

Collaborative Sense-making: Strategies for Co-Researching in a Research-Practice Partnership

Merijke Coenraad, Kelly Mills, Alessandra Rangel, Quinn Burke, Kyle Dunbar
 mcoernaad@digitalpromise.org, kmills@digitalpromise.org, arangel@digitalpromise.org,
 qburke@digitalpromise.org, kdunbar@digitalpromise.org
 Digital Promise Global

Abstract: Within our RPP, we have made a commitment to practice-side partners being co-researchers and supporting data-centered development and implementation of computational thinking pathways. We present seven strategies our research-side team utilized to support collaborative sense-making throughout data collection and analysis. This work counters traditional paradigms of researcher and practitioner roles in research and provides concrete strategies for co-researching and collaborative sense-making to enable practice-side partners to take agency and ownership over data collection, analysis, and sense-making.

Introduction and prior work

For over five years, we have collaborated with six districts in a research-practice partnership (RPP) focused on developing computational thinking (CT) pathways. In our RPP, we have built on the existing literature around boundary crossing, collaborative data analysis, and brokering within RPPs (Farrell et al., 2022; Wiley et al., 2023; Wentworth et al., 2022), intentionally crossing boundaries through our commitment to intentionally include our practice-side partners as co-researchers who collaborate throughout our research process: in protocol development, data collection, data analysis, and the utilization of research findings. We see this collaborative sense-making process as a boundary practice with partners spanning the traditional boundaries between research and practice (Farrell et al., 2022). Prior work has demonstrated that purposefully including practice-side partners in research activities ensures research is actionable and supportive of district goals and priorities, builds organizational knowledge and supports RPP outcomes, leads to expanded access to data, and expands focus to practice-side questions and priorities (Farrell et al., 2022; Wentworth et al., 2022; Wiley et al., 2023). In this paper, we explore how research-side and practice-side partners collaborated on a landscape study of CT consisting of surveys and focus groups with teachers and administrators. Focusing on our boundary crossing practices, we report how members of the RPP collaborated to design protocols, make sense of the collected data, and utilize the study data to identify problems of practice. We answer the research question: *Within a research-practice partnership, what practices support collaborative sense-making of data?*

Methods

In conducting a landscape study within our RPP of six districts across the United States, we utilized seven strategies to foster collaboration between research-side and practice-side partners (Table 1). These seven strategies were selected based on prior work about collaborating on data collections and analysis with practitioner partners (Wentworth et al., 2022; Wiley et al., 2023). To examine how these strategies were taken up, we analyzed meeting notes and recordings and artifacts from our design process. We analyzed this data using deductive analysis according to the strategies designed into the work (Table 1, “Strategy” column). Our research team identified the ways in which practice-side partners from each district engaged with each strategy (e.g., number of engagements, time spent engaging in meetings, content of engagements).

Findings

The seven strategies promoted collaborative sense-making between the research-side and practice-side partners. They created opportunities for all partners to engage with the data as a boundary object and for practice-side partners to identify data-grounded problems of practice to drive their developing CT work (Table 1).

Table 1
Strategies for Collaborative Sense-Making

Strategy	Practices	Practice-side District Engagement
Work together on protocols	<ul style="list-style-type: none"> Share protocol drafts for practice-side partners to comment asynchronously and in meetings. 	<ul style="list-style-type: none"> Five districts gave input asynchronously One district requested a meeting to discuss their feedback synchronously

Practice-side partners control implementation	<ul style="list-style-type: none"> Practice-side partners determine participants, distribution method, timeline, and incentivization. 	<ul style="list-style-type: none"> Each district designed implementation Research-side partners ensured a purposeful, representative sample.
Compile data in a comprehensible form	<ul style="list-style-type: none"> Creating editable, commentable slide decks with graphs, data tables, and qualitative findings 	<ul style="list-style-type: none"> Practice-side district leaders indicated that they shared the results with other leaders in their district outside of the project team.
Prompt partners to engage with data	<ul style="list-style-type: none"> Asking practice-side partners to review data prior to the meeting and leave 5-10 comments about their noticings and wonderings 	<ul style="list-style-type: none"> Four districts left comments asynchronously (8-33 comments). District leaders engaged with data for 20-30 minutes of sense-making meetings
Preference practice-side interpretations	<ul style="list-style-type: none"> Structure sense-making meetings around practice-side partners' comments on the shared data. 	<ul style="list-style-type: none"> In two districts, practice-side district leaders requested an additional meeting to discuss outcomes prior to regular meeting
Perform additional analysis	<ul style="list-style-type: none"> Further disaggregate data by characteristics as requested by practice-side partners. 	<ul style="list-style-type: none"> Three districts requested additional analysis, such as disaggregating to compare elementary and secondary teachers
Co-identify problems of practice from data	<ul style="list-style-type: none"> Move the conversation from noticings about the data to problems of practice. 	<ul style="list-style-type: none"> Most districts spent 20-30 minutes discussing problems of practice that could be addressed in the following school year.

Discussion

Within traditional research projects, researchers take on tasks related to the design of protocols, data collection, and analysis while practitioners engage with research as participants and enact research-backed best practices presented by researchers. In our RPP work, we work to change this paradigm and intentionally engage in boundary crossing and brokering (Farrell et al., 2022; Wentworth et al., 2022). Building on calls to include practice-side partners within research and RPP resources for designing collaborative research agendas (Wentworth et al., 2022), this work contributes seven strategies through which collaborative sense-making can occur between research-side and practice-side partners (Table 1). Using these strategies, research-side and practice-side partners were able to collaboratively make sense of data collected through teacher and administrator surveys and focus groups in a landscape study of CT pathway implementation within each district. These strategies created scaffolded opportunities for the practice-side partners to act as co-researchers within our RPP and take agentic shared ownership of both data collection and data analysis through boundary practices that elicited their relevant knowledge and perspectives and made visible their expertise. In this process, practice-side partners had the opportunity to ensure data collected within their district aligned to their goals by taking part in the creation of research protocols and were able to come away from the data analysis with actionable problems of practice. Further, practice-side partners had easy access to comprehensible research-data that they could share internally with teachers, administrators, and district leaders. Research-side partners were better able to understand the context around the data collected and meet our goals of making a greater impact with our practice-side partners. Within RPPs, it is essential that both research-side and practice-side partners have access to research data and are able to utilize those data in their various parts of the work. The seven strategies presented in this paper provide promising practices for research-side and practice-side partners to work together to collect, analyze, and make sense of data to support evolving educational initiatives.

References

- Farrell, C. C., Penuel, W. R., Allen, A., Anderson, E. R., Bohannon, A. X., Coburn, C. E., & Brown, S. L. (2022). Learning at the boundaries of research and practice: A framework for understanding research–practice partnerships. *Educational Researcher*, 51(3), 197–208.
- Wentworth, L., Conaway, C., Shewchuk, S., & Arce-Trigatti, P. (2022). RPP Brokers Handbook, V. 2: A Guide to Brokering in Education Research-Practice Partnerships. Houston, TX: National Network of Education Research-Practice Partnerships (NNERPP).
- Wiley, K., Neisler, J., & Means, B. (2023, February). Partnering to promote equity and digital learning. Digital Promise. <https://doi.org/10.51388/20.500.12265/167>

Acknowledgments

This material is based upon work supported by the National Science Foundation under Grant Nos. 2219350 and 2219351.