Navigating the gray spaces in research-to-action: Engaging partners in a cross-district study of middle school math curricula

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Introduction

Researchers increasingly attempt to actively involve community members and study participants in co-constructing research (Vaughn et al., 2020). This perspective represents a positive shift to doing research with, rather than on, the individuals who are its focus (Reason & Torbert, 2001). Operationalizing this shift, however, is complex. Luckily, different models of participation can help put this notion into practice. In this brief, we share our experience engaging study participants in the research process for a study of middle school math curricula and instruction. The Analysis of Middle School Math Systems (AMS) study examined the relationships between a school's middle school math curriculum, teacher professional learning, instructional practices, and student experiences in the classroom across four school districts during the 2021-2022 and 2022-2023 school years.

Participant engagement as a continuum

In practice, participant engagement in the research process is a continuum rather than a binary choice of full engagement or no engagement. For researchers in fields like education, this continuum can range from informing study participants—for example, by sharing findings with participating districts after a study is complete—to empowering participants—for example, by deferring final decisions about the research design to district partners. Participatory research models often conceptualize multiple levels of increasing participation by community partners (Exhibit 1). These levels of participation can vary at different stages of the research process, from study design to dissemination.

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Several factors influenced where our study fell along the continuum of participatory research. The learning agenda, including the research questions and study design, was already developed when we began reaching out to potential participants. In traditional research studies, recruitment commonly happens after the research questions and the study design are established. Ideally, in participatory research, the learning agenda is co-created with partners. Given the engagement of our participating study districts later in the research process, we knew we would not be able to empower or collaborate with study participants (the highest levels of participation on the continuum in Exhibit 1). Instead, we designed a strategy to create meaningful partnerships with districts within the constraints of the study. We sought to inform and consult with our four partner districts at key points in the study.

What we did: Key components of our approach to district partnership

Getting to know our district partners

A successful research partnership with a district begins with developing an understanding of the district's context, needs, and priorities.

This step is critical for:

- building trust and demonstrating investment in a sustained, reciprocal relationship that can generate evidence that accounts for context and is useful for the district.
- developing research questions that are relevant for the partner and planning analyses that account for unique contextual factors, such as the district leadership structure or student demographics.
- generating findings that are meaningful and actionable for the district partners.

The AMS study used multiple strategies to get to know our district partners.

Dedicated liaison

We assigned a dedicated liaison from the study team to each district to facilitate regular, open communication. As the main point of contact, the liaison provided the district a trusted individual to whom participants could bring questions and concerns about the study. Liaisons also updated each district on study progress and upcoming activities, tailoring communication approaches based on the district's preferences. In some districts, the liaison met regularly with district leadership to discuss study progress. In other districts, the liaison engaged in more ad hoc communication in response to limited district availability. Liaisons also conducted two rounds of interviews with district leaders to better understand their districts' approaches to selecting and implementing math curricula, vision for high-quality math instruction, and professional learning support for math teachers.

Advance research

We conducted advance research to develop profiles of each partner district that were shared with study team members. The district liaison led this effort, ensuring that the person who would have the most contact with each district was familiar with its context. We drafted the profiles based on a review of publicly available documents, such as staffing/organizational charts, strategic plans, and news articles. Each profile described the district and student demographic characteristics, state and local policy context, governance structure and strategy, recent key events and issues, community engagement resources, and middle school math goals and teaching practices. The profiles also explored potential research risks and mitigation strategies, given each district's unique context.

Exhibit 1. Participation choice points in the research process

INFORM

Information is provided to community

CONSULT

Input is obtained from community

INVOLVE

Researchers work directly with community

COLLABORATE

Community is partner in research process

EMPOWER

Community leads research decisionmaking

Source: Vaughn et al., 2020, Exhibit 1; levels of participation based on Spectrum of Public Participation, International Association for Public Participation (www.iap2.org)

Active listening

We began the partnership by actively listening to the study participants, including district-level staff, school leaders, and teachers. In each district, we convened a district advisory group of four to seven of these experts. We invited all district and school staff participating in the study to join this advisory group and included any staff who expressed interest. The district liaison facilitated a listening session to understand district and school staff perspectives on key priorities and learning questions around middle school math curricula and instruction. We led a human-centered design activity using a Mural board to encourage participation and foster inclusion (Exhibit 2). We invited district experts to reflect on questions such as What is most important to you when it comes to middle school math and addressing the needs of all students? In the context of your school/classroom, what are the biggest questions you are wondering about for each of the study focus areas?

Feedback loop

We maintained a communication feedback loop with the district experts to summarize and confirm our understanding of their priorities and questions. Following our listening session in each district, we shared a summary describing our understanding of their priorities and questions and asked for experts' feedback on our description (Exhibit 3). We also highlighted the ways in which the study could address their areas of interest.

Sharing and co-interpreting district-specific findings

We made customized, preliminary findings available to district partners throughout the study and presented them in a useful way. At three points during the study, we developed short, digestible snapshots of district-specific findings (Exhibit 4). For each district, we tailored the findings by mapping its priorities and learning questions gathered during the initial listening session to existing data collection instruments.

Exhibit 2. Example of a Mural board

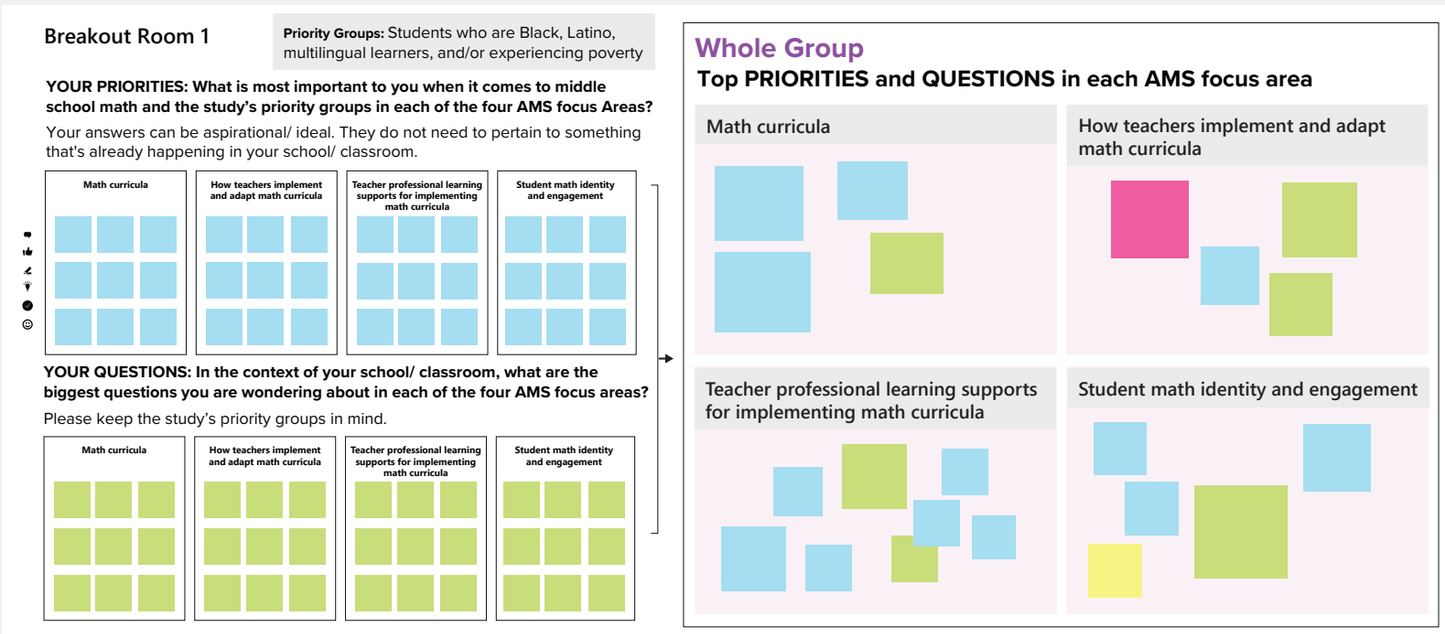


Exhibit 3: Excerpted example of a district priorities and questions summary

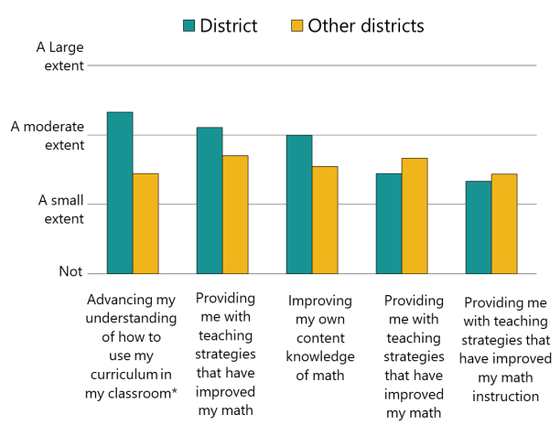
Student math identity and engagement

Your priorities and questions	How the AMS study can support your work
Your **priorities** include helping students: • Feel confident in math • Become actively engaged in the content • Feel challenged in a fun way • Connect math to real life You also wanted to hear success stories about student engagment in connection with your curricula.	We will investigate how teachers help students develop their math identity (that is, how a student identifies as a "math person"), self-efficacy (students' **confidence** that they can achieve in math), growth mindset (students' **confidence** that they can learn math), and sense of enjoyment in math. This analysis will lend insight into how teachers foster student **engagement** and **challenge** students in the math classroom. We will also analyze the connection between math content and students' **real lives**, including how students connect math to real-world problem solving, social justice issues, interdisciplinary subjects, and their cultural and prior knowledge.

Exhibit 4. Excerpted example of a district-specific snapshot

To what extent do teachers report their professional learning activities assist them in various areas?

District teachers reported their professional learning either helped them advance their understanding of how to use their curriculum or provided them strategies to improve their math instruction to a relatively large extent. Compared to teachers in other districts, on average, district teachers reported that their professional learning activities assisted them to a significantly greater extent in understanding how to use the curriculum in their classroom. They also reported that the professional learning provided strategies to improve math instruction and improve content knowledge to a greater extent, but not significantly greater, than teachers from other sample districts. District teachers also reported that the activities helped them address the social-emotional needs of their students and encouraged them to take action when materials were lacking in representation, but to a lesser extent than teachers from other sample districts.



For example, teachers and school leaders in multiple districts expressed interest in helping students feel confident in math. When we shared findings with these partners, we highlighted survey questions that asked students about math enjoyment and confidence.

In addition to sharing written findings with districts, we also engaged in interactive co-interpretation. In each district, we convened one or more district advisory group meetings to share and discuss findings. Each meeting aligned with the development of a district-specific snapshot, which we shared in advance. The district liaison facilitated these meetings, supported by additional study staff who were involved in the data collection and analysis.

During the meetings, we:

- engaged partners in jointly interpreting findings.
- tailored the format based on district preferences and/or our learning experiences, including through the use of Mural Board, Jamboard, and PowerPoint presentations.
- encouraged participants to share their personal experiences as educators and asked about the ways in which findings did or did not resonate with them.
- used principles of good meeting facilitation to ensure discussion was engaging and useful.

What we learned: Addressing challenges and constraints on participation

Developing successful research partnerships can be hindered by limited time, competing priorities for district experts, and structural and resource constraints for researchers, among other factors.

***Challenge:* Limited engagement of district experts for advisory groups in some districts.** In some districts, we were unable to secure the time and engagement of district experts to participate in a dedicated advisory group. In large part, the challenge was due to experts' competing demands from other ongoing district priorities. Involving partners early in the research process and co-creating the learning questions and study designs likely would have helped some partners be more engaged with the study. The higher the degree of participation with partners (collaborate or empower on the continuum), the higher the potential for a stronger partnership.

Strategies: In one district, we held one-on-one or small group sessions to collect input from district experts. In another district, we agreed to work through our primary district contact to collect perspectives from other district experts. That was not our preferred approach, however, given the potential concerns about power dynamics. The approach could be problematic because school staff may not feel comfortable freely sharing their experiences and perspectives through their district leadership.

***Challenge:* Inconsistent, limited attendance by district experts at most meetings.** Many of the district experts we reached out to were unable to dedicate time to engage consistently with the study. One issue was that staff were stretched very thin because of COVID-19. One principal told us he would have liked to participate in district advisory group discussions, but he had to fill in for some of his teachers in the classroom. We also struggled to identify times for meetings that worked for groups of teachers. School staff were often interested but unable to attend due to constrained or unpredictable schedules.

Strategies: We used different methods to engage advisory group experts outside of meetings:

- Shared findings snapshots with all school leaders and teachers who expressed interest in participating in the district advisory group, regardless of meeting attendance.
- Made a Mural board or Jamboard available after meetings for asynchronous input.

/ Created a Google Form to collect additional thoughts on our findings, in case some participants preferred that method.

***Challenge:* Lag between data collection and sharing findings.**

It was not feasible to synthesize and share findings with partners immediately. In some cases, several months passed between when data were collected in the classroom and when findings were available to district experts. Some districts noted this lag made the evidence less useful for decision making.

Strategies: We made preliminary findings available during district advisory group meetings to make up for some of the lag in formal findings reports.

In summary

We learned two key lessons from our partnership experience.

First, there is value in seeking opportunities to involve partners at different research stages even when a study is not designed to promote the highest level of participatory research. Although the study's learning agenda was not co-developed with our district partners, we still looked for meaningful ways to engage with and learn from them. Ultimately, the greater the level of participation of district experts in the research process, the greater the potential for effective research, policy, and practice—a goal we should all strive to reach.

Second, researchers should be especially thoughtful about how research findings could translate to action-oriented recommendations when the level of engagement with partners is relatively limited (inform or consult levels on the continuum). Some of our district partners noted that they did not know what to do with the findings and wanted more guidance on their implications for policy and practice. If district experts were equal partners in the research process, co-created research questions and activities, and led decision making, then, almost by design, findings would be actionable.

References

Reason, P., & Torbert, W. (2001). The action turn: Toward a transformational social science. *Concepts and Transformation International Journal of Action Research and Organizational Renewal,* 6(1), 1–37.

Vaughn, L. M., & Jacquez, F. (2020). Participatory research methods—Choice points in the research process. *Journal of Participatory Research Methods, 1(1).* https://doi.org/10.35844/001c.13244