



## Research Practice Partnerships and School Improvement

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### Abstract

*As the recent PISA scores have indicated [1], student performance around the world has hit an asymptote. Some countries' performance are going down and some countries failing to make any progress, but overall, there is not significant improvement. After 30 years of education reform in the United States, this pattern repeats itself in urban, suburban, and rural settings. Coleman (2018) made the argument that in order to improve outcomes for all of our children, we need to take a more systemic approach to school improvement that includes cooperation among the adult community across the various ecologies in which a child grows. The purpose of this essay is to build on the work of the scholars in the field of research practice partnerships [2,3,4] to advocate for the use of cooperative approach between scholars and practitioners as an important factor in developing cultures of continual improvement within school, produce scholarship that improves the practice of education, and will lead to sustainable growth in student performance.*

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Coleman [5,6] makes the argument that effective interventions in education that have substantive and sustainable impact are systematic, comprehensive, and data informed. Coleman, Griffith, & Coleman [7] also argue that many interventions in education are episodic and personality driven. These interventions are effective as long as the person or group that champions the work is there to provide leadership. Once there is turnover of staff and/or leadership, the fidelity of program implementation is substantially reduced and the effectiveness of the program is also reduced. This sets the stage for another wave of innovation and change. A common practice, particularly within urban settings in the United States, is to institute a change of leadership (e.g., the superintendent at the district level or principal at the school level) and/or other changes in human capital (e.g., teachers or director of instruction) with a theory of action that these new people, looking at the problem with a different lens with permission to take new actions, will improve outcomes for children. One reason that we persist in this pattern is that this theory of leadership change to get improved outcomes can work over the short term. The improvement is not, however, sustainable. Even as some schools may get better, other schools' performance decline and demographically identified achievement gaps (e.g., the performance gap between white and black students) persist.

On the other hand, we have a growing body of evidence about what does work in education. We know that having a highly effective teacher in the classroom who has strong pedagogical and content knowledge is essential [8]. We know that providing educators common planning time in which they can consult with each other, using data, about meeting the needs of their students is critical [9]. We know that having a school culture in which every teacher and every student is met with high expectations and support leads to improved student performance. We know that schools in which the cultural and linguistic heritage of the students in the building are integrated into the learning process has a positive impact on student performance. We know that school districts that have stable leadership over time with thoughtful transitions are best able to create the conditions of sustainable success [10, 11].

What we do not do well is take what we know from research and exemplars of excellent practice and then replicate that success in other contexts in a sustainable manner. One reason for this lack of coherence is the weakly organized relationship between PK-12 schools, institutions that perform educational research, programs that prepare educators for the field, and the civic institutions (e.g., state and federal departments of education) that regulate the practice of education. We are writing this essay in the early phases of the Covid-19 crisis which has significantly disrupted the practice of PK-12 education. The variations in response to this crisis are remarkable. They range from school districts that have completely shut down to schools that have effectively put their academic, arts, and physical education programs into a virtual learning format with everything in between. The capacity to respond to this disruption is deeply influenced by the wealth, or lack thereof, in each community. The higher density of poverty correlates strongly with the ability of students to gain access to learning opportunities. What is most stunning is the significant lack of coordination across the system [12]. This stands in marked contrast to the medical industry which is also being disrupted by this crisis but



is responding with international cooperation to find vaccines and treatment using rigorous scientific methods and communications around clinical experimentations. Even with great loss of life, most countries are implementing evidence-based public health interventions that are serving to reduce infection and create opportunities for treatment and prevention. We support the hypothesis that their success is a function of valuing the role of research throughout the medical industry and using systematic acquired evidence to guide decision making.

In order to close persistent achievement gaps, in order to reach the OECD's 2030 goals [13] in order to implement cultures of continuous improvement within schools that are focused on meeting the needs of all children, we need to develop a well-organized, coherent and cohesive relationship among the groups that are involved in the educational industry (e.g., PK-12 schools, institutions that perform educational research, programs that prepare educators for the field, and civic institutions that regulate the practice of education) that is grounded in an evidence-based process. As the emergency room doctors' decision making is an outgrowth of lab science, so should be the decision-making of the kindergarten teacher. For this level of integration to develop, we need to start with constructing infrastructures that support the development of a culture of evidenced-based practice within PK-12 schools.

It is important to note that we are not suggesting there is not a need for a new organization to fill this role, but a need to restructure existing organizations to make this cooperation feasible and effective.

For example, the Institute for Educational Science has developed the What Works Clearinghouse [14] which serves as a system to disseminate information about evidence-based practices across the education industry. We are suggesting that we need to find a way for existing organizations to co-create a system that allows for a more effective interaction between practice and research, a way to systematically facilitate the implementation of evidenced-based programs into practice.

Research practice partnerships are one such solution. Coburn et al [4] do an excellent job of articulating how the use of research practice partnerships could be the process through which such a system could be built, and some of the challenges to building such a system.

They make the argument that schools do not have the time and capacity to perform its own research and that scholars do not have the time and capacity to run a school. School-based educators may have questions about what is the best way to address the needs of their students, either by demography, discipline, or language, but are dependent on using current practices to guide their decision making. Researchers may have methodological skills that can help educators solve problems of practice, but they also have a particular areas of expertise (e.g., mathematics or literacy education) and/or a particular approach to how to solve problems of practice (e.g., focus on classroom discourse) that may not meet the needs of a particular school. Coburn et al [4] point out that a way to build more effective collaboration between school-based educators and scholars is through the development of research practice partnerships.

They state that a research-practice partnership has the following 5 characteristics. They are a) long term, b) focused on problems of practice, c) committed to mutualism (trust), d) use intentional strategies to foster the partnership, and e) produce original analysis. The purpose of such a partnership is to conduct rigorous analysis of efforts to solve problems of practice in such a way that the school based partner has evidence to support the efficacy of their program and that the scholar can publish the results so that others can learn how to replicate their success in other contexts. Core to this structure is that the work is about solving a problem of practice for a teacher, school, or district in such a way that the lessons learned can be used by others to solve their problems of practice. As such, the research is seen as authentic, relevant, and meaningful to the field of practice.

Core to the success of research practice partnerships is that the partners take to the time to articulate their mutual interest, how their strengths can complement each other, and commit to the work that such a partnership demands to be healthy and functional over time and across personnel changes.

Coburn et al [4] describe three types of research practice partnerships.

One is a research alliance. In a research alliance, an independent research organization contracts with a local educational (LEA) or youth serving (YSA) agency to conduct research (and evaluation) on their efforts to improve practice within the agency. The focus of the research is collaboratively determined and then conducted by the research organization. The results are developed and presented in such a manner that the LEA or YSA can use them to determine the efficacy of their programming and use the findings to determine which efforts to replicate or to stop. In a research alliance, this evaluation is not independent. It is rigorous, but designed to serve the agency, in the same way research conducted by a corporation is designed to improve their product first, and the industry subsequently,



Another type is design research. A distinguishing characteristic of design research is that it is focused on how the partnership can focus on all phases of program development from a) initial design (e.g., an elementary level social emotional learning program), b) evaluation of initial implementation, c) re-design in response to initial findings, d) evaluation of subsequent implementation and repeat until program is deemed effective, e) taking the intervention to scale across the system and evaluating its impact. The scholar brings their knowledge of the content and evaluation methods, the practitioners brings their understanding of the content, learning science, and pedagogy. The partnership produces interventions that one can have confidence will serve the needs of the students in this context. This is an iterative process that creates the data which can guide decision making.

A third type is network improvement communities. Similar to design research, network improvement communities (NICS) take an iterative design and data driven approach to problem solving. They use a plan-do-study-act (PDSA) cycle in which the participants in the NIC a) identify a problem of practice, b) plan an intervention to solve that problem, c) put the plan into action, d) collect data about the impact of the plan, and e) use that data to improve the plan before engaging in another PDSA cycle. Part of what allows NICS to be an approach that facilitates continuous improvement is that each PDSA cycle can be used to improve a particular and/or take the learnings from one cycle and bring it into another context in such a manner that systematically adjusts the plan to meet the needs of this new context. In that way, NICS are effective ways to support the replication and scale of effective programming. Another distinguishing characteristic of NICS is that they are consciously focused on systems change. The networked community includes groups from across a given system. For an example, a NIC that was focused in developing an effective civics program that successfully integrate an equity perspective into the work would include participants for several schools, districts, and/or agencies. A NIC could be designed with both LEAs and YSAs who were working on a common problem of practice. A third distinguishing characteristic is the different roles of the practitioners and researcher take on in this structure. In NICS, it is the practitioners who determines what is the relevant data and is the one who does the collection and analysis of the data as it is used for improving the plan. In NICS, the role of the research is more focused on facilitating the PDSA cycle.

Evidence suggests that interventions developed within the context of an RPP positively impacts student learning (Coburn & Penuel, 2016). [When executed well and in a way that incorporates the voices and expertise of practitioners on the ground, RPPs also hold promise for sustaining these interventions over time, as those responsible for implementation feel ownership over it.

## Challenges

Despite the growing popularity of RPPs, particularly among funding agencies [3] we still have much to learn about executing them successfully. Coburn et al [4] have found the following challenges to the maintenance of research practice partnerships, They are a) bridging the different cultural worlds of researchers and practitioners, b) developing and maintaining trust, c) maintaining mutualism, d) balancing local relevance with scalability, e) balancing immediate district demands while maintaining depth and quality of research, f) aligning partnership work with norms and incentives of research institutions, and g) maintaining the relationship over time with changes in schools, districts, and researcher turnover. These are also the challenges that need to be overcome in order to establish a research practice partnership.

## Conclusions

RPPs hold promise for both translating research on what works into practice and for generating context-specific programs and practices that can be scaled within and across organizations. Because this is a novel approach for many researchers and practitioners, to overcome these challenges in forming and maintaining RPPs, we should treat them like any new intervention aimed to be successfully implemented in schools. For example:

- Build will across stakeholders so all are invested in the relationship and the work
- Build capacity of practitioners and researchers to collaborate, including building an understanding of what each of their roles are, the technology of the specific type of RPP employed (e.g., the design process, improvement science protocols, etc., etc.)
- Reorganize infrastructure to facilitate partnerships in a way that is meaningful and sustained (e.g., officially putting partnerships into the title/responsibilities of administrators, allocating existing contracted time for teachers to engage in this work, on the university side rewarding partnerships by including it as part of tenure review or faculty reappointment, etc., etc.)



In order to evolve into an industry that is able to meet the needs of its most vulnerable and prepare all its students to have meaningful careers and be engaged citizens, educational organizations must commit to developing effective working relationships with each that are committed to the principles of continual improvement. We hypothesize that a first step in achieving these goals is to develop and implement research practice partners.

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