FACILITATOR AGENCY AS AN ONGOING ACCOMPLISHMENT ACROSS MATHEMATICS PD ECOLOGIES

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Mathematics education research increasingly examines facilitators' decision-making through "lifting strategies" by which frameworks for researching mathematics teachers' sensemaking are being lifted to the facilitator level. One such central example is the ROGI framework (Resources, Orientations, Goals, Identity; Karsenty et al., 2021). In this paper, we explore the possibility of lifting an ecological perspective on mathematics teachers' sensemaking and agency, combining it with the ROGI framework, to explore sensemaking and decision-making processes of one facilitator leading a year-long professional learning community (PLC) for mathematics teachers. The study conceptualizes and illustrates facilitator agency as an ongoing accomplishment achieved through decision-making across the PLC ecologies.

INTRODUCTION

Professional learning communities (PLCs) and other sustained professional development (PD) formats depend heavily on facilitators. Facilitators are teachers-educators or teacher-leaders who design and manage PD activities, establish participation norms, foster teachers' exchange of experiences and perceptions, and moderate collaborative discussions. They also create opportunities for teachers to engage with program concepts in contextually responsive ways that address participants' specific needs, while simultaneously coordinating collective efforts toward broader program goals (Borko et al., 2014). Recent mathematics education research underscores that facilitation is demanding and consequential in upscaling PD models (Karsenty et al., 2021). At the same time, facilitation has been studied primarily through two lenses: facilitators' knowledge resources and their facilitation moves. A key contribution to understanding what drives the practices and decisions of facilitators while directing mathematics teachers' discussions within PD sessions is the ROGI (Resources, Orientations, Goals, Identities; Karsenty et al., 2021) framework, which "lifted" and adapted Schoenfeld's (2010) ROG framework, originally created to conceptualize teachers' decision-making.

Notwithstanding ROGI's broad and deep explanatory lens for unpacking the driving forces of facilitators' decisions, literature on facilitator decision-making has not explicitly theorized and guided researchers' attention to facilitators' interactions with much of their institutional, relational, and temporal contexts. To examine how facilitators agency is enacted over time and across ecologies, we draw on the same

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lifting strategies offered by Karsenty et al., (2021) to lift ecological perspectives on teacher sensemaking and agency (Biesta & Tedder, 2007; Ehrenfeld, 2022; Priestley et al., 2015), which conceptualized teacher sensemaking and agency as something achieved through engagement with a complex web of learning experiences and ecological levels within which individuals act.

This study integrates ROGI with an ecological conceptualization of agency to examine facilitation as a situated accomplishment across a PD ecologies. Empirically, we focus on the case of Ameer (pseudonym), an out-of-field facilitator who is not a math teacher. Ameer is leading a SEL-focused PLC for mathematics teachers. This setting is a strategic site for examining how agency is achieved through ongoing decisions under competing logics, including participant expectations for practical tools, program demands, the facilitator's disciplinary positioning, and working in a minority Arabic-speaking school in Israel. Within this exploratory qualitative case study, we ask: *(1) What resources, orientations, goals, and identities drive the facilitator's sensemaking and key decisions through planning and enactment? Moreover, (2) How do these processes constitute the enactment of agency over time and across ecologies?*

PRIOR LITERATURE AND THEORETICAL FRAMEWORK

This study is grounded in literature on PD facilitator decision-making, drawing first on the ROGI framework (Karsenty et al., 2021). While ROGI illuminates the contents of a facilitator's thinking and motivation at decision points, it does not by itself explain how the facilitator's agency is achieved and evolves over time and across contexts. An ecological perspective highlights that sensemaking, decision-making, learning, and agency are always shaped by an interconnected set of environments (Bronfenbrenner, 1979; Ehrenfeld, 2022; Priestley et al., 2015), reframing agency as something accomplished through engagement with the environment rather than a personal capacity one possesses. Biesta and Tedder (2007) conceptualize agency as something achieved through actors' active engagement with the contexts in which they act. Priestley and colleagues (2015) extended this framing to teacher agency, emphasizing the interplay between individual capacities and contextual conditions over time. Whereas agency is often conceptualized as something individuals have or possess, a property that makes some people more 'agentic' than others, Priestley et al. reconceptualized it as an emergent phenomenon achieved through actors' engagement with their environments. From this perspective, agency is not located in the facilitator as an individual but emerges through the interaction between past experiences, present conditions and institutional contexts, as well as future-oriented intentions. For studying facilitation, the ecological approach treats decisions as situated achievements shaped by conditions such as temporal and relational contexts, prior professional trajectories, institutional demands, program scripts, and participant expectations. In this view, past experience shapes the repertoires and habits that actors selectively reactivate, and future orientation concerns imaginative projection and aspirations. Agency is "acted out" through practical judgments among possible actions in the present (Biesta & Tedder, 2007; Priestley et al., 2015). Importantly, these temporal dimensions are not

reducible to “resources” or “goals”: past experience shapes what counts as usable resources and what seems possible, and future orientation includes values and aspirations that can exceed immediate situational goals.

Bringing ROGI into conversation with ecological agency offers a productive integration. ROGI provides an analytic vocabulary for unpacking decision-making in concrete episodes, the resources mobilized, orientations invoked, goals pursued, and identity-positioning enacted. The ecological perspective then allows us to interpret whether and how those decisions constitute agency as an accomplishment under shifting affordances and constraints over time. In this paper, we employ a combined lens to explore and illustrate decision-making episodes across a year of PLC meetings, tracing how the facilitator’s agency is achieved through engagement with evolving temporal, relational, and institutional contexts for action.

METHODOLOGY

Research context

The case of Ameer was drawn from a broader research project that explores and supports teacher learning ecologies (Ehrenfeld, 2022) in partnership with a network of school-based Professional Learning Communities (PLC Network). The PLC Network supported teacher collaboration by guiding facilitators to center authentic problems of practice, incorporating classroom artifacts such as videos or case descriptions for collective reflection, and guiding discussions with structured protocols that fostered productive professional discourse. While the broader study examines teacher learning ecologies across multiple PLCs, this paper takes an in-depth, analytic case approach to examine one facilitator within a single SEL-focused mathematics PLC.

Focal case

This study is designed as an exploratory qualitative case study of facilitator decision-making, with Ameer serving as a focal case through which ecological agency is examined and illustrated. The case was drawn from the PLC Network’s PD program that explicitly promotes agency for both facilitators and participating teachers, making it a strategic context for examining how facilitator agency is achieved under conditions that foreground autonomous decision-making. Within this program, we used purposeful sampling to select an information-rich case that could illuminate how facilitator agency is achieved, particularly under conditions of out-of-field facilitation.

Ameer was selected for two reasons. First, he is an out-of-field facilitator, certified in history and citizenship with over 25 years of experience in these fields, who leads an SEL-focused PLC for mathematics teachers. This positioning as both an institutional authority (through extensive leadership roles, including his current position as eighth-grade coordinator) and a disciplinary outsider shaped the journey of his facilitation, making his case analytically productive for examining agency achievement across ecologies when disciplinary expertise is limited. Second, his data corpus offered rich episodes for examining decision-making from an ecological perspective.

Data collection methods

Data come from a non-interventionist first year with an Arabic-speaking middle-school PLC of mathematics teachers. We attended 30 yearly hours of meetings with this team and interviewed all teachers once. The middle-school team also visited our institution for their final meeting of the year. Data collection included: (a) an in-depth introductory interview (60 minutes) exploring Ameer's professional trajectory and educational experiences; (b) a final in-depth Member-Check interview (70 minutes) which included Ameer's reflections on five facilitation dilemmas identified by the researchers during the PLC meetings; and (c) audio recordings of eight weekly SEL PLC meetings (90 minutes each) conducted throughout the 2024–2025 school year. Eight of the ten PLC meetings were audio-recorded (all except the first two weeks). Interviews provided access to Ameer's retrospective sensemaking and orientations, while audio recordings allowed analysis of in-the-moment facilitation decisions and their interaction with contextual conditions. All data were audio-recorded in Arabic, besides the Member Check interview, which took place in Hebrew and included another PLC leader (Mira). Data was transcribed using automatic transcription software. Translations were produced by the first author (a native Arabic speaker) with attention to semantic accuracy to preserve participants' meanings. All participants provided written consent to participate in the study.

Data analysis methods

During the year, we reviewed the audio recordings of the meetings, paying attention to the content introduced by the facilitators, to the meetings' participation structures, and to teachers' interests and concerns. From this broader review, building on feedback methodologies introduced by Cobb et al. (2018) MIST Project, towards the end of the year we articulated five preliminary key ideas that organized recurring dilemmas in the facilitator's work: (1) balancing external resources with teachers' pressing issues, (2) balancing SEL and mathematics, (3) choosing between open and structured discussion formats, (4) building continuity across sessions and into classrooms, and (5) linking PLC work to teachers' wider school roles and contexts. We refined these ideas through iterative analysis of interviews and meeting recordings, as well as successive rounds of collaborative sensemaking with the team leaders, the whole research team, and the PLC Network leadership team. We do not treat the five key ideas as findings in this paper. Rather, they served as sensitizing themes that guided Member Check interviews and episode selection. This conference paper focuses on a key idea: balancing SEL and mathematics, as it foregrounds the distinctive tensions facing out-of-field facilitators and resonates with ongoing discussions in mathematics education about integrating affective dimensions into PD.

The main episode we selected for analysis comes from the seventh meeting, where the tension between SEL and mathematics was explicitly surfaced, based on analytic salience and triangulated evidence across recordings and interviews. The episode was first analyzed using ROGI (addressing RQ1) as an explanatory framework for

understanding what drives the decision, specifically, which resources were mobilized, which orientations were invoked, which goals were pursued, and which identity positions were enacted. To address RQ2, we examined how these decision-making processes contribute to the achievement of agency over time. Whereas ROGI specifies what drove decisions within a meeting episode, it does not explicitly theorize how those decisions become possible or constrained through temporal and institutional conditions. We conducted a second interpretive pass, locating the same episodes within their broader contexts for action, including institutional expectations, program scripts, relational dynamics within the group, and temporal pressures. This two-step procedure enabled us to explain both the content of decisions and the factors that drove them (ROGI), as well as a broader perspective on why particular decisions became possible, necessary, or constrained as the PLC unfolded (ecological agency).

FINDINGS

The findings below focus on the key idea of balancing SEL and mathematics. The seventh meeting presents a vibrant episode where teachers engaged with a series of mathematical games that promote engagement. This experience was led by an external teacher invited by Ameer. The six teachers rotated in pairs between five tables with different activities. Their high level of engagement was indicated by the atypical loud volume of mathematical discussions, laughter, and excitement. After solving mathematical problems for about 30 minutes, Ameer asked the teachers to reflect on their experiences (15 minutes), prompting reflections on their feelings of joy, perseverance, and confidence, positioning these as relevant to students' participation as well. While some teachers started to discuss the mathematical learning potentially implied in such activities, Ameer foregrounded affective talk with facilitation prompts such as "What did you feel?" and "What does this give you as a student?" When a teacher raised concerns about such an activity, Ameer reframed the issue around students' feelings and proposed an adaptive response. The first author noted in her field notes that interesting issues were raised by the teachers, but were not fully developed. The session then shifted to the PLC Network slides about quality instruction.

This episode illustrates several dilemmas in balancing SEL and mathematics: Ameer had to navigate recurring tensions between responding to mathematics teachers' emerging concerns, meeting the PLC Network programmatic expectations for structured tools (e.g., conversation protocols and meeting slides), as well as the school management's planned focus on SEL. These competing demands required Ameer to make ongoing choices about planning and his moment-to-moment facilitation moves. To navigate this, we learned in the Member Check interview that Ameer experimented with surveys and app-based tools (also provided by the PLC Network) to surface teachers' needs, but found the data inconclusive, leaving him unsure how to proceed. This illustrates that Ameer's agency was not limited to in-the-moment responsiveness but also involved strategic planning and adaptation to ambiguous or conflicting demands. Across the introduction and Member Check interviews, Ameer positioned himself as both an experienced educator in value-oriented and community education

and as a facilitator who is “not from the mathematics domain,” yet accountable for making the work usable for mathematics teachers. This identity positioning allowed Ameer to stabilize his authority and focus his facilitation on making SEL practically relevant to mathematics teaching, without claiming disciplinary expertise.

Across the episode selection, Ameer's ROGI profile revealed relatively consistent patterns. His resources included a long professional trajectory across non-mathematics subjects (history, civics, Islamic education), leadership roles, prior facilitation experience in value education and SEL, and the PLC Network practical tools and structured discussion protocols (aimed to inquire into teachers’ problem of practice). His orientations emphasized moving beyond 'the book' to connect learning to students' lived realities, treating affect and social interaction as legitimate conditions for mathematical learning, remaining responsive to what emerges, and framing SEL as something to be experienced rather than merely discussed.

Ameer's goals included shifting mathematics teachers' prevailing self-image from 'numbers' toward a more emotionally attuned stance, translating SEL into usable classroom judgment, diagnosing participant needs, and satisfying program expectations. His identity positioning was consistently that of an accountable, implementation-oriented facilitator and practical translator rather than a mathematics educator. Taken together, these patterns reveal a facilitation approach that positions emotional engagement not as supplemental, but as central to pedagogical decision-making across both facilitation and teaching.

This ROGI profile was not a static background, but rather a dynamic repertoire that Ameer repeatedly mobilized in response to context-specific sensemaking. For example, during the Member Check interview, we specifically asked Ameer about his decisions in the seventh PLC meeting mentioned above. We mentioned that teachers started raising problems of practice when he moved to the next “quality instruction” activity. We found out that Ameer was frustrated by being required by the PLC Network to present this content, and he was aware:

> In prior years, I was able to tell them [the PLC Network] I’m not doing ‘quality instruction’, I don’t want to deal with it. But they push you to engage with it, and it comes on the account of SEL and on the account of teachers’ problems of practice…

Then, seeing our surprise, Ameer further explained that this “push” is originating in the “office” [Ministry of Education]. Mira added that it is not just the “office” but also comes from the teachers themselves, who have expectations to get tools and practices, and they don’t feel they get it when the PLC leaders focus so much on problems of practice. This short interview excerpt illustrates another way in which moment-to-moment decisions within the PD were interconnected to different PD ecologies. Importantly, these ecologies were not just a constraint, and introducing math problems with a focus on their emotional context, for instance, was not just a product of his goals and knowledge; it was enabled and prompted by the school administration’s earlier requests for more subject-specific SEL strategies. Ameer's identity as an accountable,

implementation-oriented facilitator shaped how he responded to pressures from multiple directions, including school leadership's demand, participant expectations for applicable classroom tools, and the PLC Network's emphasis on enacting program-defined practices. To manage these demands, Ameer introduced structured reflection prompts following each activity, encouraging teachers to connect SEL to their specific students' experiences. These adjustments helped Ameer navigate institutional demands while preserving a facilitation stance grounded in teacher experience and emotional engagement. These facilitation decisions illustrate how Ameer's agency was not a fixed trait but an emergent accomplishment, enacted through context-sensitive judgments under institutional and relational constraints.

In short, ROGI identifies what motivated Ameer, but by itself, it cannot explain how his agency to balance SEL and mathematics was either afforded or constrained by the contexts. These include responsiveness to the PLC interactional context (micro-level), school leadership and disciplinary teams (meso-level), the PLC Network (the exo-level), and working conditions in a school that serves a minority population with its own histories, challenges, and opportunities (macro-level). All in all, Ameer's facilitation did not follow a linear input-output path. Instead, it emerged from a complex web of sensemaking experiences and conditions.

Crucially, Ameer's out-of-field status (not being a math teacher) also played into this ecological balance. Initially, it was a potential constraint; he lacked subject-matter authority, which could have limited his influence. However, Ameer transformed this constraint into an affordance for agency. He adopted the identity of a learning partner rather than a content expert, positioning himself as a facilitator focused on pedagogy and student well-being. This stance resonated in the context of a minority Arab-speaking school where teachers often feel external pressure to improve test scores. This strategic use of outsider status illustrates how agency can emerge not despite constraints, but through their reframing as relational assets. Ecologically, these factors interlocked to afford agency, including the school's cultural-linguistic setting, institutional support, and Ameer's role as a coordinator familiar with students' lives. Each decision Ameer made, such as dedicating part of a session to teachers' emotional reflections on a math lesson, or adjusting a planned activity when a teacher shared a personal classroom story, emerged from this interplay of personal resources, orientations, and goals with agency as an ongoing achievement across an interconnected set of PD ecologies.

DISCUSSION

This study contributes to understanding facilitator agency in professional development as an ecological achievement. While prior research has characterized the knowledge and moves involved in effective facilitation, it did not fully and explicitly explain why certain orientations or goals are not always enacted. By integrating an ecological perspective, our study extends this trajectory by lifting an ecological perspective on mathematics teachers' sensemaking and agency (Biesta & Tedder, 2007; Priestley et

al., 2015; Ehrenfeld, 2022). We explored and illustrated an account for how institutional demands, relational dynamics, and temporal pressures shape the possibilities for action. The case of Ameer illustrates what this integrated lens makes visible. His decisions did not reflect a radically autonomous choice, but rather ongoing negotiation with structural pressures (such as school leadership and program scripts, all within an Arab minority school), as well as participant expectations for usable tools. This analysis contributes an ecological account of facilitator agency, showing how decisions unfold across planning, enactment, and reflection. It highlights how facilitators working in boundary-crossing roles, such as those in out-of-field or minority-language contexts, draw on identity positioning and practical tools to navigate tensions. In doing so, our study extends existing accounts of facilitator decision-making, illuminating how agency is continuously negotiated within evolving professional ecologies.

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