We're All in This Together: A Model for Bidirectional Learning in Researcher-Practitioner Collaborations

Linette Victor, Jerika Miller, Jessica McClain, Judi Fusco, Joshua Danish, Wendy Walter, Cindy E. Hmelo-Silver,
Dalila Dragnic-Cindric, Krista Glazewski, Haesol Bae,
lvictor@digitalpromise.org, jm198@iu.edu, jmcclain@digitalpromise.org, jfusco@digitalpromise.org,
jdanish@iu.edu, wwalterb@iu.edu, chmelosi@iu.edu, daliladc@digitalpromise.org, kdglazew@ncsu.edu,
hbae4@albany.edu
Digital Promise, Indiana University, NC State University, University at Albany SUNY,

Abstract: This study examines researcher-practitioner collaborations in educational research, using Cultural-Historical Activity Theory (CHAT) to analyze interactions between STEM coaches and researchers. It explores a two-day workshop focused on practitioner-identified challenges. The research highlighted the need to shift from researcher-centric approaches to balanced, collaborative methods. This study provides insights for developing bidirectional learning models that center practitioners' perspectives, aiming to bridge the gap between research and educational practice through more equitable and transformative partnerships.

Introduction and theoretical framework

In announcing the theme for ISLS 2025 as Educating for world-making: Envisioning and enacting sustainable solutions to global crises, the organizers call out honoring teachers, students, citizens, and researchers as active transformative agents or world-makers of the future. Our project seeks to honor practitioners by ensuring that they become equal partners in transformative research. In educational settings, a persistent gap exists between researchers and practitioners that hinders the effective translation of research findings into practice. Historically, teacher-researcher collaborations have focused on building practitioners' capacities for complex teaching and transformative practices (Goldman et al., 2022). As a result, researchers often did not reflect on their individual practices, limiting evidence-based approaches and opportunities for their own growth, diminishing their impact on education. Thus, it is important to understand how to develop research-practice collaborations where all members are enabled and encouraged to exchange ideas toward shared goals, yielding mutually beneficial outcomes (Lezotte et al., 2022; Penuel & Hill, 2019; Tabak, 2022).

Conventional teacher-researcher collaboration models differ from research-practice partnerships in that they tend to position researchers as the primary drivers of the partnership, relegating practitioners to the role of passive consumers of research (Goldman et al., 2022). This inequitable dynamic fails to promote mutually informing partnerships that enable learning for both parties. Our research aims to develop and study a bidirectional learning (BdL) model in researcher-practitioner communities in which coaches initiate, and engage in the co-design of research practice briefs (RPBs) that address their real-world professional challenges (McClain et al., 2024). We seek to answer the broad question: how do we set up conditions for equitable BdL partnerships so meaningful work can occur?

To identify features that support dialogic learning within our activity system, we used third generation Cultural-Historical Activity Theory (CHAT) to analyze interactions among participants, contexts, and tools, and connect the activity systems of researchers and coaches (Engeström 2020; Bloomfield & Nguyen, 2015). CHAT allows us to examine elements of the system (e.g., subject; mediating tools; rules; community; division of labor; and objects/goals), how they affect one another, mediate participation within the joint activity, and the social context in which subjects are situated (Grimalt-Álvaro & Ametller, 2021). CHAT provides insight to understand tensions or contradictions, and consider new innovations and activities (Gutiérrez et al., 1999; Roth, 2009). This paper examines group dialogue during a professional learning workshop to identify conditions that facilitate or hinder meaningful, equitable exchanges and collaborative knowledge construction.

Methods

This qualitative study explores a two-day workshop that matched STEM coaches, recruited from a network of 600 Title I schools, and researchers to address practitioner-identified challenges to enhance instructional practices by translating research. Participants not described to preserve anonymity. The workshop combined structured activities to build shared understanding with organic activities to foster dialogue, share expertise, and strengthen participant connections. Data sources were video recordings of researcher-practitioner dialogue during group sessions of the workshop. We used thematic analysis (Braun & Clarke, 2012) to understand the subjects, object, mediators, and contradictions in the activity system, revealing shifts in the partnership design. Three researchers independently

observed 5 hours of video recordings noting challenges, artifacts, and moments of clarity. We discussed observations, created codes for interactions, and focused on mutual agreement.

Findings

Our analysis identified several features of the activity system that promoted an environment for meaningful collaboration and BdL. These features functioned as mediating tools and artifacts within the activity system focused on creating RPBs. First, the deliberate pairing of participants served as a mediating tool, facilitating collaboration by aligning researcher and practitioner expertise and interests. Second, by centering the activity system around practitioners and classroom challenges, a conceptual tool was created to mediate participant interactions during the co-design process. The practitioner-centered approach allowed for mutual learning, with practitioners gaining insights into research processes, while researchers learned to align their work with practical needs. Next, structured activities and organic interactions served as opportunities for participants to build trust, mediating the development of shared understanding between participants, allowing ideas to be expressed freely as participants collaboratively shaped concepts. A template RPB was provided, with an academic style. Though each group had autonomy over the design of their work, the template acted as a mediating tool, influencing how participants approached the task, revealing the tension that some participants felt constrained by perceived expectations of the format.

Several contradictions were noted as sources for development within the activity system. Different working styles emerged among dyads highlighting how division of labor was negotiated. Some opted for active collaboration, generating ideas together and finding mutual interests. Others chose a cooperative approach, engaging in independent work followed by a review of each other's contributions. This variation demonstrates flexibility within the activity system and how participants adapted work processes to suit preferences and strengths. A significant contradiction arose as researchers balanced their academic interests with prioritizing practitioner perspectives. This represents a secondary contradiction between the subject (researchers) and the object (creating practitioner-centered RPBs). Prioritizing practitioner needs over academic interest fostered equitable power distribution. Tension arose between autonomy and expectations, especially for participants without prior relationships with the research team. This contradiction of rules and community was pronounced among pairs who felt constrained by research-like examples despite having freedom to create relevant content.

Discussion

Our analysis focused at the individual level of the coach and researcher pairs, and the activity system features that were put in place to support participants as they created their RPB (Rogoff, 2008). The analysis revealed how mediating tools supported meaningful researcher-practitioner interactions fostering camaraderie, interpersonal connections, and emotional engagement with the pairs expressing genuine appreciation for collaboration. This defies the inherent rules of traditional researcher-practitioner collaborations that position researchers as "experts" without acknowledging the expertise and experience the practitioner contributes. Shifting the focus resulted in a more equitable distribution of power, and a greater investment in the co-development of the RPB, showing the success of the new rule to focus our work on the practitioner-identified challenges. In the dyads, participants shared motivations and worked to build trust, and researchers strived to understand the practitioner's work. Tensions arose from a mismatch between the research team's RPB template and participants' expectations. The academically styled template unintentionally limited creativity and autonomy, making it challenging for participants to align their work with perceived requirements.

Implications

This paper presents initial findings about the conditions necessary for equitable bidirectional partnerships among researchers and practitioners. The process of matching participants proved to be important for the collaborative process. We also successfully engaged researchers and practitioners in the co-design process leading to the creation of actionable, practitioner-friendly RPBs. However, it revealed a central tension within the participants' experience that requires further exploration. To balance participant autonomy and researcher involvement, provide freedom for practitioners to set their goals while offering necessary guidance. A structured support request system can create a responsive environment for individual needs. Year 1 RPBs will be available for Year 2 participants, providing additional examples. Findings and feedback will refine future workshops, essential for scaling the project and designing an equitable BdL model for collaborations.

References

Bloomfield, D., & Nguyen, H. (2015). Creating and sustaining professional learning partnerships: Activity theory as an analytic tool. *Australian Journal of Teacher Education,* 40(40).

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), APA handbook of research methods in psychology, vol. 2: Research designs: Quantitative, qualitative, neuropsychological, and biological (pp. 57–71). American Psychological Association.

Engeström, Y. (2001) Expansive Learning at Work: Toward an activity theoretical reconceptualization, Journal of Education and Work, 14, 133-156.

Engeström, Y. (2020). Ascending from the abstract to the concrete as a principle of expansive learning. *Psychological Science and Education*, 25(5), 31-43.

Goldman, S. R., Hmelo-Silver, C. E., & Kyza, E. A. (2022). Collaborative Design as a context for teacher and researcher learning: introduction to the special issue. Cognition and Instruction, 40(1), 1-6.

Grimalt-Álvaro, C., & Ametller, J. (2021). A Cultural-Historical Activity Theory Approach for the Design of a Qualitative Methodology in Science Educational Research. International Journal of Qualitative Methods, 20.

Gutiérrez, K. D., Baquedano-López, P., & Tejeda, C. (1999). Rethinking diversity: Hybridity and hybrid language practices in the third space. Mind, culture, and activity, 6(4), 286-303.

Lezotte, S., Krishnamurthy, S., Tulino, D., & Zion, S. (2022). Finding the heart of a Research-Practice Partnership: Politicized trust, mutualism, and use of research. *Improving Schools*, *25*(2), 161-173.

McClain, J., Miller, J., Hmelo-Silver, C., Danish, J., Walter, W., Fusco, J., Dragnic-Cindric., Ruiz, P., Buli, T., Karim, S., Bae, H., Glazewski, K., Christopher Hoadley. Christine Wang (Eds.). (2024). General Proceedings of the 4th Annual Meeting of the International Society of the Learning Sciences 2024. Buffalo, USA: International Society of the Learning Sciences.

Penuel, W. R., & Hill, H. C. (2019). Building a Knowledge Base on Research-Practice Partnerships: Introduction to the Special Topic Collection. AERA Open, 5(4).

Roth, W. M., Lee, Y. J., & Hsu, P. L. (2009). A tool for changing the world: possibilities of cultural-historical activity theory to reinvigorate science education. Studies in Science Education, 45(2), 131-167.

Tabak, I. (2022). Productive Tension in Research Practice Partnerships: Where Substance and Politics Intersect. *Cognition and Instruction*, *40*(1), 171–177.

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