Walking Through Theory
An Exploration of Theoretical Frameworks in Miniature

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Abstract This article describes my experiences teaching the graduate research course, "Research Survey," where I used an artfully imagined assignment focused on the development of theoretical frameworks. Through practitioner and arts-informed inquiry, I explore how students reflected and made sense of their theoretical frameworks by creating three-dimensional miniature spaces. This inquiry seeks deeper understanding of the usefulness of arts- and image-based practices in student and teacher negotiation of complex knowledge formation in higher education contexts. The goal of the research is to answer the question: How might the creation of three-dimensional miniature spaces allow students to develop and understand their theoretical research frameworks?

Keywords: *arts-informed inquiry, qualitative research pedagogy, arts-based research, theoretical frameworks*

While seasoned researchers are often soundly situated within a theoretical home (or at least traversing theory with purpose and focus), some new researchers come to graduate research courses with little to no knowledge of the underlying theory supporting their research ideas (Booker, 2009). Students are understandably overwhelmed with simply grappling over distinctions between positivist and postpositivist traditions (Cox, 2012; Hein, 2004; Luttrell, 2005) and often gravitate to the more concrete issues of methodology and analysis. Without an essential fluency in theory and philosophy, students' abilities to create dynamic research frameworks are at risk of becoming watered down.

This article describes my experiences teaching the graduate research course, "Research Survey," where I used an artfully imagined assignment focused on the development of theoretical frameworks (Shields, Guyotte, & Weedo, 2016).[1] Through practitioner and arts-informed inquiry, I explore how students reflected and made sense of their theoretical frameworks by creating three-dimensional miniature spaces. This inquiry seeks deeper understanding of the usefulness of

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arts-based practices in the negotiation of complex knowledge formation (Raingruber, 2009) by examining the question: How might the creation of three-dimensional miniature spaces allow students to develop and understand their theoretical research frameworks?

Addressing the Need for Polyphony in Pedagogical Practice

Transitioning to being a new assistant professor teaching an introductory research graduate course invoked both nervousness and excitement. While my dissertation used theoretical concepts from hermeneutics and arts-based inquiry, the thought of advising 18 different research projects made me anxious. Having graduated from a qualitatively minded university, I knew the qualitative research "tent" was expanding and growing. While this type of growth often results in increasing thought diversity, notably a good thing in the world of qualitative research pedagogy, it can also be overwhelming to faculty as they navigate students through a varied number of theoretical perspectives and positions.

My discomfort in mastering a wide range of theories and frameworks, and my need to find ways to teach them, led me to return to my background as an artist. Like the research survey course, art school introduced me to a range of mediums before requiring me to pick a focus. In this environment, my learning was dependent on my investment in the process. My greatest artistic growth and development happened when I searched for how art materials could give form to my ideas. Using this insight, I pushed the idea of learning as an active and engaged aesthetic experience out of the art studio and into the qualitative research classroom, envisioning novice researcher experiences as parallel to those of developing artists (Eisner, 2008). Both are struggling to find their voice, to locate themes or topics of interest and to connect their theory and methods. Like novice artists, new researchers are becoming familiar with their surroundings, still searching for their theoretical and methodological homes.

Theoretical and Pedagogical Framework

These connections between the journeys of novice artists and researchers brought me back to a note I scrawled one day after a walk (see Figure 1). Still not sure what these words meant, I went in search of theoretical guidance. Nervously leaving my theoretical home, I queried colleagues about theorists dealing with the concept of homes in artful ways. One dear friend, Brooke Hofsess, suggested Bachelard's

Figure 1. Top row: visual mapping activity. Bottom row: images inspiring this research.

work, *The Poetics of Space*. Bachelard's work (1985, 1994, 2002) affirmed my conceptualization of both the research survey course and later the theory-in-miniature project.

Bachelard is credited with the concept of epistemological rupture or break, an idea later adopted by Thomas Kuhn, who argued science is not a linear progression of ideas but rather a series of ruptures and revolutions (Horgan, 1991; Jenkins, 1974). Bachelard challenged the relationship between science and philosophy, advocating for viewing philosophy as open and attentive to the work in the sciences, establishing the concept of "a theoretical mode of production" (Jenkins, 1974, p. 40). Based in understanding theory as a conversation with scientific processes, this new conceptualization allowed thinking to move through multiple sites of production (Jenkins, 1974).

Bachelard extended theoretical application of the epistemological rupture outside the scientific process, considering how the arts might affect understanding. Like his views on scientific knowledge production, Bachelard believed poetry, which I extend to all arts, explored the mundane and opened us up to new experiences

(McAllester Jones, 1991). Essentially, images, while subjective in their creation, are capable of moving the maker through multiple sites of production where "the duality of subject and object is iridescent, shimmering, unceasingly active in its inversions" (Bachelard, 1994, p. xix)

This active and artful conception of learning became the crux of my pedagogical explorations in the "Research Survey" course. I sought ways to inspire students to create "iridescent" objects elucidating how theory influenced their research and thinking. Achieving this outcome meant viewing and mobilizing students as creators of meanings, not receivers of knowledge (Shields et al., 2016). Thinking of students as creators, artists, poets, or even musicians opened possibilities for new ways of understanding how teaching and learning processes occur. This realization, combined with my ideas about theoretical homes, formed the beginnings of the theory-in-miniature project.

Methodology

This practitioner inquiry (Cochran-Smith & Lytle, 2009) occurred over one semester in an introductory research methods course for masters and doctoral students pursuing an array of degrees in the arts. The central research question guiding my inquiry was: How might the creation of three-dimensional miniature spaces allow students to develop and understand their theoretical frameworks?

Cochran-Smith and Lytle (2009) discuss the common characteristics of practitioner inquiry. These include the "practitioner as researcher . . . professional context as site for inquiry . . . [and] blurred boundaries between inquiry and practice" (p. 39). The central focus of this inquiry, the theory-in-miniature assignment, was an exploration into my teaching practice in a graduate-level introduction to research course. In this case, the course consisted of a group of 18 novice graduate student researchers[2] who were asked to envision the relationship between theory, practice, and research using a series of art-making activities. So while the students' work resembled a work of arts-based research (Barone & Eisner, 2012), my practitioner inquiry into the experience of teaching through arts-based practices was more reminiscent of arts-informed inquiry (Cole, Neilsen, Knowles, & Luciani, 2004).

While all students were pursuing graduate degrees within the arts, the undergraduate background of the participants varied widely, with some holding degrees in visual arts and others in business or education.[3] Because of the wide range of experience with visual arts, I chose to have the project span an entire semester.

I hoped this time frame would encourage students to continuously revisit and rethink their theoretical frameworks as well as give them time for creating the arts-based components of the assignment.[4] Data sources included observations, reflective writing, theory maps, notes from class discussions, students' final presentations of their miniature space, and other course artifacts (syllabi, handouts, lesson outlines, etc.). The data were analyzed through coding and categorization (Saldaña, 2016). A priori codes were established based on the research question and course objectives; however, other codes emerged during the analysis. The course objectives with examples of a priori and inductive codes are listed below:

1) Distinguish and examine the nature and aims of ontology, epistemology, and methodology
    a) relationship between theory and practice
    b) analogic/metaphoric thinking
2) Identify current paradigms, major theories/theorists, and methodologies
    a) broad understanding of theory
    b) outward movement of theory
3) Develop a conceptual foundation/framework
    a) contribution to framework
    b) concision through miniature

The Theory-in-Miniature Project

As the course instructor, I gave students insight into a wide range of techniques, approaches, theories, and methods; however, the real work would be in the students' hands. By exploring research interests with my students,[5] I guided them in the direction of key scholars in their field, asking them to use art making to dive deeper in search of the theories and methods those thinkers used. This approach allowed each student to journey through a complex web of ideas while also letting them present their understandings using a process-based outcome. The art making served two purposes: first, as a way for students to actively engage in evolving conceptualizations of their theoretical influences and, second, as an artistic outcome representative of complex theoretical notions and synthesis. As students identified theories of interest, I continued to read Bachelard's (1994) work, eventually connecting my understanding of the role of theory in research with Bachelard's conceptualization of the poetic soul.

What Is the Soul of Research?[6]

> At the very heart of the circle from where the whole thing derives its source of meaning . . . we come back again to that forgotten, outcast word, the soul. (Bachelard, 1994, p. xxi)

Returning to the ideas put forth by Bachelard (1994) and my experience as an artist, I considered the concept of the soul. The work of great artists and researchers often charts back to a center, a theoretical or conceptual point of departure. Viewing the goal of art making and research as an expression and exploration of the soul moved me to consider what might be the soul of qualitative research? More importantly, how might one encourage discovery of this soul within the experience of being a novice researcher?

I believe theory can be considered the soul of research because it emerges from our core ontological, epistemological, and axiological beliefs. Theory is a representation of the researcher; it is an expression of not just beliefs but a manifestation of researcher subjectivities. Like the soul, theory guides decisions, informing topics, literature reviews, and methods. Bachelard's work with the epistemological rupture echoes the importance of theory and philosophy in the work of researchers. Here he reminds us that epistemological acts cannot be separated from research practice; rather they are inextricably related (Vennesson, 2008).

Where Is Your Theoretical Home?

Understanding theory as the soul/center of research practice grounded the theory-in-miniature project. Much like my comfort within the arts and hermeneutics, most researchers have a theoretical home (see Figure 1). This home becomes a place to return to, as Bachelard (1994) wrote, "thanks to the house . . . our memories have refuges that are all the more clearly delineated. All our lives we come back to them" (p. 8).

But what of the spaces theory creates? A sense of home contributes to the development of self, but I wondered how to conceive of theory as a place to call home? How might theoretical homes influence the development of research ideas? This moved me to consider how crafting a physical space might encourage the deep thinking about theory I wanted to inspire.

What Is the Relationship Between Theory and Research Practice?

This interest in the connection between theory and research mirrors Bachelard's (1994) conceptualization of the connection between the mind and soul. While the

soul operates as the center point, or touchstone, the mind remains focused on understanding. As Bachelard notes, "the soul inaugurates . . . even if the form was already well known, before the interior poetic light was turned upon it, it was a mere object for the mind" (p. xxii). The soul, or in this case, theory, lies at the center of the research context, and it was my hope the theory-in-miniature project would shine poetic light on this relationship.

Knowing that making theoretical decisions about research gives direction to other choices, I first asked students to situate themselves theoretically. To that end, students began by visually exploring the relationship among their broad research ideas, related literature, and their theory[7] by making a metaphorical map of their research neighborhoods (see Figure 1).

What if Our Theoretical Homes Were Physical Places?

Throughout the project I used Bachelard's writing to develop the theory-in-miniature assignment. Expanding the concept of theoretical homes as the soul of research experiences, I pondered how developing an image of their theoretical home could influence student development and understanding. I considered what an actual theoretical home might look like. While this may pose an interesting vantage point from which to view theoretical underpinnings, it would not be possible to craft large-scale representations of these theoretical homes.

This limitation reminded me of a movie I saw as a child: *Honey, I Shrunk the Kids*.[8] Watching this movie turned my understanding of the world upside down. For the first time I considered what was under my feet as I walked, aware of the overwhelming magnitude of the world we live in. Life in miniature takes on a different meaning than life in full size; when life is condensed, shrunken, and smaller, connections between place and concept shift (see Figure 1).

What if Your Theoretical Framework Was a Miniature Space?

Bachelard (1994) discusses the importance of the miniature in his writing on the poetics of space. Our commitments to representation shift when we are no longer bound by the reality of size and the confines of the real world. This shifting of viewpoints forces the maker and viewer to see the world in new ways, to draw upon imagination, to explain and explore something once ignored and insignificant.

> The man with the magnifying glass, quite simply, bars the everyday world. He is a fresh eye before a new object. The botanist's magnifying glass is youth

> recaptured. It gives him back the enlarging gaze of a child. With this glass in his hand, he returns to the garden, where children see enlarged. (p. 155)

By zooming in we gain new perspective. The potential inherent in conceptualizing theory as a miniature space brought me to the question I posed to my students: What would your theoretical home look like if it were a miniature space?

Project Outcome

Critical to understanding this project and its impact on student learning is the inclusion of not just discussion and reflection but also consideration of the students' theoretical homes and reflective writing. While a discussion of aesthetics might analyze physical products from this project, the process of imagining, creating, and presenting these miniature spaces evidences the heart of the exercise.

Although this analysis does not function as both a work of art and a work of research, I still see relevance in using Barone and Eisner's (2012) criteria for assessing arts-based research in tandem with Root-Bernstein and Root-Bernstein's (2001) research on qualities inherent in creative thinking. This lens combines my integration of art making with an understanding of creative thinking, allowing assessment of aesthetic success in the students' work as well as examination of the broader project as an artful pedagogical approach to introducing and relating theory to novice researchers (Shields et al., 2016).

How Might the Creation of Three-Dimensional Miniature Spaces Allow Students to Develop and Understand Their Theoretical Frameworks?

One of the central goals of the "Research Survey" course was to encourage students to move beyond step-by-step understandings of research methods toward an understanding of the complex relationships between theory and practice. This requires teaching students how to talk concisely about theory (McAllister & Rowe, 2003; Waite, 2014). Another dimension of this particular educative exploration, concision through miniaturization, speaks to the ability of these miniature spaces to illuminate general concepts in a particular theory, without distraction from the complexity of theoretical writing (Barone & Eisner, 2012). Students were asked to extract a central tenet and represent it through the creation of a three-dimensional space, giving them the opportunity to focus on what Barone and Eisner (2012) call a "controlling insight" (p. 150).

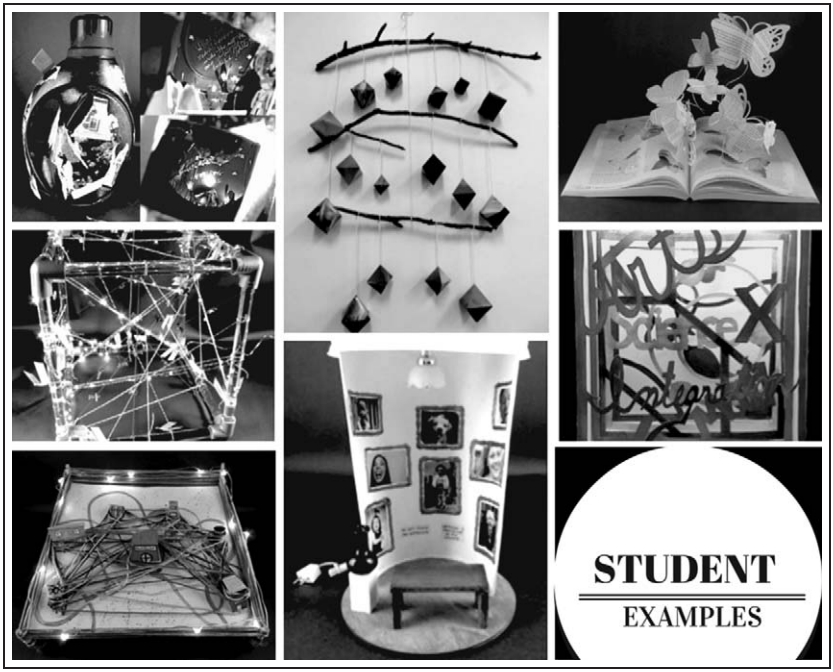

Figure 2. Left row (from top to bottom): Deleuzian theory, social learning theories, Dewey's pragmatism. Middle row (from top to bottom): Csikszentmihalyi's flow theory and Kant's incongruity theory. Right row (from top to bottom): Dewey's pragmatism and theories of arts integration.

The theory-in-miniature project's ability to cut to the core of students' theoretical alignment is perhaps one of the most remarkable outcomes of this class activity.

Evidence of the project's ability to accomplish this task is found in student responses to the question, "What was the most valuable lesson learned from the theory-in-miniature project?" One student responded: "To show and articulate—when explaining ideas and connections—the role of theorists in my research." Another commented, "I learned how to better articulate the theory to others. Not only did I learn it myself but I was able to better explain it to others." Student understanding was explored during their final presentations where students were asked to describe their theoretical spaces. One student, Elaine, elaborated:

> When looking closer you will see gallery signs. The signs remind the viewers not to touch the artwork. Another sign tells the viewers that "laughing is prohibited in the gallery" . . . the sign paired with the content of the gallery does

not seem to make any sense. This miniature space is an example of the surprising and unexpected elements of incongruity theory.

Through juxtaposing the serious setting of an art gallery with the images of laughter, Elaine shows an understanding of the basic tenets of incongruity theory (Morreall, 1982). This concise and abbreviated visual, while not completely conceptually developed, is a first step toward understanding and internalizing her guiding theory (see Figure 2).

When asked about the outcome of the theory-in-miniature project, one student shared: "Through the process of thinking about what to create, I had to think about exactly what my theory looked like. Finding a way to physically represent it helped me to explore the theory in practice." Through the creation of a theoretical home, I asked students to move beyond what the theory states and consider how theory might inform a visual analogy. As Root-Bernstein and Root-Bernstein (2001) note, "analogies recognize a correspondence of inner relationship or of function between two (or more) different phenomena or complex sets of phenomena" (p. 142).

Through the process of analogical thinking, one student, Alyssa, created a mobile to explore flow theory (Csikszentmihalyi, 1997). In her reflection on the project, she commented: "The challenge was to make the mobile balance in a lovely way. . . . I was interested in the stationary vs. moving objects in the mobile and how that might relate to flow [theory]." The consideration of these individual forms in relationship to one another illustrates how the physical forms in her space pushed her to understand the multiple layers and parts of the theory (see Figure 2).

Through development of the theory-in-miniature project, students were encouraged to find symbols, shapes, and colors representative of their theoretical ideas. This mode of thinking moves out of a linear format and into an active and evolving one. In essence, the project pushed students to create visual analogies, thus engaging them in higher order thinking tasks (Kuhn & Davidson, 2007). This art-making activity served two purposes: communication of a complex theoretical construct and critical thinking to shrink complex ideas into a metaphorical miniature space. Through the construction of a visual analogy, the creator bridges understanding between the known and the unknown (Root-Bernstein & Root-Bernstein, 2001). Unlike more traditional written or oral assignments, the theory-in-miniature project helped students use existing knowledge to grasp "new worlds of understanding" (Root-Bernstein & Root-Bernstein, 2001, p. 143).

In *Sparks of Genius,* Robert and Michele Root-Bernstein (2001) argue the creation of analogies might be one of the most crucial thought processes for creative

thinkers. Great theorists and philosophers in qualitative research use analogies to convey complex ideas (think the postmodern rhizome or the hermeneutic circle). So students thinking of their theories as a mobile, a tunnel book, or an art museum illustrate a profound level of understanding for novice researchers. This thoughtful processing and internalizing through the discovery and exploration of a theoretical home helped students move toward scholarship grounded in their theoretical and philosophical frameworks rather than frameworks functioning alongside them.

What Are the Benefits and Limitations of Teaching From a Perspective That Promotes Epistemological and Theoretical Polyphony?

Even if these projects were aesthetically successful, I wondered if they would also generate further understanding, dialogue, or questions? What were the benefits and limitations of this exploration and how might I improve the project in the future? Below I examine four students' explorations. Of these, two explored the theoretical construct of pragmatism, another explored social learning theories, and the last examined the Deleuzian concepts of assemblage and becoming.

Because the field of art education frequently relies on the work of John Dewey (2005), I anticipated students would explore Deweyian concepts. While both students expanded on the same theoretical idea, pragmatism, the outward movements of each were distinctly different (Biesta & Burbules, 2003). One student, Anna, examined pragmatism in the specific context of her research project, saying (see Figure 2):

> For my paper I used community engagement as a practical tool for museum survival in the 21st century. Using Dewey's pragmatism, I pictured the local art museum as a central hub for their community, but in order to achieve this, they had to become a true community member first. . . . If the museum at the center was removed a hole would be left and the twine would go slack ↔ successful community engagement.

Anna's visual exploration shows how generative the theory-in-miniature project was for her. She not only explored pragmatism as a large theoretical idea, she also generated meaning within the specific context of her research interests.

While generativity is important for students to understand the relationship between theory and practice, students also created meaning beyond their specific research projects and began to apply what they learned to the broader practice of

research. Elizabeth, the second student exploring pragmatism, chose to alter one of the course textbooks (see Figure 2). In Elizabeth's reflection, she wrote:

> After completing my research project and my visual representation of my theory, I am more convinced that, as researchers, we are obligated to put our research into action and let it take flight. Research that simply sits in a book on a shelf is meaningless.

Elizabeth's comment shows her developing understanding of the role of pragmatic research and theory not just in her specific research project but also in the surrounding world. The generativity of the theory-in-miniature project was a sentiment expressed by many of the students in the class. When asked about the outcomes of the theory-in-miniature project, one student remarked: "I was able to explain it [theory] in a different way and it offered a new perspective on what it really meant. I could put it to action." This translation of theoretical concepts into applied functional elements not only supports research but also directs it, providing further evidence of the significance and success of the project.

Another student, Lauren, was interested in the relationships formed by weaving three social learning theorists together into her theoretical framework (Bandura & Walters, 1963). As a PhD student, Lauren focused on how to develop a personal theoretical framework rather than exploring one singular theory's application to her research. To seek clarity, she constructed a space showing the physical intersections of three theories she wanted to use in her research (see Figure 2). Lauren said, "for some parts of the theoretical space, the theorists have similar ideas and their strings travel together. Where the three theorists meet up the lights show the convergence." Upon completion of the project, Lauren remarked, "I learned that the theories don't happen in a vacuum. They are connected with other theories and borrow from each other – like rooms/strings/bridges." This awareness of not just one theory, but the relationship among different theorists' work, is an example of transformational thinking (Root-Bernstein & Root-Bernstein, 2001). This type of complex, creative thinking is reflective of a multilayered approach to examining an idea. Sometimes this thinking happens individually, like Lauren, who engages in thinking where "one (set of) tool(s) acts upon another (set) transforming" (Root-Bernstein & Root-Bernstein, 2001, p. 271) the original idea. Essentially, this type of transformational thinking does the work of creating outward movement (Barone & Eisner, 2012).

Creating outward movement—having students not only explore personal theoretical homes but also understand how to illuminate others—was not built as

effectively in the theory-in-miniature project as I had hoped. Although all students noted the theory-in-miniature project helped them understand their theory in deeper and more relevant ways, only a few students focused the project outcomes on illuminating understanding in others. One of the few exemplary examples of this is Cassie's project (see Figure 2). In her theoretical home she focused on the Deleuzian concepts of assemblage and becoming.

From the outside, Cassie's space appears to be a simple collaged vessel, until you notice the blue glow emerging from the container. This light invites the viewer to come closer and open the flaps to see what is inside. When you peer inside, blue light fills the space, questions and quotes are written in silver, and small mirror fragments are glued on the walls to reflect the light and text. Cassie explains: "Art classroom assemblages are like a disco. There is movement. Constant movement. Connections. Possibilities and potential for new songs, new people, new moves, new reflections. Repetition but difference. Becomings." Cassie's project served to not only explain theoretical application for use in her research but illuminated the viewer's understanding of the theory. Cassie's work serves as a metaphor for the theory-in-miniature project, like the interior of her theoretical space. Without light, the dark space between theory and practice is difficult to navigate, but through illumination, we can begin to make sense of the words and fragments around us.

While this multimodal thinking and creating occurred individually throughout some of the projects, the class as a whole was challenged to work cohesively to discuss and engage in crtique about each others' theoretical homes. The ability for this assignment to open up dialogue with others about the complexity of theory and philosophy is both a success and limitation. This project, while exciting to create and share, fell flat when I pushed students to comment on one another's work. The project expanded students' understandings of the wide range of theoretical positioning, but I did not find evidence that they connected these positions within the broader field of qualitative inquiry. Upon completion of the class, I realized these students might have a firm understanding of their theoretical home, but I did not provide an avenue for the class to map a qualitative neighborhood.

Concluding Thoughts

By envisioning the traditional exploration of theory as an artful exercise, I found many opportunities to honor the wide range of students' epistemological vantage points. The first step toward this polyphony was realizing these projects generate

understandings beyond just students' individual theories. Barone and Eisner (2012) describe this type of generativity as the ability to "project an image that reshapes our conception. . . . It has 'legs' allowing you to go someplace" (p. 152). Traditional conceptions of knowledge relate to how things happen in a linear fashion; however, when considering knowledge derived from the act of creating we must consider how things may occur, pushing the participant outside a linear understanding of theory, in search of a more holistic vantage point. This alternate formation of knowledge, as realized through the construction of a three-dimensional space, allowed for the miniature space and the theory itself to contextualize each other.

As qualitative researchers and teachers, we must find ways to engage students in exploration and discovery of knowledge. It was in the artistic rendering of the theory in miniature that knowledge was generated, where student experience morphed in response to the individual. The theory-in-miniature project was but one way I engaged in artful pedagogical practices aimed at awakening and encouraging students to see connections between the words they read and the research they do. While not all students worked toward understanding the same theory or even toward understanding their theories in the same way, the theory-in-miniature project offered students opportunities to engage in a new kind of thinking aimed at seeing theory in new ways. This project empowered students to understand theory just as fluently as they learn methods. The theory-in-miniature assignment pushed students to think deeply about how their theory relates to themselves and thus their research. I continue to ask my students to think through the complex, multifaceted aspects of qualitative research by expanding this project to encompass the missing component of outward movement. Ultimately, I hope to give novice researchers the opportunity to not only position themselves theoretically but also see their theoretical home in relationship to a much larger qualitative research neighborhood.

Notes

1. Artful pedagogical practices include, but are not limited to, visual reflections, visual-verbal expression, imaging exercises, poetry, thinking through metaphor, fictional writing, sculpture, movement, and performance (Authors omitted, 2016).

2. I acquired Institutional Review Board consent from all 18 students enrolled in the class. Of the 18 students, 14 were pursuing a master's and four a doctoral degree in art education, arts administration, or music education.

3. I say this to illustrate the potential for this project for students outside the arts. While an art background contributed to the purely aesthetic outcomes, the conceptual generativity of the project is not reliant on fine arts training.

4. For a complete version of the activities, download the presentation at http://bit.ly/29cbPyk

5. I used a series of theory/philosophy finding cards from Beatty, Leigh, & Dean's (2009) article on developing a teaching philosophy as a starting point for students to identify key theoretical ideas. The cards have big ideas on one side and relevant theorist and philosophers on the other.

6. Throughout this section I use questions as the section headers. While this serves organizational importance, these questions are also the questions guiding my encounters with my students during class.

7. The course began with an introduction to the creation and development of a broad research focus and subsequent literature review. Students used the activities outlined in *The Craft of Research* (Booth, Colomb & Williams, 1995) and *The Literature Review: Six Steps to Success* (Machi & McEvoy, 2012) to begin to draft their research ideas with both empirical and theoretical literature. Throughout the process I reiterated that research designs and ideas would shift in response to the empirical and theoretical literature reviews. The theory-in-miniature project was not introduced until students had completed the initial reading and outline for their literature reviews.

8. The movie is set in the family of a brilliant scientist, Wayne Szalinski, who is developing technology to shrink large items. In the process of developing the shrink ray, Wayne leaves the machine unattended and his children accidentally shrink themselves. In this miniature state, the family's back yard is transformed into an alternate reality, where puddles become impassable oceans and honeybees are pollen-carrying helicopters.

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