivery of high-quality, targeted supports to participants. As implementation of the newest program iteration begins in fall 2017, these systems are now set to provide robust data to inform reflective practice and continuous quality improvement, program strategy decisions, and efficient monitoring and reporting without the continued support of an external evaluation partner. In addition, these data will enable organization-based researchers to conduct rigorous analyses that answer critical questions regarding the program model and strategy as they arise.

Conclusion:

We argue that embedding research *within* practice shows great promise as a more sustainable and effective way to implement some kinds of research-practice partnerships. Limitations (e.g., perceived or real bias of internal researchers) of this “embedded design research partnership” model will also be discussed.

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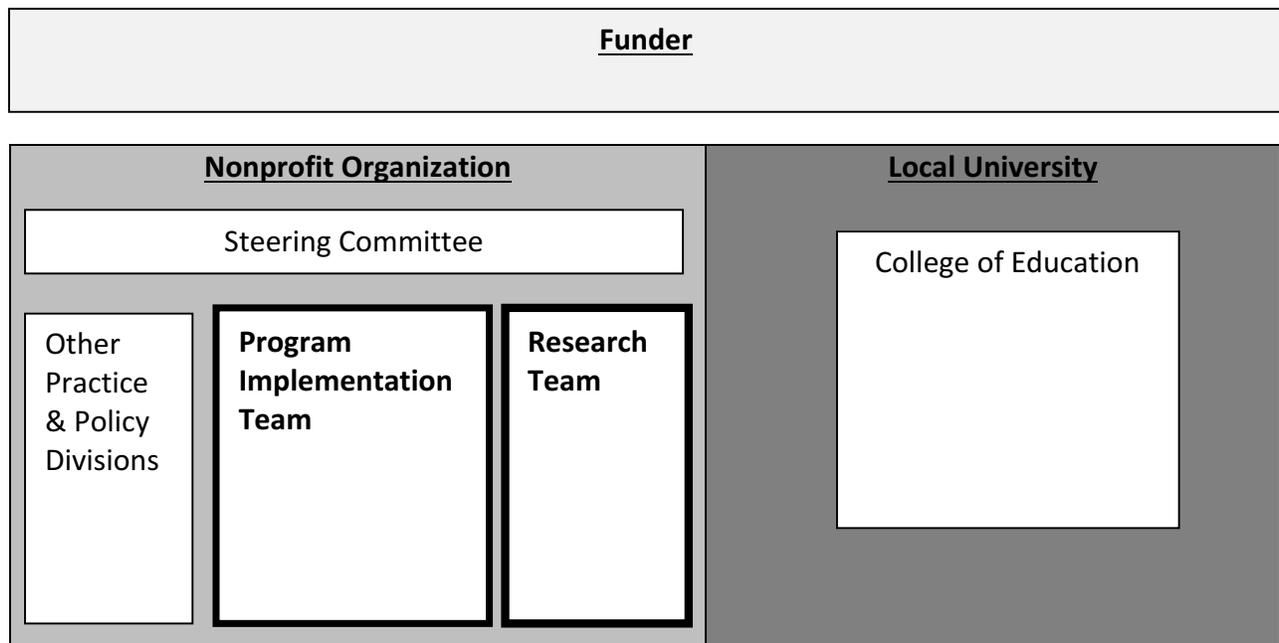


Figure 1. Original partnership structure.