Complexifying the Generation of an Aim in a Teacher Preparation Networked Improvement Community

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Abstract: Although networked improvement communities (NICs) have emerged as a popular approach to improvement and research-practice partnerships, research has not focused on unveiling and examining the processes that comprise the launching and enactment of NICs. In this study, we examine an important process in launching a NIC: converging on an aim. We focus on engagement with tensions that emerge in this process and how members' engagement with a central tension—language acquisition versus multilingualism—unfold to shape the network's aim. Our analysis revealed that the evolving ways members engaged tensions over time shaped the network's aim and theory of improvement in ways that came to also shape the NIC's institutional logic. Our study highlights the need to study convergence as critical processes that shape how NICs come to be enacted.

Introduction

Networked improvement science has emerged as a prominent approach to research-practice partnerships in the field of education (Coburn, Penuel, & Geil, 2013), and is particularly new to the field of teacher preparation. Research has revealed that inquiry in teacher preparation has typically involved studying changes in beliefs and attitudes relative to teacher preparation program activities for one group of teacher candidates, in one course, at one point in time (Cochran-Smith et al., 2015). Contrastingly, networked improvement science centers addressing *problems of practice* rather than studying specific activities; using *measurement* to gauge improvement on a problem rather than studying the effects of an activity; engaging in *iterative cycles of testing* to learn about changes in contrast to implementing an activity at scale; and working in networks, centered around an organizing hub, called *networked improvement communities* (NICs) to learn about addressing the same problems across settings rather than working in silos and learning about activities in a single course (Bryk et al., 2015).

NICs are frequently discussed as organizations (e.g., Cannata, Cohen-Vogel, & Sorum, 2017; Russell et al., 2017); however, the unfolding interactions and enactment of these organizations has not been prioritized as an area of research. We contend that examining the *processes* that comprise these NICs in the context of teacher preparation—a particular type of organization—offers insight into how teacher preparation programs might work together on shared problems, addressing a pressing need to study teacher preparation across multiple sites (Cochran-Smith et al., 2015). Studying interactions that comprise these networks is critical to understanding how networks can be successfully launched across contexts and problems of practice. Unveiling the ways in which the enactment of these networks unfolds also offers lessons for understanding research-practice partnership processes more broadly, particularly as RPPs continue to grapple with the varied techniques, strategies, and decisions that comprise these partnerships (Coburn & Penuel, 2016).

We focus our study of these interactions on one core "phase" of initiating a NIC: developing a shared aim (Russell et al., 2017). In NICs, aims are statements that specify what will be improved, by how much, and by when. In the limited scholarship on networked improvement science, the process of generating an aim statement is typically described as taken for granted. In an example highlighted in Russell and colleagues' (2017) framework for initiating a NIC, the authors state that during the launch of a NIC, "the initiation team identified the NIC's focal problem, low success rates in developmental math courses, by beginning with a larger concern: that of low graduation rates in community colleges." Largely absent from the literature is how NICs come to define shared problems. We seek to complexify and understand this process by asking: What tensions emerged among teacher educators in the development of a shared aim and how did network members' engagement with those tensions unfold over time? We focus on stakeholders' engagement around one tension, between language acquisition and the promotion of multilingualism, to illustrate how people in the NIC successfully converged on a shared aim.

Theoretical framework

We conceptualize tensions using cultural-historical activity theory (Engestrom, Miettinen, & Punamaki, 1999). In framing social life and organizations as comprised of activity systems that are constantly changing, cultural-historical activity theory conceptualizes tensions as competing and contradicting components of a given system of activity that, when engaged, are sources of transformation and change. Drawing from this conceptualization,

we seek to identify emerging tensions by attending to activity systems that comprise a teacher preparation NIC and how they shape the ways NICs are enacted.

Additionally, we adopt a processual lens to investigate how tensions are engaged in the development of a shared aim. We frame NICs as types of organizations comprised of actors and processes. Traditionally, studies of organizations have centered on the ways structure dictates agency and actions, positioning organizations as a set of structures that are unilateral, determinative, and static (Ortner, 1984; Langley, 1999). We employ a *processual lens* which views organizations as constantly becoming; comprised of a series of constantly unfolding processes; and made up of and situated within structures that constrain and enable action, and actions that simultaneously maintain, reinforce, modify, or transform structures (Giddens, 1984; Langley et al., 2013; Tsoukas & Chia, 2002). Adopting a processual lens offers insight into the complex processes that comprise a NIC to illuminate how tensions shape these networks.

We focus on tensions because they play a central role in transformation, change, and emergence (Engestrom, Miettinen, & Punamaki, 1999). We center interactions that occur among participants in the network to trace how tensions emerged and were engaged, and how tension-engagement evolved to produce a shared aim. We examined the tensions that emerged when a group of teacher educators sought to establish an aim related to the preparation of teacher candidates to support multilingual students. After a series of meetings, stakeholders constructed an aim centered on improving teacher candidates' dispositions, noticing, and practice for building on multilingual students' strengths. We seek to a) identify tensions that emerged in teacher educators' interactions, and more centrally, b) examine processually how members engaged a central tension en route to an aim.

Methods

Research context

This study's focal NIC is comprised of 44 teacher educators from seven different teacher preparation programs—all committed to issues of social justice and educational equity—based in research universities across California. Using survey data collected from the seven programs from a governing body, the directors of those programs, along with the California Teacher Education Research and Improvement Network (CTERIN), identified a general problem around which a NIC could be organized: candidates and mentor teachers expressed low confidence that candidates were adequately prepared to teach multilingual students. Each director took this problem back to their home campuses and worked to gauge interest from faculty for working on this problem. With this problem identified, teacher educators from each campus were recruited to join the network to work on this problem. In 2018-19, the network's efforts focused on identifying an aim, developing and refining a theory of improvement, and designing improvement measures. Teacher educators began to meet remotely during the summer of 2018 and participated in a two-day convening in September 2018. The convening focused on generating an aim and theory of improvement. After the convening, members agreed to meet remotely every month throughout the year. Subsequent meetings centered on receiving feedback from members on a proposed aim and theory of improvement. After the October 2018 monthly meeting, network members agreed to an initial aim and a theory of improvement. The central tool that was used to do this was a *driver diagram*, a visual tool that uses *primary and secondary drivers* to make conjectures that connect specific activities, experiences, and changes to the aim.

Data collection and analysis

The first author acted as the primary improvement facilitator for this project, as well as the primary person responsible for collecting data on the process of improvement in this network. Data for this paper consists of transcribed audio and video recordings from the following contexts: two, 90-minute, remote meetings in the summer of 2018; a two-day in-person convening in September, attended by all 44 teacher educators; and a video recording of a remote meeting in October 2018. To surface tensions that emerged among teacher educators as it pertained to the network's aim, we analyzed data from the September 2018 in-person convening. Using activity theory as an analytic tool, we drew from the work of Barab and colleagues (2002) by conceptualizing tensions as dualities, manifested as either competing elements within an activity system or as competing elements across multiple activity systems. We analyzed members' conversations, both in the whole-group and small-group interactions, specifically examining members' turn-taking and sequences as possible indicators of disagreement (Goodwin & Heritage, 1990). We also coded for dualities using versus coding (Saldaña, 2015) to surface the tensions teacher educators experienced while working in their respective teacher preparation programs. For each group, we wrote analytic memos capturing possible tensions that emerged. We identified 23 tensions and created categories that made visible the kinds, and salience, of tensions that emerged as the NIC attempted to converge on a shared aim. Five categories of tensions emerged, with four unique tensions that did not fall under any category. To find our focal tension that we would trace across teacher educators' interactions, we chose the

category that was discussed the most at the different small groups: preparing candidates for systems of schooling and preparing candidates to promote multilingualism.

To trace teacher educators' engagement with this tension, we examined data from the first summer meeting to the network's October 2018 meeting. We looked for instances in which teacher educators: a) challenged the idea of language acquisition or academic language; b) problematized standard English; and c) named the issue of language dominance and the positioning of some languages as more valuable than others. These three dimensions served as specific indicators for when teacher educators were engaging the tension.

Findings

We begin by providing a summary of the five broad categories of tensions that teacher educators surfaced and grappled with during the September 2019 convening. The first related to identifying the focus of improvement. This tension was primarily concerned with where preparation takes place: in fieldwork or university program experiences. The second tension centered on locating the responsibility for changing candidates' dispositions. For example, some had expressed a desire for multilingual candidates to take responsibility for their peers' dispositions towards multilingual students, where others had located this as the responsibility of the program. The third tension centered on the tension between preparing candidates for promoting multilingualism and preparing candidates for language acquisition. This included determining whether programs should prepare candidates for making multilingualism normative in schools or whether programs should prepare candidates for existing systems of schooling that promote language acquisition. The fourth tension centered on rethinking notions of differentiation. Some teacher educators expressed that differentiation was often seen as "technical" and "official" but had hoped to instead see it as a way to meet the "constellation of students' needs." The last tension centered on viewing students' strengths in relation to communities in families. For example, one teacher educator noted that "leveraging students' assets" often felt like a strategy to "take advantage" of what students bring and "leave their [family] behind" rather than "bringing" their family with them.

We focused on the tension between preparing candidates to teach students to acquire language versus preparing candidates to promote multilingualism because teacher educators' engagement with this tension was consequential in shaping the network's aim. To do this, we organize our findings in the phases of improvement work: defining and framing a problem; scoping the problem to an aim; and constructing an aim and theory of improvement. We describe how the tension evolves through each phase.

Evolving engagement with the tension between language acquisition and multilingualism

We highlight the extent to which members mentioned or engaged in conversation around the tension between language acquisition and multilingualism. We trace engagement with this tension through the network meetings, beginning with the summer meetings. In these meetings, we engaged members in a critical conversation that occurs in the early phases of improvement work (Bryk et al., 2015): framing and understanding the complexity of the original problem statement. Network members' engagement and interactions over this tension during these first two remote meetings were brief. In the first meeting, two teacher educators mentioned language dominance at two separate times. In the second meeting, three teacher educators problematized language acquisition and what one participant called "monolingualistic conceptions" of schooling. The tension between language acquisition and multilingualism was initiated but not taken up by other teacher educators for discussion.

However, this tension took center stage at the in-person convening in September 2018. Our analysis revealed seven separate conversations that centered on problematizing language acquisition, standard English, and language dominance. Discussions around the tension moved from brief and untouched by other teacher educators in the first two remote meetings to involved and salient during the in-person convening. Engagement with the tension also changed and evolved within the convening as the days unfolded. When the group shifted to the next phase of improvement work at the beginning of the in-person convening—developing a shared understanding of the problem—the tension around multilingualism and language acquisition came to the fore. We offer an example of an interaction that occurred during this phase of the work to illuminate: a) the evolution of engagement with this tension from previous meetings and b) the nature of the conversations at the intersection of the network's focus and the tension between language acquisition and multilingualism.

In this exchange, two teacher educators discussed an improvement science tool called a *fishbone diagram* (Bryk et al., 2015) meant to visualize an understanding of the problem and its causes. The fishbone diagram was organized around a problem statement that read, "Variation in how well-prepared UC teacher candidates are to teach multilingual students." Prior to this exchange, the improvement facilitator had asked teacher educators from different campuses to talk in small groups to interrogate and revise the diagram. One teacher educator, Patrick, worked as a lecturer and supervisor at his campus. The other teacher educator, Laura, worked as a supervisor at

her campus, while also working with her local school district on English learning initiatives. In the exchange, Patrick first articulates his desire to see the network focus on multilingualism and multiliteracy.

> *Patrick*: the thing that feels missing for me on here, is that a lot of these are good teaching for ELLs. Guadalupe Valdez says she's hesitant to use emergent multilinguals, because that's a promise we don't know how to—we don't have models institutionally...we've structured English acquisition. What does it mean to have schools where kids grow up confidently multilingual, multiliterate? [...]
>
> *Laura*: are you saying that you're agreeing with the label of multilingual students, or frame our problem like that, or you would change that?
>
> *Patrick*: I think that ought to be the goal—
>
> *Laura*: the overarching goal to create—multilingual students, which includes dual-language programs, dual-immersion programs [...]
>
> *Patrick*: Yeah, biliteracy all the way through. Yup. And I feel like I love using the ELA/ELD frameworks to teach language arts and to teach English teachers. But I feel like as a system we don't know how to prepare—[...] but all of that has to take into account the social and political and cultural factors that—
>
> *Laura*: We don't have the structures in place, yeah, I agree with you 100%. [...] we have the chance to change it, but then you have to have the personnel to do that [...] we don't have the infrastructure [...]

Patrick shared his vision for what he would like the network to focus on, noting the unfulfilled promise that the term "multilingualism" implies. Laura's response was to agree with his critique of the realities of a system that prevents that vision from becoming realized. This interaction highlights the tensions that existed in three separate activity systems. In the activity system of this network, the lack of clarity around the network's object at this phase, and the teacher educators' role in interrogating the focal problem and fishbone diagram, led these two teacher educators offering up disagreements about what the focal problem of the network should be. At the intersection of the activity systems of teacher preparation programs and schools, the object of schools, language acquisition, is potentially in conflict with the desired object of teacher preparation programs that Patrick describes, multilingualism and multiliteracy. Other members also surfaced this tension for discussion with their group. For example, Mick examined the fishbone and noticed a contradiction:

> The bias towards basic or proper English in K-12 classrooms and programs may not understand how to teach English for supporting academic language. Those two seem to contradict each other a little bit, right? We want to teach students to use and understand academic language but there's a bias towards proper English so in my mind [...] there is a difference but it's also confusing.

When asked to clarify and expand, Mick, a doctoral student teaching in his university's teacher preparation program, responded that if he were an English/Language Arts teacher, he would want his students to use a "certain vocabulary," but also added that "you don't want students to talk in a certain way or essentially lose their own culture." Although Mick had not articulated a stance the way Patrick or Laura had, he also experienced a contradiction through interrogating the fishbone diagram. In both exchanges, members positioned the fishbone diagram as a tool for surfacing an opportunity to identify or change the network's focus (in the case of Patrick) and in surfacing a contradiction (as was the case for Mick). Additionally, these exchanges highlight how these interactions around this tension changed when attempting to focus on a shared problem. For Mick, this tension was salient, challenging, and even "confusing" for trying to understand the focal problem; for Patrick, the focus of the network should center on how programs prepare candidates for what schools should be; and for Laura, the focus of the network should attend to the ways in which schools are currently structured.

After these exchanges on the first day of the convening, members' engagement with the tension evolved to center on definitions of multilingualism and how a more inclusive definition should shape the network's improvement efforts. To highlight this, we offer an example from the second day of the convening. On the second day, the facilitators centered the meeting on scoping the network's focus on a desired outcome in order to construct an aim. This whole-group exchange served as a share-out following 18 minutes of group discussion about five possible, broad outcomes that were presented to the group derived from the two summer meetings. Teacher

educators were asked to interrogate and modify these outcomes and share out what they had done before selecting which category should be the focus of the network. Esmerelda, a teacher educator, responded that she and her group had framed the problem differently than how the fishbone had framed the problem, saying that "we are all teachers of language" and "language does not equal English." To this, her colleague, Madeline, who also sat at her table, responded, saying that this framing "changed the [outcomes]" to which the network should focus, noting that one of the outcomes in particular—the one focused on language development and acquisition—"shifts when the only language being acquired is not English."

Their groupmate from a different university, Charlotte, followed by naming multilingualism as aspirational: "and the kind of implicit norm that English is the norm or that monolingualism is the norm. And so we were seeing multilingualism as the norm, or the aspirational norm. But everything looked very different once we looked through that lens." These exchanges indicated a shift in the way the tension was taken up by the group in that moment. After Esmerelda had mentioned that "language does not equal English" as a way to reframe "language acquisition," the members at her table contributed to the whole-group conversation by reframing what "multilingualism" had meant, instead opting for a more "aspirational" definition that included students' various ways of speaking and communicating, in English and in other languages. This group problematized the framing of the problem where "multilingual students" was synonymous with "English language learners," and by extension, challenged whether the categories of outcomes made sense under this new definition. In the rest of the whole-group conversation, which lasted 40 minutes in total, we saw no evidence of disagreement with this proposed definition, although some members of the group either offered agreement or attempted to re-center the conversation around this new definition of multilingualism. Together, these exchanges highlight that members' engagement with the tension between language acquisition and multilingualism evolved from a focus on reconciling existing systems of schooling with teacher preparation program aspirations, to a focus on a definition of multilingualism that was broad enough to be inclusive of all students and did not center academic English.

We note that while we observed little disagreement with this shift to a more inclusive definition of multilingualism, not all members of the network agreed with this direction. Laura, who surfaced a desire to focus on language acquisition, was not present during this second day of the convening or any future meetings. Another teacher educator, Alicia, mentioned to the facilitator at the in-person convening that there needed to be an attention to the way schools were organized. Alicia did not feel comfortable sharing this because she was new to her position at her teacher preparation program. We found this convergence on a commitment to multilingualism, and subsequent decentering of concerns around existing systems of schooling, consistent with Mehta's (2015) claim that any problem statement and its framing centers and values some perspectives in the collaborative work of education reform over other perspectives. In this case, teacher educators with orientations to what schooling *could* look like, what Emirbayer and Mische (1992) term the projectivity element of agency that centers possibilities, became foregrounded. These exchanges highlighted that while teacher educators came from different programs, many carried an orientation to imagining futures and alternatives to existing systems of schooling.

The facilitators centered the next phase of the work on attempting to converge on an aim statement using the aims that teacher educators generated. During this phase, engagement with the tension between language acquisition to multilingualism moved from grappling with definitions of multilingualism to codifying a resolution in a driver diagram. After the whole-group discussion around the categories of outcomes ended, the facilitator asked teacher educators to brainstorm a list of aim statements based on the conversation around definitions of multilingualism. Following the convening, the research team then categorized the newly generated aim statements from the teacher educators into like categories, identified the most common type of aim statement, and constructed a driver diagram. In this first draft of a driver diagram, the aim centered on improving candidates' noticing, dispositions, and practices for leveraging multilingual students' assets. Two primary drivers emerged from the categories: empathizing with multilingual students and designing instruction. Additionally, we identified and articulated eight secondary drivers—drivers that are attached to primary drivers that are typically more specific concepts or processes (Bryk et al., 2015). To understand the evolution of engagement with this tension, we highlight exchanges related to two secondary drivers: a) help candidates be aware of their positionality, privilege, and the myth of meritocracy; and b) help candidates identify linguistic and sociolinguistic assets.

These two secondary drivers proved to be important for teacher educators who had advocated for a broad definition of multilingualism that decentered standard English to guide the network's improvement efforts. During the October 2018 monthly network meeting, the facilitators introduced a draft of the driver diagram to the network. The facilitator asked members to interrogate and modify the driver diagram. In this conversation, Charlotte noted and approved of the secondary driver containing language about positionality, saying "I think it's important that we include that statement about positionality that I saw in the driver diagram [...] it's a good thing to make our norm be multilingualism, as opposed to monolingualism." Charlotte pointed out that the language around "positionality" in the secondary driver "helping candidates be aware of their own positionality, privilege, and the

myth of meritocracy" was important for centering a broader definition of multilingualism, locating this commitment within the diagram. She then offered a suggestion to make explicit that some students learning a second language are positioned differently, saying, "we don't want to lose the fact that not everyone learning another language [...] has the same kind of social capital. [... It's important for] our candidates to [be aware of] the sociopolitics and the social positioning of languages and their speakers." Charlotte's framing of her suggestion as not wanting to "lose" something signaled to the hub that issues of language positionality were absent. In the next iteration of the driver diagram, the hub revised the driver to "Candidates become aware of positionality, privilege, and sociopolitical language ideologies." In these exchanges, the driver diagram served as an important tool for codifying and reifying teacher educators' commitments and values around language and language instruction. After engagement with the tension between language acquisition and multilingualism became enacted through defining multilingualism, it then became lived in the driver diagram as central to the theory of improvement that guided the network's improvement efforts. Although we hesitate to claim that the tension was "resolved," we note that the successful attempt to codify and navigate the tension using a driver diagram helped to make clear to network members the commitments and values under which the network would operate.

Through these phases of improvement work—defining and framing a problem; identifying an aim; crafting a theory of improvement—we highlight how a tension emerged and is engaged with in ways that shape the network. Engagement with the tension between language acquisition and multilingualism evolved from treatment of the tension as peripheral, to identifying the tension as one that exists between competing activity systems, to engaging with the tension through attempts at defining multilingualism, and finally to navigating the tension by codifying a decision to center multilingualism in the network's driver diagram. Having portrayed members' evolving engagement with this tension, we turn to a discussion of this unfolding engagement. We offer implications for research and practice of improvement, particularly NICs, and its relevance to teacher preparation

Discussion and conclusion

In taking a processual and activity theoretical lens to examining the processes through which a NIC converges on a shared aim, we highlight how people participating in these networks must engage with core tensions in order to move the work forward. Our analysis revealed the ways in which engagement with a salient tension in teacher preparation—preparing candidates for language acquisition versus preparing candidates for promoting multilingualism—unfolded in ways that shaped how the launch of a teacher preparation NIC was enacted.

While members focused on framing, defining, and understanding the problem, attempts at converging around a shared problem created space for members to surface contradictions between existing school systems and promoting multilingualism. These interactions were evidence of competing objects of two systems of activities involved in the preparation of teachers: schools and teacher preparation programs. The object of schools and school districts centered around language acquisition; and the object of teacher preparation programs was to prepare candidates for a different status quo, in this case, multilingualism. These interactions also made visible what Emirbayer and Mische (1992) call situated temporal agentic orientations, where action is driven by varying degrees of orientation to the past, present, and future. Engagement with the central tension surfaced disagreement between those who were more oriented to the past (existing school systems centered on language acquisition) and those oriented towards the future (imagining possible futures where multilingualism is normative). Together, competing objects of multiple activity systems and situated agentic orientations shaped engagement with a core tension in improving teacher preparation for multilingual students. We argue for a need to attend to the competing objects of the central activity systems implicated in improvement work, the specific agentic orientations that emerge, and how participation structures (Goodwin & Heritage, 1990) and the make-up of the people in the room constrain and enable particular orientations.

The phase of the work focused on convergence around a shared aim created opportunities for teacher educators to advocate for a shared aim around promoting multilingualism. This was characterized by participants attempting to define what multilingualism meant for the group, while decentering an attention to language acquisition and existing school systems. The decentering of language acquisition and existing systems is in line with Mehta's (2015) claim that framing a problem positions some perspectives as more peripheral or central. In this case, perspectives centered on language acquisition became peripheral as the network's efforts came to be framed as promoting multilingualism. We view the turn to promoting multilingualism as the network's primary goal to be a function of the rather consistent institutional logics (Thornton & Ocasio, 1999) among the teacher preparation programs in this study. Each of the programs have stated commitments to social justice and equity, and these commitments may have played a role in many teacher educators' receptiveness to a broad and inclusive definition of multilingualism that centered the sustenance of students' language and cultures.

The commitments to multilingualism then became codified in a driver diagram that came to represent many of teacher educators' commitments and values inasmuch as it represented a concrete theory of action. The

diagram mediated teacher educators' and the facilitators' participation by a) making explicit the object of the network's activity (Engestrom, Miettinen, & Punamaki, 1999), b) articulating a theory of improvement that would then help facilitators guide improvement efforts, and c) allowing teacher educators to locate their values, commitments and concerns within the network's theory of improvement. Typically, driver diagrams are discussed as tools that articulate a NIC's aim and theory of improvement. However, our study highlights the role a driver diagram played in making visible a NIC's institutional logic by making explicit intended enactment, commitments, and values.

We conclude by advocating for a processual and activity theoretical lens to the work of enacting NICs. Our study highlights the need to attend to *how* improvement work is carried out and *how* stakeholders engage central tensions in the work of improvement. We sought to complexify and problematize the processes of converging on an aim that are, at times, somewhat oversimplified in networked improvement science texts (e.g., Bryk et al., 2015; Russell et al., 2017). Our study revealed that processes of convergence contain sensitive and important moments for surfacing tensions that must be engaged to move the work forward. An important practical implication of our work is the need to attend carefully to *how* participants are engaged with tensions central to advancing improvement work, in order for a shared aim to emerge. Improvement work is foundationally concerned with changing systems (Bryk et al., 2015) and understanding the processes through which tensions—critical sources of transformation and change—are engaged in the context of improvement work is critical for sustaining and advancing a continuous improvement approach in education.

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