

Every Glass Ceiling Has a Floor (of Interaction): Studying Body Position During Floor-based Activities in Kindergarten Classrooms

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Abstract: Classroom environments have been hot spots for studies of conversational “floor maintenance,” or the ways in which people establish interactional rights and obligations through turn-taking or topical cohesion. We know less about how the physical floor of interaction is negotiated when activities literally take place on the floor, as in Kindergarten classrooms. In floor-based learning activities, body movements, body positions, and proximity are key modalities for establishing rights and obligations for participating in tasks. This paper analyzes video of Kindergarteners engaged in a floor-based learning activity, where children moved around and positioned themselves (and others) to participate. We found that while children often leaned in to the task-space, there were occasions where they sat back, but were nonetheless productive. Referring to these latter forms of participation as “zones of productive exclusion,” we analyze how body positioning indexed children’s rights and obligations in-task. We discuss implications for analyses of the powered relations between differently-positioned bodies.

Introduction

Classroom environments have been hot spots for studies of conversational “floor maintenance,” or the ways in which people establish interactional rights and obligations through turn-taking or topical cohesion (e.g., Erickson, 2005; Macbeth, 1992; Philips, 1983; Shultz et al., 1982). Rights and obligations to initiate a topic, respond, change topic, or extend topics are involved in negotiating conversational floors (Shultz et al., 1982). Collaborative sense-making requires maintaining the conversational floor, or as Erickson (1982) put it, “topics require floors to be in” (p. 47). Local discursive ordering entails both talk’s floor and the physical, “custodial” floor of the classroom (Macbeth, 1992, p. 126); however, typically, studies of conversational floor maintenance focus on *talk* that takes place while children and teachers are “carpentered to the desk” (McDermott, 1976, p. 43, as cited in Davies & Hunt, 1994). This paper explores how topics are also physically instantiated and examines body position as a means of floor maintenance in the context of floor-based Kindergarten learning activities.

Like conversations, floor-based learning activities have their own collaborative norms, rules that govern how, when, whether, and to what ends people are supposed to move around, interact with materials, or position themselves with respect to others. Just as it is usually improper to “turn-shark” during classroom conversations (Erickson, 2005, p. 54), in floor-based group learning activities that are the subject of this analysis, it was not customary to take other people’s materials out of their hands, nor to crisscross your body over someone else’s to assert an idea or course of action. However, breakdowns in conversational and collaborative task norms *do* routinely occur, presenting a question: *How do children’s body positions establish rights and obligations to maintain the floor of interaction when tasks literally take place on the floor?* We addressed this question in the context of a Kindergarten classroom activity, analyzing how talk-in-interaction and arrangement of materials shaped how people positioned themselves and each other to have particular rights or access. Tracing dynamic body movements of people within collaborative tasks showed how they managed the floor of interaction, even when they were excluded from the task-space. We focus on exclusion as a form of body positioning that accomplished floor management and argue that *body* position can index *social* position in floor-based activities.

Perspectives on body position in maintaining floors of interaction

We draw on perspectives within traditions of interaction analysis (IA), focusing on embodied ways of establishing “patterns in the allocation of interactional rights and obligations among all the members who are enacting a social occasion together” (Shultz et al., 1982, p. 94). In verbal exchanges, people adopt metaphorical floor-management strategies (i.e., “taking the floor,” “holding the floor,” “yielding the floor,” etc.) according to standard practices. Managing conversational floors in interactions means establishing “who’s got the floor” (Edelsky, 1981), which entails conventional rights and obligations vis-à-vis topical change, cohesion, and extension. Learning environments have been ground zero for studies of interactional floors (Macbeth, 1992; Philips, 1983; Shultz et

al., 1983), and negotiation of rights and obligations in the physical space of a classroom's "custodial floor" (Macbeth, 1992, p. 126) has received some attention (e.g., Erickson, 2005). However, prominent examples of research on positional dynamics focus on physical arrangements of people seated around tables (e.g., tables, desks, Shultz et al., 1982) or standing (e.g., cocktail parties, Kendon, 1990). And while research on untethered learning designs explores how the body is an important resource for sense-making and establishing a social order (e.g., Danish et al., 2020; Lee, 2015; Marin et al., 2020), often these designs involve groups of people standing or moving around on foot. We know less about how the floor of interaction is negotiated when activity literally take place *seated* on the floor, as is customary in early childhood classrooms. Negotiating rights entails relations of power, and this analysis also builds with studies that theorize learning, bodies, and power together, and as always in relation (Goodwin, 2006; Ma & Munter, 2014; Marin et al., 2020; Stevens, 2012; Vossoughi et al., 2020).

Methods of data collection and analysis

The teaching and learning described in this paper was part of a design-based study set in the Mountain West region of the US and designed to investigate young children's STEM learning. Data analyzed were collected over one month in a rural elementary school classroom that was part of a grant-funded program providing full-day Kindergarten to support English Language Learners, students who had an Individualized Education Plan (IEP), and students identified by their entrance assessment. Fifteen students participated at this site in 4 groups of 3-4 children. We analyzed three groups with equal numbers of boys (n=2) and girls (n=2) per group, because we were also exploring social categories like gender as potentially relevant for participation. Lessons were video recorded and taught by research team members who had formal experience teaching young children. In the STEM tasks

we designed, a tangible programming robot typically needed to go on some adventure, travel to a series of locations, or avoid obstacles placed in its path. Materials included a large floor grid; a collection of directional arrow cards that serve as codes or commands; one template per group for organizing codes that we call a "program organizer;" and a mechanical robot with buttons for each of four directional commands (Figure 1). This paper does not analyze children's programming per se; however, materials used in-task help contextualize interactions.

Nine hours of video-recorded lessons were first reviewed and content logged (Jordan & Henderson, 1995). We then conducted iterative rounds of open coding and a series of group video viewing sessions. We coded interactions according to how children were positioning themselves to use or access materials, and we thematically grouped types of positional configurations around the floor in broad categories that describe diametrically opposed positionings: *comporting/contorting* and *leaning in/sitting back*. In the latter categories, sitting back was much less common than leaning in. We decided to focus on the smaller subset of instances of children sitting back to understand how they were participating when they assumed these positions. We focus the following analysis on a specific form of sitting back we call "zones of productive exclusion" in which children were positioned away from the "mainline" activity but nonetheless stayed engaged in the task from the sideline.

Establishing a zone of productive exclusion

While it was entirely possible to participate in tasks from a distance (and many children did so), leaning in and extending the body into the toy's grid-space (see grid in Figure 1, Frame 4) was a pervasive form of interaction across tasks and groups. Therefore, it was quite noticeable when someone sat back or was denied access to the floor grid and materials. Most tasks were designed for children to have a mainline focus with a front-row vantage point towards the grid; however, because of the size and configuration of the physical environment and materials, there was often someone left out, displaced to a marginal position off to the side or on a corner of the mat. Sometimes, the person in the excluded position started off the task sitting back or offset from the rest. Other times, despite starting off with mainline access, they were progressively or systematically elbowed out by eager programmers.

Figure 1 Bowen leans on Hazel (1) and reaches across her to select his codes and place them on the program organizer (2). Hazel finds space for her counter-idea in the air (3) and off to the side (4).



When Hazel and her partner Bowen began a task for programming their robot's route, Hazel was in an optimal, mainline position to access the critical materials and had an ideal vantage point for visualizing the robot's path. However, as they started programming, Bowen immediately leaned on Hazel's body (Figure 1, Frame 1), stretching over her to reach the materials (Frame 2). Hazel first looked for alternative spaces to place her codes, because Bowen was quickly filling up the program organizer without consulting her. After making a bid to modify the program, Hazel tried to find space to express her idea. First, she tried to place the code cards on the floor grid.

Then she tried to hold a sequence of codes aloft in her hand (Frame 3). When she could no longer hold any more cards, she turned at a ninety-degree angle to the grid and programmed off to the side, sitting back from the mainline and periodically looking over her shoulder at the codes and the robot in order to determine its next move (Frame 4). When their teacher brought the pairs of children together to test their programs, Hazel claimed that the program Bowen had made was "not her program." She explained quietly that she "did not have enough room." Hazel's sidelined programming, conducted in a zone of exclusion, established a floor space for programming, still on topic, but not within the same floor of interaction where her partner performed his activity. We now turn to a discussion of interactional floor maintenance, and discuss this instance in terms of patterns of exclusion we observed and implications for the organization of floor-based activities.

Processes of exclusion for establishing floors of interaction

Whereas cohesion in conversation requires speakers to extend or change topics, collaboration in floor-based learning activities involved children using their bodies to maintain the floor of the activity. We found that for some children, maintaining the floor of interaction in coding tasks involved processes of exclusion, whereby sitting back from or being forced out of the mainline activity established an alternative space for engaging in the task. For Hazel, establishing a "zone of productive exclusion" was important so that she could build the program she had in mind. When Bowen dominated their programming, Hazel took the task in her own direction on the physical floor. When the interactional floor fell out from under her, and her partner obstructed her participation in the mainline programming, Hazel's sidelined orientation created her own zone of exclusion, a space where she could think through the program without needing to justify her thoughts or jockey for position.

We noted earlier how leaning-in was a frequent form of embodied participation; this was true for boys and girls. It is also worth noting that in the more infrequent instances in which children sat back, it was typically girls who were positioned away from the group or the grid. Girls in these marginal positions often engaged in peripheral activities like exploring or organizing unused coding materials, producing utterances to themselves about coding, or programming their own path; such tasks, while not mainline, were nonetheless productive for their sense-making. To be clear, we are not advocating a model of separating certain children from the group. Nor do we believe "sitting back" should be valued over "leaning in." These practices represent ways of disciplining difference and perpetuating classroom regimes in which quiet children do well, and active children are deemed out-of-line or off-task. Leaning in and sitting back are not proxies for disruption and docility. Rather, *we see children's own positionings of themselves and each other as agentive forms of producing spaces for sense-making.*

These marginal positionings represent potentially beneficial learning arrangements, in that they produced the sort of spaces that support children's diverse forms of participation, particularly for those who are systematically excluded in STEM, such as children who identify as girls or children from minoritized backgrounds. Analyzing physical dynamics of floor-based activities prompts us to think more critically about the social dynamics operating in classroom spaces. How are body position and social position co-constituted through intersectional identities where gender, language, race, age, or ability are "omnirelevant" to interactional rights and obligations (Stokoe & Smithson, 2001, p. 251)? Exploring this question will involve interrogating *exclusions entailed by our methods of interaction and conversation analysis*. We conclude with a few methodological implications we anticipate for future interactional studies of body positioning, learning, and relations of power.

Implications for future analysis of body positioning

CA and IA have not tended to treat gender and other social categories as relevant to interactions unless participants index them through talk or orient to them in-task (Stokoe & Smithson, 2001; cf. Schegloff, 1997). Yet, as analysts of interactions which are always powered, we observe that positioning in relation to member categories is not always explicit in interaction, and "what we call categories of gender, race, ethnicity, etc., are shorthand for a set of structures that position persons" (Young, 2005, p. 19). Seeing social positionings through body positioning means recognizing ways that power is instantiated in bodies, and how "conversely, these spatial configurations of bodies and actions index membership categories relevant to the activity in progress" (Takanashi & Den, 2019, p. 270). We urge learning scientists to continue to strengthen impoverished treatments of both gender divorced from other salient categories of difference like race (e.g., Patel, 2021), and gender defined as binary, sex-based

difference (e.g., Dennis et al., 2019). Finally, we encourage analysts to consider how theories not only describe what is possible for some bodies and not others, but what is actually experienced *as differently-positioned bodies* in physical environments. In that spirit, we conclude with Ahmed (2017), whose queer theorizing concerns not only theoretical spaces of possibility, but real, physical spaces constructed by whiteness and sexism in academic settings. She writes, “walls are how some bodies are not encountered in the first place. Walls are how other bodies are stopped by an encounter” (p. 145). Classrooms are made up of walls as well as doors that are more open to some bodies than others. Classrooms also have floors, and for every glass ceiling, there is a floor (of interaction).

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Acknowledgments

This work was supported in part by funding from the National Science Foundation under Grant No. DRL-1842116. The opinions expressed herein are those of the authors and do not necessarily reflect those of the National Science Foundation.