"Being Able to Help Students… Has to Be Earned:" Making Sense of Relational Work in Mathematics

Grace A. Chen, Vanderbilt University, grace.a.chen@vanderbilt.edu

Abstract: Strong student-teacher relationships are important for addressing and mitigating injustice in secondary mathematics classrooms. However, idealized rhetoric around inclusion and equity oversimplifies the ethical demands of relational work, often ignoring how constantly-shifting power dynamics shape student-teacher interactions. This study reads poststructural theories of relationality alongside empirical data from a yearlong ethnographic study of two Algebra 1 teachers, integrating insights from theory with insights from practice to interrogate commonsensical understandings of student-teacher relationships. Drawing on Derrida's interrogation of hospitality as a metaphor for inclusive and equitable classrooms, it offers a window into how teachers make sense of the complexity and ambiguity of relational work in a way that honors both student agency and their own authority. Findings can support secondary mathematics researchers and teachers in parsing and acting on the ethical commitments entailed in doing relational work within an unjust educational system.

Introduction

In response to ongoing patterns of marginalization, mathematics educators have dedicated extensive energy to creating classrooms considered inclusive and equitable for students from oppressed communities. Strong student-teacher relationships are touted as essential to mitigating the unjust power relations that surface in mathematics classrooms, but teachers' aspirational images of inclusiveness can be as limiting as they are enticing. For example, idealized notions of "creating welcoming environments" and "inviting students in" assume teachers' ownership over mathematics or over the classroom without accounting for students' agency in co-constructing these spaces. This study seeks to investigate how teachers experience and respond to the tensions of building inclusive and equitable classrooms with students from marginalized backgrounds while avoiding paternalistic stances; findings can suggest opportunities for supporting teachers' sensemaking and practice.

To engage these questions, I begin with two premises: first, we are always already in relation with both human and non-human others (e.g., Butler, 2005). Second, relations are always situated, particular, and anchoring; determining the "right relation" to have with another not only depends on context—who the actors are, what prior histories each may have, and how these prior histories reflect or challenge normative power relations—but also roots one to the context in a way that cannot be generalized or transferred (Bang & Vossoughi, 2016). Given these starting assumptions, I use the construct of *relational work* to conceptualize the focal phenomenon teachers are grappling with and the construct of *sensemaking* to describe how they are doing so.

Relational work

Substantial empirical research links strong student-teacher relationships to desirable outcomes for both students and teachers (e.g., Cornelius-White, 2007). Likewise, strong relationships are considered central to equitable, culturally responsive, and rehumanizing pedagogy, particularly for students of color (Ladson-Billings, 1995) and in mathematics (Bartell, 2011). This literature documents the importance of strong relationships, their qualities, and the characteristics of teachers and students who build them, but seldom attends to how they evolve. To explore this development, I use the construct of *relational work* to foreground the interactive and agentic processes by which relationships are formed, sustained, and/or repaired over time.

In mathematics classrooms, relational work is often described through the lens of relational practices that teachers learn and apply to different groups of students. However, Philip (2019) challenges the universalism of conceptions that overlook teachers' positionality and ideologies, noting that relational work calls for teachers to reflect on how "social and historical power shape their interactions with students… [and] how identity is negotiated and constructed in interaction," among other political understandings (p. 4). Additionally, philosophers claim that relational work is ethical because it both reflects and constructs what teachers see as the *right relation* to have with students in an unjust educational system (Boylan, 2017). Building on these scholars, I conceptualize relational work as (a) *interactive* and *dynamic*, since relationships are constantly in flux as teachers and students exercise agency about how to participate; (b) *situated* in the context of time, place, and actors, thus requiring a constant integration of self-knowledge, knowledge of others, and societal knowledge; and (c) *ethical*, in that it is not only intricately tied to student learning but also that it "prefigure[s] the 'forms of social relations, decision-making, culture, and human experience' to which [teachers] aspire" (Boggs as cited in Philip, 2019, p. 4).

Teacher sensemaking

To study how relational work unfolds, I query how teachers understand it as they are doing it. I adopt *sensemaking* theory to frame teachers' processes of making meaning and acting on their meanings of the world (Coburn, 2001). Scholars have studied how storytelling (Horn & Little, 2010), representations of classroom practice (Little, 2003), and framings and representations of students (Bannister, 2015) shape teachers' sensemaking. Sensemaking also depends on teachers' prior experiences and beliefs, ideologies drawn from a racially stratified society (Philip, 2011), and commonsensical narratives about, for example, what it means to be a "good teacher" or who is a "good student." Since ideologies and common sense often operate at a visceral, pre-cognitive level, sensemaking exists not just individually and rationally but also as an affective and political phenomenon. I aim to extend this existing literature by linking *why* teachers do the work they do with *how* they do it in order to understand ethical complexities underlying relational work when mathematics education often contributes to social injustice.

Methods

To examine secondary mathematics teachers' sensemaking about relational work, I sought teachers who had strong relationships with their students and a habit of talking about their teaching practice. Franck To and Clark Zapatero (all names are pseudonyms) have taught for about 15 years at Banneker High School, a public school in a large urban center where students are predominantly identified as Latinx and eligible for free and reduced-price lunch. I shadowed them for one week each month across the school year, collecting extensive fieldnotes and video of their Algebra 1 classrooms, planning periods, collaborative meetings, and semi-structured interviews with them and their students. Having multiple data sources allows me to triangulate emerging interpretations.

I used the constant comparative method to conduct ongoing data analysis and inform in-process memos, surfacing moments where Franck and Clark echoed or contradicted each other or their previous selves and those that struck me as distinct from how other teachers might approach similar situations (Strauss & Corbin, 1990). Then, to identify the dilemmas and desires that condition Franck and Clark's sensemaking about relational work, I selected data excerpts in which teachers experience or express tensions, describe *in vivo* theories or engage in thought experiments, and/or tell stories about relational work. Following MacLure's (2013) method of coding as the "ongoing construction of a cabinet of curiosities" (p. 180), I read this data alongside poststructural texts about ethics and relationality. I sought the *wonder* in Franck's and Clark's sensemaking as they navigated relational work in order to draw attention to affective and ideological markers that signal what is both implicit and explicit.

Preliminary findings: Reframing hospitality

Commonplace narratives for inclusive and equitable mathematics classrooms often center idealized notions of hospitality that may seem benevolent but in fact reinforce dominant power dynamics. When well-intentioned teachers "invite" students into the otherwise-exclusionary domain of mathematics or into "warm and welcoming" spaces, for example, such that students can feel "comfortable" and "at home," the teacher is cast as gracious host and the student as grateful guest. Furthermore, teachers often reassert their authority by conditioning the invitation, and the boundaries of their hospitality, on students' behavior; to join a classroom mathematical community, students might be required to share their ideas out loud, or to volunteer information about their interests and lives outside the classroom. Here, I present an emerging analysis of how Franck and Clark make sense of this paradox of hospitality by (a) redefining the conditions of hospitality and (b) inverting the directionality of hospitality. By reading a transcript of an interview with Franck and an email exchange with Clark alongside poststructural theory, I illustrate their sensemaking about student agency in relation to teacher authority.

Redefining the conditions of hospitality

Instead of predicating his welcome on students' compliance with particular expectations, Franck embraced the "unapologetically asymmetrical" (Ruitenberg, 2015, p. 40) nature of hospitality as a gift and obligation on the part of the host rather than a reciprocal relation in which guests must meet certain conditions to maintain their invitation. Teachers, after all, do not choose their students the way a host might choose their guests, and instead must address themselves to uninvited strangers without "seek[ing] to reduce the independent nature of the Other's existence through domination, identification, understanding, or even care" (Todd, 2008, p. 177, as cited in Ruitenberg, 2015). To this end, Franck supposed that his "teacherly responsibility" was to "at least… just break the ice with every kid," in part by engaging on students' terms:

> I've never not taken an opportunity to get to know a kid. Like if you're gonna ask me a question or if you're gonna come ask me something, I'm gonna stop what I'm doing and respond to you. 'Cause like that's a valuable moment. 'Cause that doesn't happen all the time. Right?

Franck considered this to be his ethical obligation, regardless of how students acted:

> I will not discriminate on any kid… I might be a fit for a few, but in my perspective, I don't have a choice. Right? … I mean, right? They have a choice, but I don't have a choice. If they approach me, I'm gonna open myself up or at least give them the opportunity.

One might imagine Franck saying, as Ruitenberg (2015) does, that "a student's lack of engagement or active misbehavior does not change my position as host" (p. 41).

Derrida (2000) argues that hospitality can never be truly *un*conditional because hosts must maintain ownership over the home in order to remain hosts, but Franck contested *what* the conditions were; his engagement with students as relational agents was based not on their adherence to classroom rules but rather, on their demonstrated interest. Franck recounted responding to students who volunteered to tutor or help in his classroom by offering them supplemental reading or showing them mathematical toys. He contrasted these stories with those of students who used to, but no longer, stop by during lunch and students who repeatedly gave terse answers to his questions. In these cases, Franck dialed down his efforts: "if [student interest] is there, I will foster it, but I can't force a kid to like me… I'm not gonna go overboard… that's fine. I still talk to them." By responding dynamically to what students signaled from moment to moment rather than relying on either their previous actions or his own desire for relationality, Franck avoided both the imposition of his authority as a teacher and what Butler (2005) calls the ethical violence of demanding absolute consistency from students.

Inverting the directionality of hospitality

One way that Clark prioritized student agency was by extending pedagogical choices to students that traditionally lie solely within a teacher's purview. Despite his conviction in whiteboarding as a learning strategy, Clark offered it to students on the first day of school as "a thing I just want to try out." Later, he told me:

> I'm not sure I can deliver like, "This is the thing that is just such a great thing. Let's go do it." …If I'm like, "I don't know, maybe this will work. Maybe you'll think it's cool." Then they're up there and they're like, "I actually do kind of think this is cool, but it's not because Mr. Zapatero said it was cool," you know? "It's cool because I actually like it. In my mind I'm making this decision for myself."

Clark held open the possibility that "the arrival of the guest may change the space into which the guest is received" (Ruitenberg, 2015, p. 99): that students might reject whiteboarding. If, on the other hand, they continued whiteboarding, this decision would not be conditioned on Clark's assertion of his authority as a teacher and host to insist that students value whiteboarding too, but rather grounded in an opportunity for student agency.

Clark also felt that students could be hosts, conditioning *his* guest-ness in their physical, intellectual, and emotional space. He described Victoria, a student who routinely invited him into non-academic chatter during groupwork and rarely completed all the assigned tasks during a particular class period. Victoria frequently:

> humor[ed] some help with a problem. But it was clear that I wasn't really invited to press her, to try to get her to complete things or follow through… And here's the thing—I accepted that. She could shut the door on me after #3 without me pushing further into her space. Hmm…

By positioning students as hosts, Clark acknowledged Victoria's authority to keep out any invasions she was protecting herself from, even those that came from him (Derrida, 2000). He contrasted Victoria to Mark, a student who was "out on the porch with lemonade for me all the time," seeking Clark's attention through mathematical questions about assignments and non-mathematical references to shared interests like video games. Clark's conceptualization of hospitality recognized students' agency in determining the type of experience they wanted to have in his Algebra 1 class: "When we think about student freedom," he wrote to me, his authority as a teacher did not extend to "permission to barge into [students'] space without their invitation."

Beyond hospitality: Vulnerability, humility, and reflexivity

Together, Franck's and Clark's stories challenge commonplace narratives about hospitality that risk reproducing the same power dynamics that have historically marginalized students in mathematics by positioning teachers—especially of students with minoritized and often-excluded identities—as generous hosts and even saviors to whom students are indebted. Taking seriously the interplay between student agency and teacher authority by engaging what Ruitenberg (2015) calls an ethic of hospitality, however, demands vulnerability, humility, and

continual reflexivity. Franck admitted, for example, that "it's hurtful when you realize [students] don't like you" and Clark wondered whether he should act stricter when Victoria refused to do work or less enthused when Mark clamored for his attention. Nonetheless, Franck and Clark continued to open up themselves and their classrooms on students' terms, demonstrating their willingness to "undergo violation, to insist upon not… staunching vulnerability too quickly," even in the event of "an emphatically nonreciprocal response" (Butler, 2005, p. 100).

Conclusion

Many scholars have argued that mathematics education mirrors and manufactures oppressive patterns for students from marginalized backgrounds. Although strong student-teacher relationships may mitigate the unjust power relations that often characterize mathematics classrooms, identifying generic relational practices insufficiently theorizes student agency and provides teachers little guidance in responding to student agency or in questioning the narratives and metaphors frequently associated with relational work. Supporting teachers in negotiating the situated, dynamic, and ethical nature of relational work requires attention to the complexity and ambiguity of human relations, including the tension between student agency and teacher authority. By interrogating taken-for-granted assumptions about inclusive and equitable mathematics classrooms through the sensemaking and practice of two skillful and thoughtful teachers, this analysis offers a theoretically and empirically grounded perspective on how secondary mathematics teachers understand and act on what they see as the "right relation" to have with students as human beings in institutions—like public schools—that rarely encourage humanity.

References

Bannister, N. A. (2015). reframing practice: Teacher learning through interactions in a collaborative group. *Journal of the Learning Sciences*, *24*(3), 347–372.

Bang, M., & Vossoughi, S. (2016). Participatory design research and educational justice: Studying learning and relations within social change making. *Cognition and Instruction*, *34*(3), 173–193.

Bartell, T. (2011). Caring, race, culture, and power: A research synthesis toward supporting mathematics teachers in caring with awareness. *Journal of Urban Mathematics Education*, *4*(1), 50–74.

Boylan, M. (2017). Towards a mathematics education for ecological selves: Pedagogies for relational knowing and being. *Philosophy of Mathematics Education Journal*, *32*, 1–23.

Butler, J. (2005). *Giving an account of oneself*. New York, NY: Fordham University Press.

Coburn, C. E. (2001). Collective sensemaking about reading: How teachers mediate reading policy in their professional communities. *Educational Evaluation and Policy Analysis*, *23*(2), 145–170.

Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta-analysis. *Review of educational research*, *77*(1), 113-143.

Derrida, J. (2000). *Of hospitality: Anne Dufourmantelle invites Jacques Derrida to respond* (R. Bowlby, trans.). Palo Alto, CA: Stanford University Press.

Horn, I. S., & Little, J. W. (2010). Attending to problems of practice: routines and resources for professional learning in teachers' workplace interactions. *American Educational Research Journal*, *47*(1), 181–217.

Ladson-Billings, G. (1995). But that's just good teaching! The case for culturally relevant pedagogy. *Theory Into Practice*, *34*(3), 159–165.

Little, J. W. (2003). Inside teacher community: Representations of classroom practice. *Teachers College Record*, *105*(6), 913–945.

MacLure, M. (2013). Classification or wonder? Coding as an analytic practice in qualitative research. In R. Coleman & J. Ringrose (Eds.), *Deleuze and research methodologies* (pp. 164–183). Edinburgh, UK: Edinburgh University Press.

Philip, T. M. (2011). An "ideology in pieces" approach to studying change in teachers' sensemaking about race, racism, and racial justice. *Cognition and Instruction*, *29*(3), 297–329.

Philip, T. M. (2019). Principled improvisation to support novice teacher learning. *Teachers College Record*, *121*(6), 1-32.

Ruitenberg, C. W. (2015). *Unlocking the world: Education in an ethic of hospitality*. New York, NY: Routledge.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications.

Acknowledgments

This material is based upon work supported by the National Science Foundation under Grant Nos. DRL-1620920 and DGE-1445197. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.