

Whose Interpretation Matters? Centering Participants Through Observation Debrief

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ABSTRACT

While observation research strives to capture the diverse experiences of participants, a researcher's interpretation is often foregrounded in the work. As a result, those observed and how they interpret the meaning of their actions can fade into the background. I argue for a shift in traditional models of observation to include an observation debrief to unite the purpose of interview and observation while centering the participant's perspective through a more immediate reflection of a participant's observed experience. I describe the benefit of an observation debrief through a narrative account of one participant in a study about parents' mathematical interactions with young children.

KEYWORDS: debrief, mathematics education, narrative, observation, parent engagement.

Researchers interested in capturing and conveying the diverse experiences of individual participants draw upon several research methods. Among the methods used most frequently in such studies are interviews and observations. Interviews focus on listening to the experiences of individual participants. Observations, on the other hand, involve watching participants engage in a contextualized activity (Adler & Adler, 1994; Merriam & Tisdell, 2016; Spradley, 1980), to understand the beliefs and actions of a participant (Copland, 2018). Observation responds to questions of “who, what, where, and when” (Baker, 2006) with detail that may not be captured in interviews. Current literature on observation as a research method focuses on recognizing diverse perspectives from participants in an event or situation (Bostic et al., 2021; Knutas, 2019). Observation's purpose beyond what can be obtained in interviews is to understand a culture or phenomenon and its complexities in action (Kawulich, 2005). Robust research often considers the combined use of research methods, like observation and interview (Corbin & Strauss, 2012). However, what a participant shows in an observation or describes in an interview may not adequately capture the participant's experience.

Researchers need a structure that (a) connects what is seen and heard from participants in observation and interview, and (b) allows participants continued ownership over the interpretation of their experiences. I propose that *observation debriefs* can serve as such a structure. When used in conjunction with observation as a research method, an observation debrief provides an opportunity to recenter the voices and actions of those who are observed and interpret their actions and experiences more authentically. Different from a final or follow-up interview, an observation debrief focuses on questions about specific actions seen in the observation. An observation debrief should occur as soon after the observation as possible, to best capture a participant's in-the-moment intent. The observation debrief allows participants

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the space to articulate the meanings and intent of their activity in ways that do not rely solely on a researcher's interpretations. I argue that more intentional use of observation debriefs in research can support researchers' interpretations of events and phenomena.

In this paper, I discuss the use of debriefing to better center the observation on the intent of the participants involved. I highlight opportunities for researchers to learn additional details and meaning beyond what they themselves may see. After a brief review of the challenges and opportunities of observation discussed in previous literature, I introduce a critical case, taken from a larger study. I describe three avenues for learning within a research protocol that includes an observation debrief: listening, watching, and honoring participants' ownership of their actions. Listening and watching attend to the purposes of interview and observation, respectively. Honoring participants' ownership of their actions attends to the new purpose of the observation debrief. To demonstrate what I learned from a participant across these research activities, I describe an interview, observation, and observation debrief with a participant, Brittany. I share the case of Brittany to illustrate how attending to a participant's interpretation of their actions allowed me to go beyond what I learned from prior interviews and the observation itself. I show how the observation debrief allowed me to more clearly understand the intent behind her specific activity. I conclude by discussing what the methodological structure of observation debriefs offer for future research.

Literature Review: Challenges and Opportunities

When investigating the intent and meaning behind participants' actions, there are limitations to the information researchers might glean from observation alone. Researchers strive to interpret observations accurately to answer research questions, but they can miss meaningful opportunities to understand the observations from the perspective of the participants they are observing. For Bratich (2018), many of the challenges with observation stem from the relationship between observation, surveillance, and the power dynamics between observer and observed. Other scholars have similarly acknowledged the difficulties in conducting high-quality observation with concerns about the process and influence of context (Bostic et al., 2021; Knutas, 2019, Kogan et al., 2017).

To address these concerns, researchers across various fields have explored ways to modify or augment the practice of observation. For example, Knutas (2019) incorporates shadowing in observations of a teacher to better understand the complex nature of teaching beyond what is observed in a single class. Other researchers highlight the use of collaborative ethnography or collaborative observation to gain a dual perspective of an event (Davys & Beddoe, 2015; May et al., 2000; O'Leary & Cui, 2020). Winchester-Seeto and Rowe (2019) argue for the value of debriefing observations of instructors with their students in work-integrated learning to assist students in "reach[ing] deeper insights than would be possible via solitary reflection" (p. 345). Several researchers suggest ways of combining interviews with observations to get closer to achieving authentic interpretations of participants' experiences. Corbin and Strauss (2012) claim that "a researcher may give meaning to action/interaction based on observation without checking out that meaning with participants" (p. 30). They recommend, though, that researchers combine interviews with observation to validate that what a researcher has captured in activities earlier matches how the participant discusses them at a later point, which researchers often refer to as member checking. Merriam and Tisdell (2016) describe a similar way of following up after observations called anchored interviews that focus interview questions on what happens in an observation.

While the proposals offered by Corbin and Strauss (2012) and Merriam and Tisdell (2016) involve aspects of both interviews and observations, neither approach involves the direct connection between observation and interview with a focal participant's actions that I argue is offered by observation debriefs. Corbin and Strauss's suggestion of interviews and observation

is about confirmation or alignment of what has been shared but is not intended to show the more immediate interpretations of participant actions as in an observation debrief. Merriam and Tisdell's suggestion of anchored interviews better link interviews to interpret action but are rarely used to connect the actions of observation immediately followed by an interview as in an observation debrief. Very few researchers employ a method that includes a direct connection between observation and interview like that offered by observation debrief (see Boyd & Mitchell, 2018 for one example). Beyond other adaptations to observation methods, the observation debrief serves to rebalance power dynamics between researchers and participants, and support a participant's ownership of their activity. Observation debriefs lend a purposeful mechanism to Corbin and Strauss's (2012) suggested observation interview, to not only verify interpretations but also to gather additional details about the participant's reasons for their observed actions. The intentional observation structure of an observation debrief allows researchers to share a perspective that goes beyond their interpretation of a participant's activity, and thus better reflects the intent and perspective of the participant.

Study Purpose

This article draws from a larger study whose goal was to better understand how and why mothers chose to interact with their young children around everyday mathematics. In the larger study, I explored how a mother's interactions were influenced by her past experiences and interests. To honor what participants shared about their lives and activities, I created opportunities for them to share in interviews, observations, and observation debriefs. For this article, I present the case of one mother from the study to highlight the nuance and depth I gained from the perspectives she shared during the observation debrief. By focusing closely on a critical case (Creswell, 2013), I aim to describe the potential benefits of an observation debrief that go beyond those offered by interviews and observations alone. I show that observation debriefs allow for a re-centering of a participant's interpretations of their words and actions.

Methods

Participants and Procedures

Participants were recruited for the larger study through a process of snowball sampling (Christopher, 2012) and community sampling (Ladson-Billings, 2009; Warren, 2013). I advertised the study to people in the local community and asked them to share information about the study with potential participants who identified as mothers with young children. Such recruitment aimed to reach participants from a wider range of backgrounds who did not know the researcher directly. The participants that consented to and completed the study came from urban, suburban, and rural communities across the Midwest of the United States. As part of the consent process, the participants agreed for their stories and experiences to be shared using pseudonyms for themselves and their children.

I conducted semi-structured interviews, observations, and observation debriefs with each of the participants to learn about how their past experiences with mathematics influenced their current interactions with the subject. I used a narrative inquiry methodology (Clandinin & Connelly, 2000; McAdams, 1993) to interpret the stories participants shared about their experiences and interactions with mathematics. The first interview considered past experiences, with questions such as, "What stands out to you about your experience with math growing up?" The second interview considered their current mathematical practices, with questions such as, "What are some experiences or stories you have related to math recently?" To better frame participants' stories, follow-up questions in interviews focused on the characters, details, and emotions associated with the experiences shared. After the first two interviews, each participant

selected an activity for the first observation that they thought had the potential to engage their young children with mathematics. A second observation was an activity suggested by the researcher that participants made mention of in their second interviews which also had the potential for mathematical engagement. Observations offered additional details about how participants interacted with their children and helped me understand the complexities of participants' actions in context (Kawulich, 2005). Following each observation, the participants completed an observation debrief. The debriefs included questions that focused on (a) why they chose the activity, (b) why they made particular decisions during the activity, and (c) which aspects of the activity engaged their children in mathematics. In this way, the observation debrief questions were similar to a semi-structured interview. A final interview was conducted with each participant, to review the stories shared in earlier interviews and debriefs, and to capture other details they felt were important to represent their experiences. This final interview served as a form of member checking.

I included observation debriefs for two primary reasons. First, the observation debriefs helped clarify why mothers made the decisions that they did with their children and unveiled intentions and interpretations that would not otherwise be accessible to me as the researcher (Winchester-Seeto & Rowe, 2019). Second, observation debriefs allowed me to identify moments in which parents seemed (from my perspective) to engage in significant mathematical activity with their children, without recognizing the activity as mathematical from their perspective (Goldman, 2005; Jay et al., 2018). The debriefs centered on mothers' decision-making, and their interpretations of their interactions with their children. The observation debriefs provided me with more insight into why the mothers engaged in the everyday activities they did, and how these activities were related to the mothers' past experiences, allowing for a richer co-constructed interpretation of the mothers' mathematical activity.

Based on prior literature (e.g., Jay et al., 2018), I anticipated identifying moments during the observations which involved mathematics from my perspective, but not from the perspective of the mothers. However, the observation debriefs allowed me to see the extent to which parents regularly engaged in meaningful and diverse mathematical content that they rarely saw as mathematical. The debriefs provided a collaborative space to interpret parents' mathematical experiences. Previous research in this area has not detailed the types of mathematics that parents recognize in their everyday interactions with children and, conversely, the types of mathematics that parents typically do not recognize in their interactions (see Prough, 2021). These findings were made possible by the observation debriefs I conducted as part of the larger study. To illustrate the ways the observation debriefs helped lead to these findings, I share the case of Brittany.

The Case of Brittany

When she participated in the larger study, Brittany was a stay-at-home parent and part-time voice teacher who lived in a rural community in the Midwest with her two children aged 4 and 2, Bobby and Rosie. Brittany's experience in the study is a critical case that allows me to demonstrate the benefits of an observation debrief. A critical case both (a) provides important information relevant to a research question, and (b) is broadly consistent with other cases (Creswell, 2013). This case illustrates how the observation debrief allowed me to elicit Brittany's interpretations of her actions during the observation. Moreover, while I identified the mathematical substance in a broad range of Brittany's actions during the observation, Brittany—consistent with other participants in the study—only saw a few of her actions as mathematical. In her interviews, Brittany shared that music was a strong personal interest that played an important role in her past experiences and continued to feature prominently in her interactions with her children. Based on my own prior experiences, I saw important connections between music and mathematics in Brittany's interactions with her children, which I inquired

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about in the debrief. However, the observation debrief showed that Brittany did not see mathematics in any of the musical activities she engaged in with her children.

Data Analysis

I conducted a narrative analysis of Brittany's stories to develop a holistic picture of how Brittany described herself and her connections to mathematics. Transcripts from the interviews and observation debrief, field notes from the observations, and researcher memos were used in the analysis. I paid careful attention to the laughs, pauses, and sighs in her words and actions to identify the feelings she expressed. Corbin and Strauss (2012) state the significance of this analytic process, in which "emotions and feelings cue the analysts as to the meaning of events to persons" (p. 83). By attending to Brittany's emotions and making repeated passes through the data, I was able to identify key themes in Brittany's stories about how she engaged with her children and the role mathematics played in those interactions.

I analyzed the researcher memos using a process similar to what Rolón-Dow and Bailey (2022) describe as "narrative analysis through memos." This type of analysis supports "immersive experiences with data that can increase a researcher's sensitivity to the meanings in the data" (p. 11). The memos allowed me to capture new questions that were arising for me. The memos also helped me make sense of my positionality as a researcher and allowed me to distinguish between my thoughts and Brittany's intent. I highlight these aspects of positionality because I recognize that a researcher cannot be entirely objective or neutral in their interpretation of someone else's stories (Clandinin & Connelly, 2000; Kondo, 1990). However, researchers can establish a more authentic interpretation of stories and events by attending to possible conflicts through memoing and returning to the participant for a more immediate interpretation of observations. In the next section, I include a back-and-forth between vignettes of Brittany's stories and my analytic memos to highlight the distinction between researcher and participant interpretation.

Findings

In this section, I share what I learned about Brittany by (a) listening to her during two interviews, (b) watching her during an observation of a baking activity, and (c) eliciting her interpretations of her actions during an observation debrief. I include comments that Brittany made during her interviews and observation debrief and describe the actions I observed during the observation. As I share Brittany's stories, I interweave details from my analytic memos, in which I captured my thoughts and reflections. In the narratives below, these details are italicized. Sharing my reflections in this way allows me to illustrate how my interpretations of Brittany's words and actions evolved across the interviews and observation. Furthermore, my reflections make clear the ways the observation debrief caused me to re-evaluate my interpretations of Brittany's words and actions. I argue that an intentional and connected debrief of observations as part of research not only gives more context to the experiences and perspectives of a participant but helps a participant maintain ownership of their experiences, by clarifying their meanings and intent in action. The debrief provided an opportunity for us (myself and Brittany) to co-construct a rich interpretation of the activity and its (potential) embedded mathematics.

What We Learn by Listening (Interview)

Through interviews, Brittany shared stories about (a) her experiences growing up, (b) the interests that were important to her and her family, and (c) how the activities she engaged in with her children related to her interests and experiences. The first interview focused on her

childhood, with specific questions about mathematics. These questions would inform my inquiries during the second interview about the role of mathematics in her current interactions with her children. From the first interview, I learned the importance of music in her family. Below is a vignette that features some thoughts about music and mathematics that emerged during the interview:

In talking about her family, Brittany shares where her love of music came from. “I am the oldest of five. I grew up kind of in the mountains...we were really into music...I did a lot of music, and I still do a lot of music I guess...[I] played the piano and was in band.” *As someone who also grew up in a musical family who frequently made connections between math and music, I’m excited to hear how Brittany talks about mathematics. As a researcher, I think of questions to ask about the relationships between math and music that Brittany might see.* When I ask about Brittany’s experiences with mathematics, she focuses instead on a love of reading, sharing “I wasn’t very picky. I just read every written word in our house...[math] didn’t come easily. I loved reading...I think that...math and science were the two that were harder. They just didn’t click.”

In listening to Brittany’s stories in her first interview, I learned about her relationship to music growing up and how she continued to engage in music with her children. When I asked her about what she experienced in mathematics, she instead talked about how it made her feel, emphasizing how she did not enjoy it and that it was difficult for her. Because the mathematics ‘just didn’t click’ for Brittany, she did not choose to engage in it often or intentionally. While I saw a possibility for mathematics to be part of music, Brittany did not bring up any connection between the two subjects.

In my second interview with Brittany, I learned more about her current interactions with her children, both generally and with mathematics. I asked her questions about how she engaged with mathematics and how her family engaged with it:

Brittany describes activities that she does regularly that involve mathematics, such as remodeling and cooking. These activities involve measuring and budgeting, which Brittany calls “running calculations and adding.” She explains how some of that activity can involve her children, sharing, “the kids do help us cook so...actually {laughs} I have started when I have both of the kids helping me I will start breaking things down into three.” *I recognize Brittany’s story of breaking down ingredients, where each share of the same amount relates to foundational practices in division and fractions.* Given what Brittany shared about music during the first interview, I ask if her current activity with music involves any mathematics. She responds, “with music I don’t know... {a long pause} ...I’m just trying to think about—. Using a metronome would kind of be but we’re not doing that.” Brittany talks about some opportunities for counting that could come up in music, but then she reiterates that when she engages in music with her children, mathematics is not involved.

In listening to Brittany’s stories in this second interview, I learned about the activities she chose to engage in with her children. I also learned that she does not intentionally engage with mathematics very often. I began to interpret Brittany’s interactions as she described them,

but I wanted to learn more. What else did she do in these activities with her children? Who took the lead in moments when Brittany had identified mathematics? The interviews showed how Brittany described and interpreted her remembered experiences in mathematics. While this information about remembered experiences was important, interviews alone cannot capture the richness of what a participant actually does in the complex structure of their environment. Following this interview, Brittany and I set up an observation in which she would bake with her children. Based on what I heard her describe in the interviews, I was interested in seeing some of the mathematical skills of measuring and fractions in action, so that I could learn more about *how* mothers choose to interact with their young children around mathematics.

What We Learn by Watching (Observation)

Brittany selected baking as an activity I could observe because it was something she regularly did with her children, and she thought mathematics might come up. Due to the nature of data collection during the COVID-19 pandemic, I watched the observation through a video-conferencing platform in real-time. Just as I would have if I were observing in person, I remained as unobtrusive as I could be while watching and taking field notes. My goal during the observation was to see how Brittany engaged in mathematics with her children in a relatively natural and everyday setting. I also wanted to learn why Brittany interacted with her children around mathematics in the ways that she did. Consequently, I kept track of the instances in which Brittany's actions during the baking activity involved mathematical skills and practices. This let me analyze these moments more carefully, with attention to what Brittany seemed to do for the sake of baking, for the sake of learning something about mathematics, or for a mix of both of these reasons.

I know from other research and personal experience the opportunities for math skills such as counting, measuring, estimation, patterns, and fractions that can arise in an activity like baking. I am curious to see what beyond fractions Brittany might use today. After setting up the video camera, Brittany helps her two children, Rosie and Bobby, put on their aprons. Getting out the recipe book, Brittany has her children help assemble the ingredients to make chocolate chip banana muffins. When it's time for the two cups of sugar, Brittany says that Rosie and Bobby can each add one cup to the bowl. When it's time for the three bananas, she offers one to each person to peel and add to the bowl. As the children add ingredients, Brittany helps them take turns, either splitting ingredients when possible or alternating who adds what. I'm thrilled to see fractions in use for Brittany here, where splitting ingredients through fair sharing them is a form of early fractional work. As a researcher, I see how Brittany is potentially engaging in mathematics and plan to follow up with questions to understand why Brittany made this move of splitting ingredients.

As they go through the recipe, Brittany has Bobby read off how many cups, tablespoons, or teaspoons they need for the different ingredients, and confirms when they've added that much. When it's time for a teaspoon of baking powder, Brittany shows them the ring of measuring spoons, pointing out the half teaspoon and stating that two of the half teaspoons make one whole teaspoon. She asks them if that makes sense but both Bobby and Rosie shake their heads 'no.' *This moment feels like a more intentional connection to fractions that Brittany tries that her*

young kids don't yet understand, but it appears Brittany wanted to create a mathematical connection to their activity. I wonder if this was for my benefit as I am interested in her mathematical activity for the study.

The time comes to combine the dry and wet ingredients that the three of them have carefully measured out. Brittany pours the wet ingredients into the dry ones. Bobby asks why she does it that way and Brittany explains that the bowl they used for the wet ingredients was too small to put the dry ingredients into, and she was worried it would make a mess. *While my knowledge of baking helps me recognize that dry ingredients are usually added to wet ingredients, I can see a practical application of spatial terms (this bowl is bigger, we need more space) and spatial reasoning (the batter won't fit, it will make a mess) in this part of the interaction.*

Bobby and Rosie take turns mixing the batter before it's scooped into muffin tins. Both children want to help scoop the batter, but before they do, Brittany reminds them to only put in one scoop per space so that it doesn't overflow in the oven. Rosie points at a space that already has one scoop in it and says no. Brittany points at several full spaces in a row singing an arpeggio (musical pattern) of 'no.' Both Bobby and Rosie repeat after Brittany, singing the same arpeggio back to her and pointing at the full spaces. *Brittany previously talked about music and singing being deeply integrated into her family's life but could not identify in interviews ways that music would relate to mathematics. And here I was seeing the use of patterns to add music into their baking activity. As a researcher, I want to learn more about this moment and why Brittany chose to make a connection to music that may have a mathematical connection.*

Before the tin goes into the oven, Brittany offers both children some chocolate chips to add to each muffin, which they attempt to count out as they add them to the tin. Once the timer is set and the muffins are in the oven, Brittany helps Bobby and Rosie get out of their aprons, with reassurances that she'll call them back to the kitchen from play time when the muffins are ready to eat. *I'm ready to talk with Brittany in an observation debrief about the mathematics she embedded and emphasized in this activity with her children.*

Brittany's actions in this observation helped me understand more about the types of activities she engaged in regularly with her children and the mathematics that can happen in them. The ease with which her children talked about what to do next and how to help made it clear that activities in the kitchen were common for them. From my perspective, I saw Brittany engage her children in mathematical thinking involving counting, fractions, spatial terms and reasoning, and patterns. Some of these connections related to what she described in her interviews, such as "breaking things down into three" in cooking, which is a form of fractional work. There were also nods to Brittany's interests outside of cooking with the musical call-and-response pattern she did during the activity. The observation allowed me to see the context of the stories Brittany shared in her interviews. For example, she had spoken about music being part of her life growing up and today. During the observation, she showed how she even

embedded it in otherwise non-musical activities. Throughout the observation, I kept track of the possible mathematical connections Brittany made, with plans to clarify her intent in the debrief. While I had my interpretations about the mathematics Brittany engaged in, I did not yet understand her reasons for engaging in the ways she did. As such, a debrief of the observation further grounded Brittany's experiences to better match her intent through a researcher's interpretation.

What We Learn by Giving Participants Ownership (Debrief)

Directly following the observation, Brittany and I debriefed what happened during the baking activity. My goal during the debrief was to better understand what mathematics she consciously engaged in, and why she chose to do what she did. The debriefing time was structured to let Brittany describe what happened during the activity from her perspective, and contextualize her actions. In this way, the debrief involved Brittany in a collaborative effort to interpret the meaning of her actions and provided a chance to disrupt observation power dynamics. I highlight a few key points from our conversation.

I ask Brittany to start by sharing what mathematics she engaged in with her children during the activity. *Looking at the list of mathematical concepts I noticed, I am interested to hear what she might bring up.* Brittany brings up two concepts, counting, and fractions. We first talk about what her intent was when she included those skills during the baking activity. Then, we discuss the ways she tries to incorporate these concepts into other activities with her children. I ask if there were other moments of mathematics in the baking activity. Brittany responds, "I don't remember anything else {laughs} that's pretty much it." *I'm surprised she doesn't bring up some of the other mathematical elements I noticed, given how naturally they were incorporated, like changing the bowl because of its size or the singing patterns.*

When I later bring up her use of patterns in singing, I think it might bring to her mind other ways that music (a major part of her everyday life) has mathematical moments in it. Instead, Brittany comments that she hasn't thought that music was related to mathematics at all. While she talks about music and singing in many of her activities, she explains that she thought others might be able to make a connection between mathematics and music, but not her. Brittany thinks that mathematics might be involved in music theory and composition, but these are not the types of activities that she engages in. Brittany shares "it's so awesome to hear all these things that I don't, don't think of {laughs} as math...Other patterns. Oh we definitely sing warm-ups for fun sometimes and do different vocal patterns." We continue to talk about patterns and where they might appear in music activities and other activities that Brittany does with her children.

I saw numerous instances of mathematics in Brittany's actions. However, Brittany only saw mathematics in a few of these instances. After I brought up types of mathematics that I noticed in her activity, such as patterns, Brittany was able to indicate a rich selection of activities where patterns came up that she did not address in the previous interviews or the observation. The account of her actions that Brittany shared in the debrief illustrates just how invisible the informal mathematical practices that happen in everyday activities become for parents. During

the observation, I identified numerous moments in which Brittany's activity involved mathematical ideas. In the observation debrief, I learned that there were notable differences between what I identified as potentially mathematical and what Brittany herself initially recognized as mathematical. In my larger work, Brittany's interpretations of what she did and what she recognized as mathematics were similar to what the other participants recognized and valued as mathematics. Across the participants, there was a discrepancy between the implicit mathematics that participants engaged in with their children, and what the participants themselves recognized as explicitly mathematical. This finding went beyond identifying what mathematics happens at home and why parents choose to engage with it. In fact, it led to larger implications around what mathematics is recognized by mothers. The distinction between activities that involve mathematics from the perspective of an educational researcher and those which mothers recognized as mathematical would not have been as clear from the research without the intentional questions in the observation debrief.

Discussion

Before the observation debrief, my interpretation of the observation focused on how Brittany seemed to engage naturally in an array of mathematical activities with her children that she had not mentioned in earlier interviews. From the interviews, I learned about her background and a few ways in which she saw mathematics play a role in interactions with her children. From the observation, I formed particular ideas about her meanings and intentions based on what I saw at the moment and had heard previously during her interviews. Despite the previous interviews, I was unable to sufficiently understand why she did what she did with her children during the observation. The observation debrief provided an opportunity for Brittany to interpret her actions and their connections to her past experience, which did not reflect a recognition of her actions as mathematical. Like Knutas (2019) reminds us, "how we as actors see the world is not necessarily the same as how an observer might see it" (p. 661). Certainly, the way I saw aspects of Brittany's activity was different from the way she herself saw it.

A primary affordance of the observation debrief in this case was that it helped me distinguish between my interpretations and Brittany's interpretations of her experience. More refined than checking the perspective of a participant (Corbin & Strauss, 2012), the debrief was anchored in the immediate actions of the observation. To best capture Brittany's perspective, I asked questions during the debrief about her intent at various points in the observation. For example, I asked Brittany to identify what mathematics she engaged in with her children during the activity. When, after naming fractions and counting, Brittany said that she did not "remember anything else" happening related to mathematics, it helped identify what Brittany recognized as mathematical in her actions, as well as what, for her, was not mathematical. Her responses to this question made clear that some of the potentially mathematical activity that I noted during the everyday baking task was not viewed as mathematical by Brittany. From Brittany's perspective, the music she included in the activity was related to her interests and past experiences but did not have any recognizable connection to mathematics. Thus, I was able to gain a deeper understanding of both how Brittany saw mathematics, and how she saw herself. Being able to distinguish between the aspects of Brittany's activity that involved mathematical concepts and those that involved mathematical concepts *from her perspective* opened up a novel facet of the larger study. Brittany's experience pointed to a disparity between the mathematics parents actually engage in with their young children, and what they identify as mathematical. The observation debrief, thus, illuminated an under-studied idea in parent engagement research: determining what mathematics parents themselves recognize as mathematical.

The debrief of observation with Brittany achieved what are often the discrete goals for interviews and observations. In interviews, researchers listen to participants and how their responses and stories give new meaning and interest to particular modes of inquiry (Rapley,

2004). In observation, researchers watch participants, to understand the nuance and complexity of their actions (Baker, 2006; Kawulich, 2005). Observation debrief unites these two purposes by listening to participants' intent and meaning within the details of their actions. Additionally, an observation debrief helps to balance the power dynamics of the researcher and participant relationship, by honoring how the participant interprets their actions and activities and working to more authentically co-construct an interpretation of their actions.

Limitations

I presented a critical case to demonstrate the role observation debrief has in interpreting participant experience. However, the use of observation debriefs generally and in the context of this study is not without its limitations. Data for the study were collected during the COVID-19 pandemic, which meant all interviews and observations were conducted virtually. The video view may have limited the range of data I was able to gather from the interviews and observation, which may in turn have limited the accuracy of my initial interpretations. Inevitably, my initial interpretations were also constrained by my positionality. For that reason, I briefly discuss aspects of my positionality to highlight the need for researchers to carefully distinguish between their experiences and interpretations, and those of their participants. Unlike Brittany, at the time of observation, I was an educator but not a parent. My knowledge of raising children was limited to part-time childcare and sibling care. Like Brittany, I grew up in a family with a strong musical background. However, my family stressed the ways that music connects to mathematics. I recognized a *possible* intent behind Brittany's actions, based on my knowledge of how mathematics and music are connected. My experience was insufficient to determine Brittany's actual intent when she introduced music to the baking activity.

More research is needed to establish a more comprehensive account of parents' views about what counts as mathematical. I remain aware of the power dynamics between researchers and participants (Bratich, 2018). Given that participants understood that the purpose of the larger study was to identify current mathematical interactions between parents and their young children, participants may have attempted to highlight activities that they believed a researcher would want to see. For example, this may have been the case during Brittany's baking observation when she tried to explain the relationship between half teaspoons and a whole teaspoon. Another concern is that during the debriefs, the desire to please the researcher may have prompted participants to agree that certain types of activity were mathematical, even if this would not otherwise have been their perspective. Despite these limitations, the observation debrief provided additional insight into Brittany's experience and suggested additional avenues of investigation related to what counts as mathematical for parents.

Implications and Conclusions

Research methods are always chosen with particular research purposes in mind. When researchers adopt changes to research methods, they do so to better achieve the goals of their research. Observation debrief is a useful addition to research involving observation because it can help capture the experiences of individuals in more authentic and meaningful ways. Authentic representation extends beyond determining the (subjective) truth of a participant's words or actions. In interviews, researchers may offer transcripts or excerpts for participants to review, determine accuracy, and support member checking (Mero-Jaffe, 2011; Rowlands, 2021). Sometimes more traditional observations are used to determine alignment between what a participant says and does (Corbin & Strauss, 2012). As May and colleagues (2000) show in their work on multiple perspectives of observation, "there is neither one truth nor one reality" (p. 66). An attempt, then, to reach an objective interpretation through interviews and

observations is not possible. I argue that observation followed by an observation debrief offers something else, a way to understand the intent and context of a participant's actions.

Future research that observes participants and seeks to understand the phenomena of their experience should include an observation debrief as part of data collection as a way to further detail the intent and meaning in a participant's actions that may not otherwise be captured. Observation debrief is different from previously suggested combinations of observations and interviews (e.g., Corbin & Strauss, 2012) because it grounds reflections in the activity of the observation. Taking up observation debrief as part of data collection in research responds to calls across social sciences literature to better understand an event (May et al., 2000), create more authentic interpretations (Grimm et al., 2014), and meaningfully consider the influence of researcher positionality (Bratich, 2018). Observation debrief is a way to weave together what participants say and do while shifting the meaningful interpretation of immediate activity to participants instead of leaving final interpretations to that of researchers. The factors that influence an interpretation of an observation include the surrounding context for the participants, such as their past experience and nuances of the environment, the positionality of the researcher, and the power dynamics between the observer and the observed. These elements make it impossible for researchers to claim they are writing objectively about someone else's actions without clear input from that someone else on their meaning and intent. As in the critical case of Brittany, observation debriefs can provide additional and meaningful context to the research. Beyond comparing the difference in what a participant says and does, an observation debrief can help unpack why that difference exists for the participant. For this reason, future research that involves observing participants in order to understand the phenomena of their experience should include an observation debrief as an important part of the research protocol.

Disclosure Statement

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References

- Adler, P. A., & Adler, P. (1994). Observational techniques. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 377–392). SAGE Publications.
- Baker, L. (2006). Observation: A complex research method. *Library Trends*, 55(1), 171–189. <https://doi.org/10.1353/lib.2006.0045>
- Bostic, J., Lesseig, K., Sherman, M., & Boston, M. (2021). Classroom observation and mathematics education research. *Journal of Mathematics Teacher Education*, 24(1), 5–31. <https://doi.org/10.1007/s10857-019-09445-0>
- Boyd, T. B. H., & Mitchell, D., Jr. (2018). Black male persistence in spite of facing stereotypes in college: A phenomenological exploration. *The Qualitative Report*, 23(4), 893–913. https://scholarworks.bellarmino.edu/fac_staff_pubs
- Bratich, J. (2018). Observation in a surveilled world. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of qualitative research* (5th ed., pp. 526–545). SAGE Publications.
- Christopher, K. (2012). Extensive mothering: Employed mothers' construction of the good mother. *Gender & Society: Official Publication of Sociologists for Women in Society*, 26(1), 73–96. <https://doi.org/10.1177/0891243211427700>
- Clandinin, D. J., & Connelly, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research*. Jossey-Bass.

- Copland, F. (2018). Observation and fieldnotes. In A. Phakiti, P. De Costa, L. Plonsky, & S. Starfield (Eds.), *The Palgrave Handbook of applied linguistics research methodology* (pp. 249–268). Palgrave Macmillan.
- Corbin, J., & Strauss, A. (2012). Practical considerations. In *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed., pp. 19–44). SAGE Publications.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). SAGE Publications.
- Davys, A. M., & Beddoe, L. (2015). “Going live”: A negotiated collaborative model for live observation of practice. *Practice*, 27(3), 177–196. <https://doi.org/10.1080/09503153.2015.1032234>
- Goldman, S. (2005). A new angle on families: Connecting the mathematics of life with school mathematics. *Learning in Places: The Informal Education Reader*, 249, 54–76. <https://doi.org/10.1038/367685a0>
- Grimm, E. D., Kaufman, T., & Doty, D. (2014). Rethinking classroom observation. *Professional Learning: Reimagined*, 71(8), 24–29.
- Jay, T., Rose, J., & Simmons, B. (2018). Why Is parental involvement in children’s mathematics learning hard? Parental perspectives on their role supporting children’s learning. *SAGE Open*, 8(2), 1–13. <https://doi.org/10.1177/2158244018775466>
- Kawulich, B. B. (2005). Participant observation as a data collection method. *Forum: Qualitative Social Research*, 6(2), Article 43. <https://doi.org/10.17169/fqs-6.2.466>
- Knutas, A. (2019). Shadowing or what? Experience of shadowing acts of being in the field of education. *Qualitative Inquiry: QI*, 25(7), 661–669. <https://doi.org/10.1177/1077800418806620>
- Kogan, J. R., Hatala, R., Hauer, K. E., & Holmboe, E. (2017). Guidelines: The do’s, don’ts and don’t knows of direct observation of clinical skills in medical education. *Perspectives on Medical Education*, 6(5), 286–305. <https://doi.org/10.1007/s40037-017-0376-7>
- Kondo, D. K. (1990). *Crafting selves: Power, gender, and discourses of identity in a Japanese workplace*. The University of Chicago Press.
- Ladson-Billings, G. (2009). *The dreamkeepers: Successful teachers of African American children* (2nd ed.). John Wiley & Sons, Inc.
- May, R. A. B., Buford May, R. A., & Pattillo-McCoy, M. (2000). Do you see what I see? Examining a collaborative ethnography. *Qualitative Inquiry*, 6(1), 65–87. <https://doi.org/10.1177/107780040000600105>
- McAdams, D. P. (1993). *The stories we live by: Personal myths and the making of the self*. The Guilford Press.
- Mero-Jaffe, I. (2011). “Is that what I said?” Interview transcript approval by participants: An aspect of ethics in qualitative research. *International Journal of Qualitative Methods*, 10(3), 231–247. <https://doi.org/10.1177/160940691101000304>
- Merriam, S.B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed., pp. 137–161). Jossey-Bass.
- O’Leary, M., & Cui, V. (2020). Reconceptualising teaching and learning in higher education: Challenging neoliberal narratives of teaching excellence through collaborative observation. *Teaching in Higher Education*, 25(2), 141–156. <https://doi.org/10.1080/13562517.2018.1543262>
- Prough, S. (2021). Mathematical mothers: Investigating shifts in perspective around what counts as mathematics. In D. Olanoff, K. Johnson, & S. Spitzer (Eds.), *Productive struggle: Persevering through challenges: Proceedings of the 43rd meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 775-783).
- Rapley, T. (2004). Interviews. In C. Seale, G. Gobo, J. F. Gubrium, & D. Silverman (Eds.), *Qualitative research practice* (pp. 15–33). SAGE Publications.

- Rolón-Dow, R., & Bailey, M. J. (2022). Insights on narrative analysis from a study of racial microaggressions and microaffirmations. *American Journal of Qualitative Research*, 6(1), 1–18. <https://doi.org/10.29333/ajqr/11456>
- Rowlands, J. (2021). Interviewee transcript review as a tool to improve data quality and participant confidence in sensitive research. *International Journal of Qualitative Methods*, 20, 1–11. <https://doi.org/10.1177/16094069211066170>
- Spradley, J. P. (1980). *Participant observation*. Harcourt Brace Jovanovich College Publishers.
- Warren, C. A. (2013). The utility of empathy for White female teachers' culturally responsive interactions with Black male students. *Interdisciplinary Journal of Teaching and Learning*, 3(3), 175–200.
- Winchester-Seeto, T., & Rowe, A. D. (2019). Who is holding the mirror? Debriefing and reflection in work-integrated learning. *International Journal of Work-Integrated Learning*, 20(4), 335–349.

Notes on Contributor

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