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COMMENTARY ON THEMATIC SPECIAL ISSUE: SEEING SELF-BASED METHODOLOGY THROUGH A PHILOSOPHICAL LENS

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Abstract

A mathematics teacher educator's (MTE) use of self-based methodologies goes beyond developing MTE professional knowledge by contributing scholarly inquiry into MTE work. Existing discussions of MTEs' use of self-based methodologies have provided descriptions of the methodologies and examples of their use by MTEs to unpack their practice. What is less clear is why MTEs elect to use self-based methodologies. Yet central to understanding and validating self-based methodologies as a means of developing knowledge in mathematics teacher education is understanding the aims of MTEs who use such methodologies. On the basis of author interviews, drafts, and final papers for this special issue, we illustrate and describe MTE assumptions about ontology, epistemology, and ethics of research. Our interpretations through these lenses led to findings about the philosophical underpinnings of self-based methodologies. Using these findings, we argue that the philosophical underpinnings of self-based methodologies as utilized by MTE authors in this special issue are efforts to conduct research in ways that align with views of self in different contexts.

Keywords: self-based methodologies, philosophy, mathematics teacher education, mathematics teacher educators

Introduction

Chapman et al. (2020) described self-based methodologies (SBM) as "approaches directed to study oneself; for example, one's own thinking, beliefs, actions, experiences" (p. 158). SBM are a genre of practitioner research "central in empirical teacher education research" (Borko et al., 2007, p. 3) that contributes new knowledge about mathematics teacher educator (MTE) practice. SBM empowers MTEs to improve their practice while also making explicit their role in conducting and reporting research (Guilfoyle et al., 2004). Findings from such reports illustrate MTE learning (Chapman et al., 2020) while complementing findings about MTEs' development and practices (e.g., Yang et al., 2015) by sharing not only what MTEs know, but also how they know and use their knowledge in practice. As a result, MTEs communicate their diverse ways of knowing, views of what is real, and perceptions of others' knowledge (Guba, 1990; Paul & Marfo, 2001; Stinson, 2020). Those who use SBM seek to conduct research that not only informs their practice but also aligns with their view of self in different contexts.

Articles in this special issue are "intimate scholarship" (Hamilton et al., 2016, p. 181) that illustrates how MTEs delved into the "particularities" (Hamilton et al., 2016, p. 226) and intricacies of learning to teach teaching as informed by emotional, social, cultural, political, and historical happenings (Hamilton et al., 2016; Gutiérrez, 2009; Gutstein, 2008). In this commentary, we draw from our interactions with the authors as well as drafts and final versions of their papers to discuss MTEs' aims as users of SBM. We describe SBM and a brief overview of the use of SBM by MTEs to learn about their practice. We then provide evidence of MTEs'

aims and assumptions in conducting SBM to see these methodologies through a philosophical lens.

SBM and MTEs

SBM include narrative inquiry (Clandinin & Connelly, 2004), self-study (LaBoskey, 2004), and autoethnography (Ellis & Bochner, 2000) that focus on self-understanding based on personal and professional experiences. Using SBM supports MTEs to inquire into their practices (Chapman et al., 2020), learn about themselves (Cox et al., 2014; Cox & D'Ambrosio, 2015; Grant & Butler, 2018; Kastberg et al., 2018, 2019), and become more empathetic MTE researchers (D'Ambrosio & Cox, 2015). Publication of studies drawing on SBM (e.g., Chapman, 2011; Chapman & Heater, 2010; Grant & Butler, 2018; Kastberg et al., 2018, 2019; Nicol et al., 2020; Simpson, 2019) has supported legitimizing these methodologies in mathematics teacher education (Gellert et al., 2012).

MTEs are a diverse population in terms of career stages, race, and ethnicity who engage in a variety of activities such as teaching, professional development, scholarly inquiry, and undergraduate and graduate mentorship while wrestling with the competing demands of stakeholders (Marshman, 2020) and their own practices (e.g., Chick & Beswick, 2018; Grant & Butler, 2018; Leikin, 2020; McCloskey et al., 2018; Simpson, 2019). The authors of articles in this special issue practice in the United States but are similarly diverse. They represent diversity of race, gender, career stages, disciplines, and practice in different geographical and institutional contexts in their work with populations of preservice and in-service mathematics teachers. Authors' expertise in using SBM varies, with all articles and this commentary reflecting the dynamic nature of MTE work and research on that work. We offer these articles and commentary as representations of research in progress that contributes toward shaping the field of mathematics teacher education by providing insight into how MTEs learn and use their knowledge as well as how these MTEs view SBM. Below, we describe the authors' aims and learning for conducting their self-based methodology studies.

SBM and MTEs as Learners

Articles in this special issue describe and analyze experiences of becoming and learning from practices. Becoming an MTE involves identifying self as belonging in mathematics teacher education. Although insights about belonging in mathematics teacher education have focused on teachers (e.g., Bjorklund et al., 2020; Skott, 2019), becoming an MTE involves learning and growing (Chapman et al., 2020) in the teaching of mathematics teaching. The articles in this special issue focus on MTE experiences of becoming at different career stages and in different contexts and highlight challenges of belonging. Descriptions of MTEs' learning through the examination of their practices described in this special issue include planning, facilitating professional development, assessment, and instructional task design.

Below, we introduce each article in alphabetical order, identifying the self-based methodology, topic, and the authors' aims as drawn from author interviews, paper drafts, and final submission. These descriptions were shared with authors prior to publication.

Baker and Edwards used self-study methodology to analyze their experiences becoming anti-racist MTEs. The authors incorporated a photovoice (Wang & Burris, 1997) assignment to support practicing mathematics teachers' identification of and use of community assets in their emerging practices as teacher leaders. Using data from the planning and implementation of the photovoice assignment, Baker and Edwards aimed to study their process of learning to use the photovoice assignment in relation to their aspiration of becoming anti-racist MTEs.

Borowski and Rupe used self-study methodology to explore their planning conversations that included the design and use of common assignments and assessments in their courses.

Their course covered mathematics content and pedagogical methods for elementary and middle school teacher candidates. The authors aimed to explore how their planning decisions were informed by their beliefs about learning and teaching mathematics and mathematics teaching.

Donaldson and colleagues used self-study methodology to explore their MTE practices and aspirations to become anti-racists. The authors, all early-career White females, worked at different institutions with mostly White students. Donaldson and colleagues used Moore's framework (Moore, 2021) as a guideline to enact anti-racist practices in their courses that included pedagogical methods and mathematics content for elementary and secondary mathematics teacher candidates and practicing teachers. In their self-study, Donaldson and colleagues aimed to learn about their enactment of anti-racist practices by looking at their students' coursework and feedback as well as their critical friends' discussions.

Lischka, Gerstenschlager, and Webster used self-study methodology to analyze Lischka's transition from scoring student work to developing a new means of assessment. Lischka's students were part of two iterations of a secondary mathematics method course she taught in two consecutive years. To describe what and how she learned, Lischka analyzed students' coursework, feedback, her own planning notes, and critical friendship conversations.

Martínez Hinestroza used evocative autoethnography methodology to analyze his experiences selecting tasks for teaching mathematics methods courses. The author engaged with students in the United States at different periods of time: undergraduate students, third-grade students, and all-female elementary teacher candidates. Martínez Hinestroza aimed to explore how he made curricular decisions by analyzing his memories, planning documents, and recordings of his teaching.

Neihaus and Kaschner used collaborative autoethnography methodology to explore their interdisciplinary cooperative practice facilitating mathematics teacher professional development. The authors worked with elementary and middle school practicing teachers exploring the mathematics content they teach. Neihaus and Kaschner aimed to understand the effective collaboration between a mathematician and a mathematics educator by analyzing their periodic reflections on collaborative teaching.

Oslund used autoethnography methodology to explore her journey of seeing herself as an MTE. Her analysis involved the exploration of memories and interactions with different stakeholders and colleagues, including students who were learning karate and a group of elementary teacher candidates. As an early childhood MTE, Oslund storied her life events to understand her aim to be seen as a legitimate MTE.

Ward, Vomvoridi, and vanIngen used collaborative reflection to analyze their experiences as mothers in academia. The authors drew from their experiences as MTEs in different institutions with elementary and secondary teacher candidates. Using a matricentric framework (O'Reilly, 2019), Ward and colleagues aimed to uncover how their identities as mothers and MTEs could co-exist.

SBM enable MTEs to represent their journeys of becoming (Allen et al., 2016; Andrà & Brunetto, 2018; Grant & Butler, 2018; Kastberg et al., 2019; Nicol et al., 2020; Simpson, 2019), learning from practice (Harrison, 2015; Hjalmarson, 2017; Hohensee & Lewis, 2019; Kastberg et al., 2018; Kortjass, 2019a, 2019b; Masingila et al., 2018), and using knowledge in practice (e.g., Chauvot, 2009; Tzur, 2001). Yet such research reports generated as a result of the use of SBM also contain evidence of MTEs' efforts to conduct research in ways that align with views of self in different contexts. In the next section, we provide examples of such evidence by discussing the philosophical underpinnings of SBM using the descriptions of MTEs' journeys of becoming (in the current issue Baker & Edwards; Donaldson, Anderson, Baker, Troudt, & Woods; Oslund; Ward, Vomvoridi, & vanIngen) and learning from practice (Borowski & Rupe; Lischka, Gerstenschlager, & Webster; Martínez Hinestroza; Neihaus & Kaschner).

Philosophy and SBM

Philosophical underpinnings of educational research link views of epistemology, ontology, and ethics to MTEs' beliefs and values. Such beliefs and values inform research decisions that shape the evidence MTEs collect and findings they report. In studies that use SBM, MTEs are both researchers and participants (Borko et al., 2007; Hamilton et al., 2008) describing from a personal standpoint how they came to their studies and what they learned in the process. Such studies draw from the qualitative research paradigm (Guba & Lincoln, 1994) embracing "fallibilist approaches to research" (Ernest, 1997, p. 26) that assume experience, knowledge, and truth are contingent and conditional. Research conducted using SBM addresses calls about how MTEs use their lived experience and knowledge in their practice (Chapman, 2021) by describing MTEs' personal assumptions, values, and beliefs in their work.

In the following sections, we use Ernest's (2018) idea that philosophy involves "aims, rationale or underlying purpose" (p. 14) of an activity that belongs to people engaged in the activity. In the case of the use of SBM as an activity, what do the authors hope to gain in using the methodology, and why are they using it over others? MTEs conduct research using SBM to address their aims as "expressions of values" (p. 14) informed by society. Following Ernest, we acknowledge and illustrate that MTEs' aims in using SBM "are multiple and divergent" (p. 14), thereby representing differences in how MTEs view research that informs their practice. Discussing the philosophy of SBM legitimizes the mode of inquiry, grounding it in MTEs' quest for new knowledge that informs their practice. Centrally, exploring the philosophy of SBM, we dig into the aims of those who conduct such research.

Explicit attention to philosophical underpinnings is often missing from final reports of educational research (Paul & Marfo, 2001). To gain insight into the philosophical underpinnings of the studies reported on in this special issue, we engaged the authors in informal interviews regarding their assumptions. We draw from our experience working with the authors to hypothesize the philosophical underpinnings of SBM by applying branches of philosophy as a conceptual framework for analysis (Ernest, 2018). We identify ontological, epistemological, and ethical assumptions made "either knowingly or unknowingly" (Stinson, 2020, p. 10) in the authors' research inquiry. We assert that the authors whose work is in this special issue used a self-based methodology because the methodology aligned with their assumptions about ontology, epistemology, and ethics as they apply to research of MTE practice.

Ontology

Ontological considerations (Stinson, 2020) of those using SBM are portrayed in what is considered real for MTEs. By identifying and analyzing past moments, MTEs focus on how they constructed realities at such moments. Authors whose work is represented in this special issue depict reality in different ways. For some MTEs, experience and practice are individual constructions. For instance, in Lischka, Gerstenschlager, and Webster's article, Lischka shared her commitment to constructivist teaching (Steffe & D'Ambrosio, 1995). "Alyson's constructivist (Kastberg, 2014) and relational teacher education (Kitchen, 2005) methods course included activities designed to value prospective teachers' experiences and support prospective teachers to learn how to develop and evaluate their own personal pedagogies of mathematics teaching" (in this special issue Lischka, Gerstenschlager, & Webster, p. 5). Such commitment to constructivist teaching accepts the reality of "individual and connective interpretations" (Stinson, 2020, p. 7). Other MTEs portrayed their realities as situated in contexts, including historical, cultural, political, and institutional (Hamilton et al., 2016; Guba & Lincoln, 1994; Gutiérrez, 2009; Gutstein, 2008), and as actors informed by these contexts. For example, Baker and Edwards as well as Donaldson, Anderson, Baker, Troudt, and Woods described their experiences as White women becoming anti-racist MTEs. "We felt a sense of urgency to transform our teaching

practice from equitable to a clear anti-racist stance focused on dismantling systems, structures, and beliefs within mathematics education that maintain racism" (Donaldson et al., p. 4 in this special issue). Becoming anti-racist MTEs was part of the mathematics teacher education discourse at the time, which was informed by historical and societal happenings (e.g., the COVID-19 pandemic and the international social movement that highlights racism, discrimination, and inequality experienced by Black people). Oslund's article illustrates experiential realities drawn from assumptions about who has knowledge that is neither ideologically free nor universal, but a discursive formation constrained by power and disciplinary practices (St. Pierre, 2000). Oslund wrote: "I allowed myself to dwell on the feelings that emerged, spending time unpacking situations in which I felt awkwardness, exclusion, belonging, or tension between these" (p. 4 in this special issue). Oslund described how others' assumptions about her knowledge and practice were embedded in social and academic discourses about who has knowledge of mathematics. Using autoethnographic writing, Oslund constructed a discourse that transitioned from seeing her mathematical expertise through the academic lens of society to engaging with others as an *authentic* MTE. She wrote, "I moved from trying to legitimize my knowledge to authentically representing my ways of knowing (and not knowing), especially my embodied experiences, identities, and feelings" (p. 16).

The experienced reality of MTEs as described in their research reports is not happenstance, but a foundational characteristic of reports utilizing SBM. The role of MTEs in context as well as in conducting and reporting research (Guilfoyle et al., 2004) is made explicit by the MTE to enable insights to be drawn about the contingent nature of MTE actions and experiences. Utilizing SBM allows MTEs to situate their work in institutional and societal contexts that inform interpretations of their actions as dynamic moments rather than generalizable applications of knowledge.

Epistemology

Epistemological considerations (Stinson, 2020) inform MTEs' assumptions about evidence of knowledge and ways of knowing; methods used to gather evidence; and claims they make about learning, knowledge, and knowing. MTEs using SBM assume that by taking a researcher position and studying their participant selves (Borko et al., 2007; Hamilton et al., 2008) they can gather evidence of their knowledge and development. MTEs utilize interactions with others and artifacts to gain perspectives on their actions and practices. Interactions with others through critical friendships (e.g., Allen et al., 2016; Andrà & Brunetto, 2018; Hohensee & Lewis, 2019; Schuck & Russell, 2005) and with teachers (e.g., Chapman & Heater, 2010; Cox & D'Ambrosio, 2015; Sack, 2008; Simpson, 2019; Yang et al., 2015) create opportunities for MTEs to gain perspective on their actions as teachers. Perspective can also be gained when MTEs analyze course artifacts (Hjalmarson, 2017; Kastberg et al., 2018, 2019; Kortjass, 2019b) and their memories of lived experience (Kortjass, 2019a; Nicol et al., 2020; Ross, 2003; Tzur, 2001).

Articles in this special issue illustrate the value MTEs place on interactions as a means to develop knowledge. Critical friendship is central to self-study methodology (Schuck & Russell, 2005), as shown in the self-studies conducted by Baker and Edwards; Borowski and Rupe; Donaldson, Anderson, Baker, Troudt, and Woods; and Lischka, Gerstenschlager, and Webster. Critical friendship interactions create nurturing environments for MTEs to unpack their past practice and consider future practice. MTEs utilizing other SBM also create knowledge through interactions. For instance, using collaborative autoethnography, Neihaus and Kaschner dialogued to co-construct meaning of their past interdisciplinary interactions. Together, the authors analyzed audio recordings of their debriefing discussions from an interdisciplinary professional development collaboration. Neihaus and Kaschner assumed dialoguing and attending to their positionality in the collaboration, including differences in their disciplinary ways

of knowing, would provide perspective on their actions.

Articles in this special issue further refer to interactions with teachers and course artifacts as sources of insight. Teachers' feedback and coursework allowed researchers to gain perspective on their teaching practice. For instance, Donaldson and colleagues engaged in critical friend conversations to gain perspective on their anti-racist teaching practices. Yet a second source of perspective from their students' feedback on course activities provided a view on ways MTEs could improve their practice by considering teacher candidates' racial and cultural backgrounds. In Lischka, Gerstenschlager, and Webster, Lischka reports wanting her teacher candidates to be authorities on their teacher development by using rubrics instead of assigning numerical grades. Through teacher candidates' feedback, Lischka and colleagues found that teacher candidates either assigned authority to the rubric or wanted Lischka to evaluate their work as right or wrong.

Articles in this special issue illustrate that MTEs using SBM assume that ways of knowing and knowledge are informed by perspectives on context. By studying their past selves, MTEs gain perspective on their practice and develop rationales for their past actions and ideas for future actions. Such MTE knowledge is contextual in that it is informed by the people, institutional policies, and social and cultural surroundings at the time the self-based methodology study is conducted. Facing the future involves anticipating ways knowledge can be used, while embracing new contexts, including new relationships, institutional landscapes, and social and cultural contexts that provide opportunities for the emergence of new teacher actions. MTEs using SBM assume that occasions for developing practice emerge from past, present, and future context. Martínez Hinestroza's article in this special issue illustrates how researchers using SBM consider knowledge and ways of knowing about teaching as contextual.

Martínez Hinestroza's article illustrates knowledge and knowing as contingent, multiple, fragmented, and becoming (Stinson, 2020) across time and place. The author's paper and interview reflect his epistemological considerations through the narration of the development and implementation of a task he called the Tutu Shield task. Martínez Hinestroza's emotional encounter with an art installation addressing violence against women in a Colombian park became the basis for the Tutu Shield task. Years later as an MTE working with a class of all-female mathematics methods students in the United States, Martínez Hinestroza knew to use the Tutu Shield task as teacher candidates became interested in women's rights. Martínez Hinestroza's awareness of why he used the Tutu Shield task with the teacher candidates drew from his understanding that knowledge he developed in the Colombian context could be productive in his new context.

MTEs' use of SBM assumes that interacting with others, course artifacts, and analyzing past experiences produce alternative perspectives on teaching actions and experiences. Such alternative perspectives provide opportunities for MTEs to develop new ways of knowing and knowledge for teaching. Furthermore, MTEs' use of SBM assumes that knowledge for teaching is contextual because it was created in social interactions; with learners and colleagues; and under institutional policies and social and cultural landscapes. MTEs using SBM assumes that ways of knowing for teaching are the result of layers of experiences drawn upon in unanticipated moments of creative need, often without insight into how connections are made among experiences, time, and actions.

Ethics

Stinson (2020) identified researchers' use of ethics in practice in addition to ontological and epistemological assumptions as a means to characterize methodologies. Ethics in practice reaches beyond gaining approval from ethics committees to the researcher's ongoing consideration that the knowledge produced is beneficial to individuals and society while drawing from and contributing to existing research. Ethical considerations (Stinson, 2020) relate to

MTEs' reflections on their positionalities, the process of conducting the study, and the human relationships they develop. We provide some examples below of authors' reflections on their positionalities and the process of conducting their studies; we also ask ourselves questions about ethics in practice and describe places of growth when using SBM.

To gain perspective on their experiences of practice, MTEs who use SBM revisit moments in their lived experiences, including their teaching practice. Reflections are one source of insight into MTE practice. Because practices are considered contextual and stories about practice are dynamic, revisiting practices results in restorying moments in relation to values or beliefs. Authors in this special issue reflected on emotionally rich moments from their lives and practice. Using SBM allowed MTEs to reflect on those emotional moments to gain new insights into their practices. For instance, Ward, Vomvoridi, and vanIngen collectively reflected on their past experiences as academics and mothers, unpacking ways in which they were tacitly and explicitly encouraged to maintain these identities as separate. Reflecting on their emotions was the impetus for them to learn about feminist frameworks (e.g., O'Reilly, 2019) that position motherhood as an asset in academia. Ward and colleagues' article illustrates how reflection on identities and academic work involves others in unexpected ways. From the perspective of the MTEs using a feminist lens, their possibilities for self were constrained by factors including societal norms and institutional culture. In the work of Neihaus and Kaschner, as well as Borowski and Rupe, both sets of authors described and represented experiences of conflict. Although the informants are the authors, the emotional experience of developing knowledge for practice is situated primarily within the relationship. Neihaus described, in an informal conversation with the editorial team, their process of conducting the analysis: "The iterative nature of it [analysis] was that we could reduce tension and still look at the conflict. So, like the conflict of the disagreement still existed and we could let go of that fight or flight instinct and say this conflict and disagreement still exist; how can we talk through it without all of those extra feelings?" Aubrey and Kaschner described how by dialoguing with one another they revisited their past lived moments and created new interpretations. While their study of coming to know provided an opportunity for MTE growth, in what way are claims made about their experiences supported by ethics in practice? This question in the context of SBM is challenging because the informants for the study are the authors and only the authors characterize the context. As the editorial team, we ask, are claims made by these authors supported by ethics in practice?

Other inquiries in this special issue were motivated by MTEs' beliefs and values. MTEs' motivations for using SBM were as a means to explore the alignment between their beliefs and values and their practice. For instance, Baker and Edwards and Donaldson et al. wanted to improve their practices by becoming anti-racists. In their writing, Baker stated: "Examining my ongoing journey in becoming anti-racist, I was aware that White supremacy culture was entrenched in not just my teaching practice, but in my identity, beliefs, and values in ways that were unknown to me. As my colorblindness was beginning to shed, I did not want to inadvertently burden the Black and Brown [practicing teachers] in my class" (in this special issue Baker & Edwards, p. 4). Becoming an anti-racist MTE is a personal decision that aligns with position statements produced by MTE professional organizations in the United States (e.g., AMTE, 2020; TODOS, 2020) that support diversity, social justice, and equity-oriented mathematics teaching. In another example, Lischka in her work with Gerstenschlager and Webster, wanted to align her teaching philosophy and values about assessment with her practice. Lischka wanted to move away from assigning grades to teachers' coursework to encourage teacher candidates to become authorities on their learning. In these examples, ethics in practice draw from the self but are further supported by consideration of who will gain as a result of the improvements MTEs make in their teaching. Might the changes in practice constrain rather than enhance teachers trying to learn to teach mathematics? How might MTEs using SBM engage others, including teacher candidates, in efforts to improve practice? Is such

engagement needed to support ethics in MTEs' use of SBM in the conduct of research?

Studies using self-based methodology rely on ethical systems such as MTEs' knowledge of self, knowledge growth, agency, and self-sufficiency (Grant & Lincoln, 2021) to communicate trustworthiness in research reports. MTEs using SBM are not trying to achieve generalization and standardization (Paul & Marfo, 2001; Hamilton & Pinnegar, 2015), but rather developing one's own knowledge and insight into that knowledge and its use as contingent and contextual. Oslund's story of her lived experience of being validated and critiqued as an MTE illustrates the way experiences can be multiple. By analyzing her experiences, Oslund embraced her identities and moved from seeking validation to representing her authentic self. By resolving to maintain authenticity in her interactions with others, Oslund gained knowledge of self (Grant & Lincoln, 2021) in her MTE practice. Although the primary beneficiary of the research is Oslund, the work further illustrates and raises questions about ways MTEs create practice from identity and experience. Oslund's article is an example of ways studies using SBM serve the greater good by contributing to people's sense of well-being and energizing MTEs (Whitcomb et al., 2009).

Ethics in practice as represented in the work of MTEs using SBM involves many tensions. For example, how MTEs position others while MTEs are using SBM to improve their teaching practice is an ongoing tension. Are MTEs' stories of experiences held harmless because the stories belong to the MTE? Or should MTE reflections used to improve MTE practice (Hamilton et al., 2008) be reviewed by others who are described? To whom does a reflection belong when it is the result of interactions with others and in cultural, historical, and institutional contexts? In what ways is the use of SBM grounded in ethics in practice? What are the "ethical obligations" (Stinson, 2020, p. 19) of MTEs who use SBM to develop their knowledge?

Although participants in studies using SBM are MTEs, questions arise about informants and ethical practices involved in capturing and reporting experiences in reflections and dialogues. The situated and contextual nature of the work of MTEs raises questions about claims regarding who contributes to the benefit we gain from using SBM to learn from practice. Although the questions raised in this section do not have clear answers, the MTEs who authored these papers communicated ways they wrestled with ethics in practice. They described identifying the boundaries of their stories, the potential contribution to mathematics teacher education, and searching for ways their research contributed to the greater good and informed mathematics teacher education. A key challenge to the authors in their reporting of findings from their use of SBM was identifying the significance of the work in the context of mathematics teacher education research. The editorial team sees ways these articles contribute to the mathematics teacher education community while continuing to encourage authors to consider ethical challenges such as the use of experiences that involve others and the consideration of who benefits from the findings produced.

Conclusion

In this special issue, authors' use of SBM has illuminated ways MTEs develop and use knowledge of mathematics teacher education in teaching mathematics teaching. Loughran (2006) described the demands of teaching about teaching: "There is a continual need for teacher educators to be conscious of not only what they are teaching, but also the manner in which that teaching is conducted" (p. 11). MTEs' ways of knowing are contingent on their identities, conditional and informed by social, cultural, political, and historical contexts (Gutiérrez, 2009; Gutstein, 2008; Hamilton et al., 2016). When using SBM, MTEs understand that knowledge does not preexist and cannot be achieved by following objective research methods: Knowledge and knowing are intertwined and continuous processes that have dialogue and perspective-taking as the main elements.

The authors of this special issue learned about themselves, personally and academically, which made them feel supported and energized (Whitcomb et al., 2009). For us, the editors, the development of the special issue (Suazo-Flores et al., 2018a, b; 2019, 2020, 2021, 2022a, b) was as important as the final product you are reading now. As documented elsewhere (Paul & Marfo, 2001), reflecting on the philosophical foundations of methodologies and methods is an inquiry that receives less attention from researchers. We have outlined assumptions about reality and being, knowledge and ways of knowing, and ethics that inform research decisions of MTEs who use SBM. As Stinson (2020) describes, without conscious effort, researchers' worldview informs their decisions and ultimately the research findings. For the authors in this special issue, descriptions of ontological, epistemological, and ethical assumptions illustrate how those who use SBM attempt to see and represent themselves. Authors select SBM to create dynamic and contingent views of themselves and their knowledge, describing events, places, and times that contribute to their practice. Across this becoming, the MTEs whose work is described in this special issue use SBM to conduct research in ways that align with views of self in different contexts.

As the field of mathematics teacher education keeps defining itself (Beswick & Chapman, 2020; Goos, 2020; Goos & Beswick, 2021; Jaworski & Wood, 2008) and new calls for research into practice emerge (*Journal of Mathematics Teacher Education*, 2023; Kastberg et al., 2017; Chapman, 2021), the eight articles in this special issue describe MTEs' work, their study of that work, knowledge, and use of knowledge. We argue that encouraging MTEs to conduct studies using SBM can result in findings that complement those that seek to describe MTE knowledge and practice and illustrate the contingent nature and use of that knowledge (Chapman, 2021) within the content of MTEs' development. MTEs' journeys are not generalized using SBM, instead are characterized, storied, and represented as conditional, informed by MTEs' academic and nonacademic experiences as well as their political and cultural surroundings.

Guest Editors and Notes

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