

Teachers as Transformative Actors to Create Meaningful Learning: Agency in Practice

Yeliz Günel Aggöl (organizer), Boğaziçi University, yeliz.gunal@boun.edu.tr
 Ilana Horn (co-organizer), Vanderbilt University, ilana.horn@vanderbilt.edu
 Angela Calabrese Barton, University of Michigan, angiecb@umich.edu
 Antti Rajala, University of Eastern Finland, antti.rajala@uef.fi
 Brette Garner, University of Denver, brette.garner@du.edu
 Christine E. Hood, University of Denver, christine.hood@du.edu
 Edna Tan, University of North Carolina, Greensboro, e_tan@uncg.edu
 Samantha A. Marshall, North Carolina State University, smarsha3@ncsu.edu
 Katherine Schneeberger McGugan, Vanderbilt University, k.schneeberger.mcugan@vanderbilt.edu
 Jessica L. Smith, Vanderbilt University, jessica.smith@vanderbilt.edu
 Karen Underwood, Vanderbilt University, karen.underwood@vanderbilt.edu
 Alain Breuleux (discussant), McGill University, alain.breuleux@mcgill.ca

Abstract: This international collection of papers examines the many ways teachers exercise agency in light of the challenging realities they and their students face to create caring, engaging and transformative learning environments. The teachers in these studies exercise agency in various ways — as individuals, collectives, and fluid inter-professional and personal collaborations — to construct their professional identities and contribute to social change in their schools and society. Across these papers, we also find empirical evidence about the reflexive relationship between individual agency and social structures in shaping each other.

Symposium summary

Currently, students' lives are touched by economic inequality, racism, environmental crisis, and the ongoing global pandemic. Thoughtful teachers seek ways to reshape their practice in ways that respond to these realities. To support teachers' meaningful learning, professional education needs to account for teachers' agency, particularly as they confront the heightened ambiguity of the present moment. Instead of the commonplace approach of "delivering" professional learning for teachers to apply in their classrooms (Zeichner, 2010), recent scholarship recognizes teachers as sensemakers who are active agents in interpreting what they learn and in shaping learning environments considering their students' needs and public good. Nonetheless, the nature of teacher agency and, relatedly, how teachers' agency can be supported in professional learning and work environments is not well understood. In this symposium, we bring together studies that highlight many ways that teachers exercise agency in their practice, which has implications for professional learning.

This collection of papers takes a sociocultural view on learning and agency. In particular, we are interested in how teachers consciously make decisions and act to deal with problems of practice; to transform and expand their practice; to influence policies and procedures within their departments or schools; and to support their own learning by employing the social, material, and conceptual resources (Edwards, 2010; Engeström et al., 2020; Eteläpelto et al., 2013; Vygotsky, 1997). Importantly, in this sociocultural conceptualization, agency is not understood as a fixed quality, disposition or capability which resides in the individual mind (Biesta & Tedder, 2007; Haapasaari et al., 2016). It is socially constructed, achieved according to the constraints and resources of the social environment, and manifests in social practice (Lipponen & Kumpulainen, 2011).

In Papers 1 and 2, we see teachers improvise during and after the transition to remote learning during the COVID-19 pandemic. Paper 1 describes teachers' strategic maneuvering to prioritize their students' wellbeing during remote learning. In Paper 2, we witness how a teacher and her students collectively exercise transformative agency to overcome the stressful conditions of transition after remote pandemic learning by reconfiguring the demands of the learning environment. Papers 3, 4, and 5 document teachers' agentic responses to longstanding issues in and beyond schooling: lack of administrator support (Paper 3); structural racism in curricular pathways (Paper 4); and environmental crisis (Paper 5). These papers press our imaginations about what it might mean to support teachers' agency in their professional learning and work environments. To conclude, we offer Paper 6, a conceptual paper that highlights the complementary role of different levels—individual, collective, and relational—at which agency is exercised and resources are created.

The studies in this symposium attend to teachers' active role in solving problems, improving their practices and supporting their students' learning and well-being, in the heightened uncertainties they contend with in the broader school and world contexts. These studies show how teachers' environments constrain and enable

teachers' agency, with implications for the design of professional learning and the organization of teachers' work. From the conceptual lens provided by Paper 6, we conclude that while most of these studies focus on teachers as individuals, we see evidence of the potential for teachers' collective agency and relational agency as they work with others to solve the complex problems they face. The 90-minute symposium will be organized as a structured poster session. Each author will give a 5-minute overview of their papers (30 minutes), followed by 40 minutes for participants to visit the different posters. For the last 20 minutes, we will facilitate a group discussion.

Paper 1: Achieving agency within the authoring spaces of pandemic teaching

Katherine Schneeberger McGugan

Objectives

The COVID-19 pandemic drastically altered the contexts of U.S. schooling and students' needs, thereby changing what teachers had to respond to. This study examines how teachers made sense of and navigated these complex contexts. I take a socially constructed view of teacher agency as a function of their participation in figured worlds to explore the ways in which teachers' institutional commitments may have shifted.

Theoretical framework

I turn to Calabrese Barton and Tan (2010), who theorize agency through the lens of Holland and colleagues' (2001) conception of figured worlds: the particular set of meanings, practices, and actors that are recognized and assigned significance. The presumed stability of the figured worlds of school practices (Edwards, 2017) was ruptured by the COVID-19 pandemic, making room for teachers to reorganize themselves into a new figured world of online teaching. In this sense, all teachers were novices to the figured world of teaching during a pandemic, drawing an analytic lens toward their authoring space, the boundaries of which are determined by how teachers "choose to accept, engage, resist, or ignore appropriate dispositions tagged to their identities" (Calabrese Barton & Tan, 2010, p. 193). The ways in which teachers take up or reconstruct the identities ascribed to them by the moment and the context is both driven by and drives the possibilities for asserting agency within the new figured world of pandemic teaching.

Data sources and methods

To capture both the moment and participants' experiences as they changed over time in unanticipated ways, I designed an interview method I refer to as Reflexive Longitudinal Lifeworld Interviewing (RLLI). My sensemaking as a researcher evolved alongside my participants, as different phases as the pandemic unfolded, resulting in a need for the researchers to engage in in-process data analysis (Emerson et al., 2011). The findings of these ongoing analyses were then used in the development of subsequent interview protocols.

This study extends a four-year ethnographic study of experienced secondary mathematics teachers' learning. Data for this study includes five interview transcripts from eight participating teachers and content analysis of relevant district announcements and national media coverage of education (Altheide & Schneider, 2012). Analysis revealed that teachers continually prioritized students' wellbeing across three main authoring spaces — *structuring time*, *content*, and *grading* — as they reorganized their identities in their figured worlds.

Results

Teachers in this study achieved agency by *structuring their class time* in ways that attended to students' wellbeing as a result of negotiating their pedagogical responsibilities (Horn & Garner, 2022) to prioritize their ethical commitment to care. For example, Amber spoke of her responsibility to prioritizing students' social and emotional health during the pandemic, describing the variety of ways she uses this time to create a supportive space for her students' personal needs. Jason described having informal, non-mathematical conversations at the beginning of his classes, explaining that "It's more important that we're making that connection than that we get through the content" (*Interview 3*). Amber and Jason both achieved agency in the way they structured their time with students, prioritizing support and personal connections over mathematical instructional time.

Many teachers described loosening their stronghold on the teaching of mathematical *content* in ways that they hadn't before. Linda prioritized personal connections over her pre-pandemic commitment to mathematics. Kasey expressed a similar sentiment: "Students are not going to look back and be like, 'Whoa, I wish I had learned this.' I think what's important is that students feel like we care about them and that we're there for them" (*Interview 3*). Teachers ultimately achieved agency by valuing supporting students' wellbeing over teaching mathematical content.

Teachers also achieved agency in the *grading* space by attending to their ethical commitments over the institutional demands of assigning grades. As Brad described in Interview 2, "It's just going to be grading

obviously at your discretion, being mindful about kids' situations.” Jasmine also explained her commitment to kindness, saying “I decided to give credit in terms of extra credit, so that it doesn't harm their grade at all, and anything that they do, I will take it because I want to be kind right now” (*Interview 1*). When teachers thought about grades in their figured worlds of pandemic teaching, they negotiated the balance between institutional traditions of grades and their ethical commitments to care to better serve their students' personal needs.

Significance

Situated in a time where norms and institutional structures were temporarily suspended, this study explores the ways teachers negotiated and acted on their commitments to serve a community of students that was particularly vulnerable during COVID-19. Its findings speak directly to established policies by furthering our understanding of how institutional conditions shape instructional practice.

Paper 2: Teacher “response-ability” as sociopolitical allyship: Seeding rightful presence in middle school STEM

Angela Calabrese Barton & Edna Tan

Objectives

This study focuses on three teachers' “response-ability” in one middle school during the return to in-person schooling after remote learning during the COVID-19 pandemic. We investigate how teachers witnessed the oppressions minoritized youth experience through the political and structural continuities that shape science classrooms during a multi-pandemic, and the practices they enacted to transform these conditions.

Theoretical frameworks

In our study, we use the Rightful Presence framework to investigate teachers' transformative agency. The Rightful Presence framework attends to historical and contemporary inequities in teaching and learning, calling attention to the necessity of allied political struggles educators and youth collectively engage in to re-author rights. Transformative agency is both collective and relational and involves intentional analyses of power and action in relation to systems of privilege/oppression (Bajaj, 2018). Transformative agency sheds light on teachers' practices for fostering rightful presence. Learning to notice/disrupt/transform systemic oppressions through critique, action, and reflection involves “response-ability” — “to witness beyond recognition” and “to enable response-ability from others” (Villenas et al., 2019, p. 156).

Data sources and methods

Teachers taught a STEM unit — “how can I make my classroom more sustainable?” — in a school serving predominantly Black and Latinx youth. Students used engineering design practices, disciplinary core ideas and a sustainable communities framework to build authentic projects to support their classroom communities.

Using critical participatory ethnography, the following data were generated: Class video recordings, student/teacher interviews, fieldnotes, and artifact collection. Data were analyzed in the grounded theory tradition (Strauss, & Corbin, 1998).

Findings

We present an illustrative vignette followed by our main claims. Ms B's students returned to “in-person” after 15 months of remote school. Due to “learning loss” and safety concerns, the school day was restructured: Students stayed in the same classrooms and small groups. Specials were eliminated, and science instructional time was reduced. Students described school as stressful and boring:

There is a lot of pressure on kids. Me personally, it's like, *you need to do this! You need to do your work!* They [teachers] don't give us much freedom from that. . . Before [COVID] it was like, we have more fun, getting more breaks. But then when it [in-person school] started, it's like, we couldn't, because COVID. (Ana, 6th grade student)

Ms. B launched the return to in-person with the engineering unit to support students in building a caring classroom community. One morning, when she announced STEM class was over and it was lunchtime, students ignored her and kept working. Instead of reprimanding them, Ms. B. paused, asking how they could keep working and still eat. Students developed plans to take turns gathering lunches, allowing them to eat and work. Contrary to the prevailing somber mood, the 6th-grade hallway filled with the sounds of students' excitement.

Ms. B then pushed afternoon math to another day, creating more time. She asked students what they needed and how she might support them. The ensuing conversation centered students' desires to be in school differently, while elevating their insights and imagination. Consider the Zen group's project, a "light-up Zen poster" (rainforest mural with lit-up animals) meant to transport the viewer to "not school" with the animals bringing "joy and relief". The group needed help to identify a place where kids could "take a break without a mask." Another group worked on the LEH game, consisting of light-up sliders and a timer to be built on the gym wall, supporting students' "movements breaks." This group needed help getting their light-up sliders to work, and in, seeking support from other teachers for activities that took place outside the required day-long pods.

Ms. B engaged in pedagogical "response-ability" — or to witness beyond recognition — as acts of transformative agency. For Ms. B, this response-ability took two forms. First, she *engaged in-the-moment strategic pausing, halting forward trajectories of certain assumptions*, such as when Ms. B paused clean-up to support students in planning their work/lunch sessions, or when she paused the mathematics curriculum. This pausing pushed back against normative stances on what it meant to support student learning and what kind of learning mattered. Second, *Ms. B engaged her students in the material and discursive reclaiming of space and time*. The engineering artifacts themselves paused student stress induced by stringent COVID school protocols, the desired effects of the projects — the laughter, movement, and de-stressing — filled the space created by such pauses, re-creating what schooling and STEM could be and feel like.

Significance

Ms. B and her students collaboratively engaged with existing school structures to transform them by leveraging the youths' wisdom. Strategic pausing created opportunities for transformative agency to emerge through the allied political struggle among teachers and students that transformed the norms of 6th-grade STEM that inserted youth joy into strict COVID protocols. For rightful presence to orient STEM experiences in just ways, it requires educators to be critically aware of how the routine practices of STEM, manifest in the discourses, practices and relationships enacted therein, can (re)produce injustice.

Paper 3: "I'm trying to rebuild a relationship with him": Teachers reconstructing instructional practice amidst conflicting pedagogical responsibilities

Ilana Horn, Yeliz Günel Aggöl, Jessica L. Smith, Christine E. Hood, Brette Garner, Katherine Schneeberger McGugan, & Karen Underwood

Objectives

When teachers commit to responsive instruction, they constantly reshape their practice through an interplay between their *agency* and their *pedagogical responsibilities*. But what happens when teachers' commitments are at odds with institutional demands? How do they reconstruct their practice within that complex space? We explore this through a case of a teacher who found herself in such a situation.

Theoretical framework

To investigate teachers' reshaping of instructional practice amidst conflicting demands, we draw on two constructs: teacher agency and pedagogical responsibility. While teacher agency has been conceptualized numerous ways, we focus on *relational agency*, the agency that arises in collaboration with other practitioners and supports expansive interpretations of problems of practice (Edwards, 2017). Additionally, *pedagogical responsibility* describes what teachers view as non-negotiable in their reconstructions of practice—their obligations to ethical principles or situational constraints (Horn, 2019).

Data sources and methods

To understand teachers' reconstructed practice in contradictory situations, we examine the case of Veronica Kennedy, a high school math teacher in a large urban school district in the Western U.S. Through a research-practice partnership, we developed a video-formative feedback (VFF) process to support the teachers' learning about groupwork monitoring practices (Ehrenfeld & Horn, 2020). As part of this process, we filmed one of Veronica's lessons using a five-camera set-up: one whole-class view; one teacher point-of-view camera; and three 360° recordings of student groups. Using the whole-class video and a floor plan of the classroom, we also transcribed Veronica's movement (Shapiro & Garner, 2021). Our team reviewed the videos and movement transcript to understand Veronica's monitoring practices. Then, a debrief session was conducted during which

two researchers facilitated a discussion about the lesson with Veronica and her colleague, sharing video clips and discussing her monitoring practices.

To understand Veronica's reconstruction of her practice in the face of contradictions, we used an ethnomethodological lens, where analysts pursue participants' meanings (Heritage, 2013). This consisted of two phases: (1) analyzing lesson videos, and (2) analyzing video of the debrief. In Phase 1, we examined Veronica's monitoring practices, looking for patterns and anomalies, such as the notable difference we shared with her. Phase 2 involved analyzing Veronica's account of her moves/actions in the class.

Results

While preparing the debrief, we noted that Veronica visited one group more often than others. Specifically, she uniquely asked them leading questions, offered step-by-step instructions, and checked to ensure the group was on-task. This unique instance of monitoring was Luca's group. In contrast, Veronica asked other groups open-ended questions and supported their inquiry. Veronica also checked on other groups half as many times as Luca's. When we explained that this pattern piqued our curiosity, Veronica leaned back in her chair, saying, "Let's do it. You want to know the context on Luca?" When we agreed, she spent over seven minutes recounting a critical event (Emerson et al., 2011) involving Luca.

Luca had come to her classroom during a different period, asking to retrieve something he had left behind. When Veronica let him enter, he started a fight with another student. Veronica described this fight as "so freaking traumatic, outrageous, throwing punches, throwing bodies." When Veronica asked that Luca be assigned to another teacher, administrators insisted that he remain with her, thus excluding her from decision-making and reducing her relational agency. This made Veronica feel powerless in the aftermath of the situation.

Despite compromising her relational agency at the institutional level, Veronica maintained agency within her classroom. Retaining Luca in her class presented her with conflicting pedagogical responsibilities: maintaining her commitment to a welcoming and inclusive classroom and keeping Luca in class. Veronica reconstructed her practice in this narrow space by emphasizing gentleness over challenging Luca's mathematical thinking. As she explained, "I'm really purposeful, trying to rebuild a relationship with him. Even though...[trails off]." An observer without knowledge of this relational context might presume that Veronica simply had low expectations for Luca and his group. However, her interactions resulted from her diminished relational agency, as she did not know how to push Luca mathematically (for fear of him exploding) or request support from her administration (who had shown themselves unsympathetic). These changes to her relational agency and pedagogical responsibilities shaped her practice.

Significance

Teaching is socially embedded, ambiguous, and contested (Horn & Garner, 2022), yet research often treats it as a technical activity. Because of its indeterminacy, teacher agency becomes a critical component of instructional practice, particularly their relational agency within a school. When Veronica's relational agency was limited, she resorted to forms of practice that were otherwise unusual in her instruction. This study highlights the extent to which teaching practice, and therefore teacher learning, is shaped by sociocultural contexts.

Paper 4: "He should have been giving me a gold f-ing ribbon": Mathematics teachers' learning of creative insubordination

Samantha A. Marshall

Objectives

For teachers, creating more equitable learning opportunities for students can be a daunting task. Teachers may feel overwhelmed by the weight of an unjust system (Gutiérrez, 2016), and working against the status quo may come with serious risks to reputation and status. Yet some teachers disregard policies to create more just learning opportunities for their students — what Crowson & Morris (1985) call *creative insubordination*. This study investigates two urban mathematics teachers' learning of creative insubordination to open liberatory mathematical pathways for their students.

Theoretical framework

To understand teacher learning of creative insubordination, I take a sociocultural perspective, foregrounding context and agency in the learning process (Calabrese Barton & Tan, 2010; Lewis et al., 2007). To conceptualize agency, I draw on Burkitt's (2016) theory of *relational agency*. In line with sociocultural and ecological views of agency that look beyond the individual (Biesta & Tedder, 2007; Cong-Lem, 2021), this view considers the context

as paramount for the achievement of agency. However, rather than viewing agency as simply enabled or constrained by relationships or contexts (Emirbayer & Mische, 1998), this perspective considers relationships as “constituting the very structure and form of agency itself” (Burkitt, 2016, p. 336). Indeed, “one’s action is rarely one’s own and rarely for one’s own sake only ... it is always already co-authored” (Phạm, 2013, p. 37). Agency, then, is neither held nor achieved by individuals, but unfolds in and from relations.

Data sources and methods

This investigation draws from a 4-year study of teacher learning (Horn & Garner, 2022), focusing on Lee and Doha, mathematics teachers at Falconer Middle School in a large urban district in the Western United States. Data consist of ethnographic fieldnotes, videos and transcripts from interviews, classroom observations, and PD activities. As primary data, I conducted a series of interviews with the focal teachers, who had restructured their classes to accelerate students who wanted to learn more than grade-level content. Analysis was guided by grounded theory and constant comparative methods (Boeije, 2002; Harry et al., 2005) seeking to understand sources of and sociocultural influences on teachers’ learning to open mathematical pathways for students.

Results

Analysis reveals that teachers’ learning was spurred by students’ self-advocacy, guided by teachers’ sense of pedagogical responsibility toward students (Horn & Garner, 2022), and mediated by both oppositional and supportive professional relationships. The teachers described how students’ desires catalyzed their learning of creative insubordination; one 7th-grade student asked how he could take algebra as an 8th-grader, which initially seemed impossible to the teachers. However, together they began figuring out how to open this pathway. They helped this student enroll in community college classes, buying his books and successfully advocating for an exception to the 13-year-old minimum age. Through this process, this student (and later, others) achieved readiness for calculus by 9th grade, and gained admission to highly competitive high schools.

Lee and Doha then convinced their principal to allow Lee to teach multiple courses in the same block — with several simultaneous rosters assigned to him — so students could get credit for algebra or geometry in 8th grade. He managed this through strong collaboration with Doha and differentiated curricula, adding this to the community college support as another means of opening mathematical pathways. The teachers’ sense of pedagogical responsibility was key — they saw this work as leading to greater equity for their low-income, immigrant students who are typically not afforded such opportunities.

Lee and Doha’s creative insubordination also required navigating opposing views, including from respected colleagues. Lee explained that a district employee once told them to “shut it down” because all programs were required to be approved and available district-wide. However, the teachers knew that this would undermine the work; their ability to keep these pathways open at all hinged on their relationships and reputation with the community college. Lee added, “I felt like he should have been coming to me and giving me a gold fucking ribbon but that’s not what happened.” Lee gambled, “I bet he’s never going to check in with me to see if I did all this,” but added that they would have found a creative way around it even if the district had followed up. This analysis reveals that in contrast to individual views of agency, teachers’ agentic learning to open liberatory mathematical pathways for students was fundamentally co-authored (Phạm, 2013).

Significance

The field knows little about both how teachers learn to subvert oppressive systems (Chen & Marshall, 2018) and the “micro level negotiations” that shape teachers’ learning and achievement of agency (Edwards, 2005, p. 180). Theoretically, this case of teachers’ learning of creative insubordination highlights the relational constitution of agency and learning (Phạm, 2013). Here, agency unfolded within contradictory social relations (Burkitt, 2016) and was shaped by teachers’ relationally-informed sense of pedagogical responsibility (Chen et al., 2021; Horn & Garner, 2022). These findings contribute to our understanding of how teachers learn.

Paper 5: Transformative teacher agency for sustainable futures: Manifestations, conditions and resources

Antti Rajala

Objectives

Schools and teachers can arguably play a role in humanity’s learning out of unsustainable, fossil-fuel-dependent human activities, which have already made irreversible changes on the planet’s climate and environment (Värri, 2018; Taylor & Pachini, 2015; Rajala et al., in press-a). This paper examines teachers’ agency as critical educators

committed to supporting their students in taking a critical view of their society and taking environmental action towards more sustainable futures (Freire, 1998; Wals, 2019; Rajala et al., in press-b). Drawing on teacher interviews and observational fieldnotes, this study focuses on teacher's accounts of their environmental action projects in three Finnish Upper Secondary schools. The study asks: How does transformative teacher agency for environmentally sustainable futures manifest in Finnish Upper Secondary School teachers' work, if at all? What conditions and resources support or inhibit transformative teacher agency?

Theoretical framework

Prior research indicates that teacher agency is an important aspect of teacher professionalism, entailing teachers' negotiation of educational visions and meanings that give a long-term purpose to their work (Rajala & Kumpulainen, 2017; Toom et al., 2015). Teacher agency is related to organizational commitment, work satisfaction, and professional learning (Horn & Kane, 2015; Eteläpelto et al., 2015).

To account for teacher agency that addresses the environmental crisis, this study takes a sociocultural and transformative approach (Rajala et al., 2016; Gutiérrez & Calabrese Barton, 2015). Accordingly, human learning and agency are co-constructed by people, understood to be agentive actors of social practices, their own lives, identities, experiences, and common history (Stetsenko, 2017). Thus, agency refers to contributing to collaborative transformative practices, implicating a "sought-after future," and a commitment to realizing it.

Data sources and methods

Data were collected during the 2020-2022 academic years in three upper secondary schools in Southern Finland (two rural, one metropolitan). In the schools, teachers organized environmental education projects to engage students in climate actions. The data were collected for the duration of the school projects, informed by an ethnographic research approach (Hammersley & Atkinson, 2007). The primary data for this study are the interviews of four teachers and fieldnotes. Each teacher was interviewed multiple times throughout the project.

The interview data and observational fieldnotes were analyzed using an inductive qualitative analysis approach (Strauss & Corbin, 1997) based on open coding of excerpts that formed thematically coherent, continuous units of analysis. Guided by the two research questions, coding focused on manifestations of teacher agency as well as the resources and conditions that appeared to support or hamper teacher agency. The two data sets were compared to triangulate the data. Thematic analysis was used to identify patterns and synthesize the insights emerging from the open coding (Saldaña, 2011).

Results

The findings illuminate a rich variety of manifestations of teachers' transformative agency as they facilitated environmental actions of and with their students. The scope of environmental actions varied across school, municipality, and national levels. Examples of environmental actions included: promotion of vegetarian food in the school cafeteria (school level), experimenting with innovative forms of food production (school level), teaching younger students about the environmental crisis (municipal level), and winning an initiative in the city council (municipal level). The degree of radicality of the manifestations of the teachers' agency varied. Dominantly, the environmental actions were about individuals' actions for a sustainable environment. Many of them strived to create infrastructures for such individual actions. However, our analysis also illuminates rare, radical forms of teachers' transformative agency that involved questioning corporate power or fossil capitalism.

These findings also illuminate the conditions and resources that supported and inhibited specific forms of teacher agency. Supportive conditions and resources included teachers' personal networks and lives outside of work (e.g., local political activities, participation in social movements), support of colleagues and school leadership, and cooperation of students. Correspondingly, a lack of these conditions and resources created obstacles for teacher agency and over time made it harder for the teachers to pursue their commitments. Notably, the political climate and dominant values of the local setting appeared to be a central mediator of teacher agency.

Significance

This study highlights the importance of transformative forms of teacher agency as a mediator of educational responses to the environmental crisis. Profound changes are necessary at every level of society, as humanity is crossing planetary boundaries for biodiversity and climate change (Steffen et al., 2015). The findings of this study advance a nuanced understanding of transformative and even radical forms of teacher agency (e.g., Stetsenko, 2019), as well as the conditions and resources that mediate and sustain them in educational settings. These under-researched forms of agency are necessary for teachers whose professional commitments extend beyond the implementation of curriculum to world-building for sustainable futures with their students.

Paper 6: Capturing multiple levels of agency in teachers' workplace learning

Yeliz Günel Aggöl & Ilana Horn

Researchers who study teacher agency from a sociocultural perspective largely agree about the reflexive relationship between individual agency and social structures (Biesta & Tedder, 2007; Edwards, 2017; Haapasaari et al., 2016). Yet they differ in conceptualizing it as an individual, collective, or relational phenomenon. We argue that these three levels should be examined separately and seen as complementary so that we can capture different aspects of teacher agency. To frame this conceptual discussion, we organize this paper around these questions: *How is teacher agency conceptualized, and what kinds of resources are at stake at each level? What are the implications for designing teacher learning environments?*

Individual level: Recognizing the influence of identities on teachers' agency

Some empirical studies focus on individuals acting in relation to their environments (Biesta & Tedder, 2007; Eteläpelto et al., 2013, 2015). In this perspective, teacher agency is shaped by teachers' professional identities, i.e., pedagogical ideals, knowledge, and competencies; work-related histories; future goals and motivations; and present engagements, all of which constitute resources for teachers as professionals to exercise agency in making decisions about their practices and improving their work (Biesta & Tedder, 2007; Eteläpelto et al., 2015; Priestley et al., 2012). At the same time, empirical findings reveal the significance of structural factors (e.g., support from school principals, school counselors, or colleagues; or a clear and robust professional discourse of teaching) in influencing individual teachers to continue exercising agency (Biesta et al., 2015; Eteläpelto et al., 2015). We maintain that a collective form of agency that goes beyond the individual level is needed to transform the constraining structures and create the conditions where individual teachers can sustain their agency. As Haapasaari et al. (2016) highlight, "although initiated by individuals, agentive actions gain their meaning, their consequences, and their continuity in the interplay between individuals and their collective" (p. 235).

Collective level: Recognizing the community's role in making agency sustainable

The sociocultural teacher learning literature points to the importance of the resources created and owned by teacher communities in influencing teachers' understandings and changes in their classroom practices (Horn, 2005, 2010; Horn & Kane, 2015). Researchers who conceptualize agency as a collective phenomenon do not explicitly reject individuals' agency, but their analytical focus is on how collective agency emerges. They are interested in how communities create shared epistemic artifacts (e.g., Damsa et al., 2010) or transform their collective activity by engaging with the collectively unraveled problems of practice by envisioning new possibilities, employing resources to address them, and taking actions to design new patterns of activity (Haapasaari et al., 2016).

Conceptualizations of collective agency mostly focus on how groups create or transform *established practices and work cultures*. Teachers, on the other hand, need to engage in fluid forms of relations with other professionals to deal with the everchanging situations of their practice (Edwards, 2010). Drawing on Edwards' (2005) notion of *relational agency*, we move our focus from the collective level to the relational level to "understand how people are able to come together, however fleetingly, to interpret a problem and to respond to it" (p. 172).

Relational level: Dealing with the complexities of teaching via fluid forms of relations

Relational agency refers to the individual's capacity to act flexibly to address unpredictable aspects of their practice by engaging with different professionals working on the same problems of practice, taking others' perspectives, and making their own perspective visible to others in approaching it (Edwards, 2005, 2010). Relational agency differs from individual agency since the relational plane is where teachers and other professionals act agentically with resources that emerge only in interaction. Accordingly, Edwards (2010) suggests shifting attention from "discrete activity systems and how they change" to "emerging inter-professional practices and their capacity for knowledge generation" (p. 140-41). However, under "heavily bounded systems" of schooling, teachers find limited opportunities to interact with others to respond to the challenging problems in their practices in a tailored way (Edwards, 2017). For instance, as Paper 3 in this symposium suggests, the lack of relationality in Veronica's school constrains her development of responsive practice to an unpredictable situation in her classroom.

Conclusion

We provided a conceptual lens to capture teacher agency at the individual, collective, and relational levels. We conclude that teachers' different professional identities are resources that influence their agency, and that teacher

collectives and fluid forms of inter-professional engagement are key to achieving sustainable forms of agency and finding solutions to education's complex problems.

References

- Altheide, D. L., & Schneider, C. J. (2012). *Qualitative media analysis*. SAGE Publications.
- Archer, M. S. (2004). *Being human: The problem of agency*. Cambridge University Press.
- Bajaj, M. (2018). Conceptualizing transformative agency in education for peace, human rights, and social justice. *International Journal of Human Rights Education*, 2(1), 13.
- Biesta, G., & Tedder, M. (2007). Agency and learning in the lifecourse: Towards an ecological perspective. *Studies in the Education of Adults*, 39(2), 132–149.
- Biesta, G., Priestley, M., & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching*, 21(6), 624–640.
- Boeije, H. (2002). A purposeful approach to the constant comparative method. *Quality & Quantity*, 36, 391–409.
- Burkitt, I. (2016). Relational agency: Relational sociology, agency and interaction. *European Journal of Social Theory*, 19(3), 322–339.
- Calabrese Barton, A., & Tan, E. (2010). We be burnin'! Agency, identity, and science learning. *Journal of the Learning Sciences*, 19(2), 187–229. <https://doi.org/10.1080/10508400903530044>
- Chen, G. A., & Marshall, S. A. (2018). Mathematics teachers' learning to enact change in oppressive systems. In S. Richardson, A. Davis, & C. W. Lewis (Eds.) *Proceedings of the International Conference on Urban Education* (pp. 52-64). Urban Education Collaborative.
- Chen, G. A., Marshall, S. A., & Horn, I. S. (2021). 'How do I choose?': Mathematics teachers' sensemaking about pedagogical responsibility. *Pedagogy, Culture & Society*, 29(3), 379–396.
- Cong-Lem, N. (2021). Teacher agency: A systematic review of international literature. *Issues in Educational Research*, 31(3), 718–738.
- Crowson, R. L., & Morris, V. C. (1985). Administrative control in large-city school systems: An investigation in Chicago. *Educational Administration Quarterly*, 21, 51–70.
- Damşa, C. I., Kirschner, P. A., Andriessen, J. E. B., Erkens, G., & Sins, P. H. M. (2010). Shared epistemic agency: An empirical study of an emergent construct. *Journal of the Learning Sciences*, 19(2), 143–186.
- Edwards, A. (2005). Relational agency: Learning to be a resourceful practitioner. *International Journal of Educational Research*, 43(3), 168–182. <https://doi.org/10.1016/j.ijer.2006.06.010>
- Edwards, A. (2010). *Being an expert professional practitioner: The relational turn in expertise*. Dordrecht, The Netherlands: Springer.
- Edwards, A. (2017). The dialectic of person and practice: How cultural-historical accounts of agency can inform teacher education. In D. J. Clandinin & Husu, J. (Eds.). *The SAGE handbook of research on teacher education*. Sage.
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (2011). *Writing ethnographic fieldnotes (Second edition)*. University of Chicago Press.
- Emirbayer, M., & Mische, A. (1998). What is agency?. *American Journal of Sociology*, 103(4), 962–1023.
- Engeström, Y., Nuttall, J., & Hopwood, N. (2020). Transformative agency by double stimulation: advances in theory and methodology. *Pedagogy, Culture & Society*, 1–7.
- Eteläpelto, A., Vähäsantanen, K., Hökkä, P., & Paloniemi, S. (2013). What is agency? Conceptualizing professional agency at work. *Educational research review*, 10, 45–65.
- Eteläpelto, A., Vähäsantanen, K., & Hökkä, P. (2015). How do novice teachers in Finland perceive their professional agency?. *Teachers and Teaching*, 21(6), 660–680.
- Gutiérrez, R. (2016). Strategies for creative insubordination in mathematics teaching. *Teaching for Excellence and Equity in Mathematics Education*, 7(1), 11.
- Gutiérrez, K. D., & Calabrese Barton, A. (2015). The possibilities and limits of the structure–agency dialectic in advancing science for all. *Journal of Research in Science Teaching*, 52(4), 574–583.
- Haapasaari, A., Engeström, Y., & Kerosuo, H. (2016). The emergence of learners' transformative agency in a Change Laboratory intervention. *Journal of Education and Work*, 29(2), 232–262.
- Hammersley, M. & Atkinson, P. (2007). *Ethnography: principles in practise*. New York: Routledge
- Harry, B., Sturges, K. M., & Klingner, J. K. (2005). Mapping the process: An exemplar of process and challenge in grounded theory analysis. *Educational Researcher*, 34(2), 3–13.
- Heritage, J. (2013). *Garfinkel and ethnomethodology*. John Wiley & Sons.
- Holland, D., Skinner, D., William, L. J., & Cain, C. (2001). *Identity and agency in cultural worlds*. Harvard University Press.

- Horn, I. S. (2005). Learning on the job: A situated account of teacher learning in high school mathematics Departments. *Cognition and Instruction*, 23(2), 207–236.
- Horn, I. S. (2010). Teaching replays, teaching rehearsals, and re-visions of practice: Learning from colleagues in a mathematics teacher community. *Teachers College Record*, 112(1), 225–259.
- Horn, I. S., & Kane, B. D. (2015). Opportunities for professional learning in mathematics teacher workgroup conversations: Relationships to instructional expertise. *Journal of the Learning Sciences*, 24(3), 373–418.
- Horn, I., & Garner, B. (2022). *Teacher learning of ambitious and equitable mathematics instruction: A sociocultural approach* (1st ed.). Routledge. <https://doi.org/10.4324/9781003182214>
- Lewis, C., Enciso, P. E., & Moje, E. B. (Eds.). (2007). *Reframing sociocultural research on literacy: Identity, agency, and power*. Routledge.
- Lipponen, L., & Kumpulainen, K. (2011). Acting as accountable authors: Creating interactional spaces for agency work in teacher education. *Teaching and Teacher Education*, 27(5), 812–819.
- Phạm, Q. N. (2013). Enduring bonds: Politics and life outside freedom as autonomy. *Alternatives: Global, Local, Political*, 38(1), 29–48. <https://doi.org/10.1177/0304375412465676>
- Priestley, M., Edwards, R., Priestley, A., & Miller, K. (2012). Teacher agency in curriculum making: Agents of change and spaces for manoeuvre. *Curriculum Inquiry*, 42(2), 191–214.
- Saldaña, J. (2011). *Fundamentals of qualitative research*. Oxford University Press.
- Rajala, A., Cantell, H., Haapamäki, K., Saariaho, A., Sorri, M. & Taimela, I. (in press). Engaging with the political in learning: Possible futures, learning, and agency in the Anthropocene. In P. Patrick (Eds.), *Applying learning theories in research outside the classroom: How people learn science in informal environments*. Springer.
- Rajala, A., Jornet, J., & Accioly, I. (in press). Utopian methodologies to address the social and ecological crises through educational research. In C. Damsa, A. Rajala, G. Ritella, & Brower, J. (Eds.), *Re-theorizing learning and research methods in learning research*. Routledge.
- Rajala, A., & Kumpulainen, K. (2017). Researching teachers' agentic orientations to educational change in Finnish schools. In M. Coller & S. Paloniemi (Eds.), *Agency at work: An agentic perspective on professional learning and development* (pp. 311–329). Amsterdam: Springer.
- Rajala, A., Martin, J., & Kumpulainen, K. (2016). Agency and learning: Researching agency in educational interactions. *Learning, Culture and Social Interaction*, 10, 1–3.
- Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., ... & Sörlin, S. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science*, 347(6223).
- Stetsenko, A. (2017). *The transformative mind: Expanding Vygotsky's approach to development and education*. Cambridge University Press.
- Stetsenko, A. (2019). Radical-transformative agency: Continuities and contrasts with relational agency and implications for education. *Frontiers in Education*, 4, 148–164.
- Strauss, A., & Corbin, J. M. (1997). *Grounded theory in practice*. Sage.
- Taylor, A., & Pacini-Ketchabaw, V. (2015). Learning with children, ants, and worms in the Anthropocene: Towards a common world pedagogy of multispecies vulnerability. *Pedagogy, Culture & Society*, 23(4), 507–529.
- Toom, A., Pyhältö, K., & Rust, F. O. C. (2015). Teachers' professional agency in contradictory times. *Teachers and Teaching*, 21(6), 615–623.
- Villenas, S., Deyhle, D., & Parker, L. (2019). Critical race theory and praxis: Chicano (a)/Latino (a) and Navajo struggles for dignity, educational equity, and social justice. In Race Is... Race Isn't (pp. 31–52). Routledge.
- Vygotsky, L. S. (1997). The history of the development of higher mental functions. In R. W. Rieber (Ed.), *The collected works of L. S. Vygotsky. Vol. 4: The history of the development of higher mental functions*. New York: Plenum.
- Värri, V-M. 2018. *Kasvatus ekokriisin aikakaudella*. Tampere: Vastapaino [Education in the era of eco-crisis]
- Wals, A. E. J. (2019) Sustainability-oriented ecologies of learning: response to systemic global dysfunction. In: Barnett R, Jackson N (Eds.), *Ecologies for learning and practice emerging ideas, sightings and possibilities* (pp. 61–78). Routledge, London.
- Zeichner, K. (2010b). Rethinking the connections between campus courses and field experiences in college- and university-based teacher education. *Journal of Teacher Education*, 61(1–2), 89–99.