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Musical Maps as Narrative Inquiry

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Abstract

This study explores the metaphorical relationship between the process of narrative inquiry and the process of “musical mapping.” The creation of musical maps was used as a classroom tool for enabling students’ musical understanding while listening to music. As teacher-researcher, I studied my fifth-grade music students as they interacted with music and one another during the creation of the maps. Their conversation with the materials of music and map, with each other as collaborators, and later with the class as audience parallels the process of narrative inquiry as the students experienced the music, constructed their story, and shared their story of the musical experience. Like narrative, the process of creating a musical map serves as a form of inquiry, enabling understanding of an experience and affecting change in self through the living and constructing of the story and affecting change in others through the sharing and telling of the story.

Introduction

Narrative inquiry (Clandinin, 2007; Clandinin & Connelly, 2000) has emerged as a compelling form of qualitative research (Bresler, 1992; Bresler & Stake, 1992; Denzin & Lincoln, 2000). The power of story to transport the reader extends thick description (Geertz, 1973; Lincoln & Guba, 1985) to new levels (Janesick, 2000; Powell, 2004) as both data collection and report of the data take on novel characteristics, revealing and celebrating the voices of participants and relationships within the situated context (Barone, 2001; Belenky et al., 1986/1997; Campbell, 1998; Myerhoff, 1980; Peshkin, 1986). With the process of joining in another's lived experience and the reflective analysis of this experiential data, narrative research has the potential to transform both researcher and research audience. "The process of research involves a discovery and shaping of meaning for oneself as well as for others" (Bresler, 2006, p. 62).

Researchers engaged in narrative inquiry focus on the lives of participants and reflect on the many ways the participants, individually and collaboratively, make meaning of their world. While studying others, the researcher seeks to make meaning of the situated context (Lave & Wenger, 1991; Rogoff, 1990) and may experience personal transformation of self through a deepened knowledge of others, "a direct realization that the world is one and I've connected with the world" (Nachmanovitch, 1990, p. 111). Bruner (1996) describes this discourse as a means to know ourselves—while and because we come to know others.

The agentive mind is not only active in nature, but it seeks out dialogue and discourse with other active minds. And it is through this dialogic, discursive process that we come to know the Other and his points of view, his stories. We learn an enormous amount not only about the world but about ourselves by discourse with Others. (p. 93)

In order to support this same process for the research audience, writers of narrative (Barone, 2001; Bateson, 1994) may write in a way that allows the reader space to fill in the gaps of the story for themselves, in order to personalize the context or construct their own understanding without being specifically guided as to what or how to perceive outcomes. Transferability of research findings or implications (Bresler & Stake, 1992; Lincoln & Guba, 1985) is not (and cannot be) assured, but rather anticipated that such an approach may lead to broader applications within the diversity of its readership. "What we can do is examine the route it takes and our consciousness of it, a route which is on the way to creating itself while being itself" (Blom & Chaplin, 1988, in Janesick, 2000, p. 381).

Research as inquiry (Denzin & Lincoln, 2000) includes the personal and experiential nature of data collection in narrative research and the ways these encounters infiltrate our lives with thought and reflections while in the field, when analyzing data and exploring findings. This inquiry also pervades our thoughts and lives while not in the field, often occurring at unexpected times—while cooking, driving, waking, walking. Amidst this infusion of experience and reflection is the dichotomy of simultaneously thinking ahead to our readers in the educational community (Bresler, 2006) with a desire to honor and respect both participant and intended audience.

Later, *writing as inquiry* (Richardson, 2000) becomes part of the process as researcher seeks to put data, analysis of data, findings, and possibly essential meanings in a scholarly and compelling narrative form that draws the reader into the context and story in a way that is true to the participants and to which readers can deeply identify. It is a continual, informed improvisation balancing moments of inspiration with moments of organization where pieces are brought together, creating meaningful connections.

We arrange them, cook them, render them down, digest them. . . . The play of revision and editing transforms the raw into the cooked. . . . [Then] there comes a moment when the whole thing slides into shape—you can almost hear the click—when the feeling and the form come into a state of harmony.” (Nachmanovitch, 1990, pp. 108, 111)

Swanwick (1999) suggests four key elements to the processes of metaphor, but which also, metaphorically, describe the nature of narrative inquiry.

- We internally represent actions and events to ourselves; we *imagine*.
- We recognize and generate *relationships* between these images.
- We employ systems of signs, *shared vocabularies*.
- We negotiate and *exchange our thinking* with others (p. 7, emphasis in original).

Narrative researchers must creatively imagine as they generate relationships among the shared lived experiences of participants, themselves, and the context that surrounds them. With the tool of writing, researchers find a shared vocabulary to negotiate one’s thinking and exchange that thinking with others. Likewise, as students in a music classroom listen to music, they creatively make meaning of sound, and with the tool of musical maps, are able to represent the relationships they find among these sound images. I would expand this notion to consider musical maps as a metaphorical representation of a lived musical experience, and thus include the creation of a *musical map as a form of narrative inquiry*. In such an experience, musical sound is heard, images and their relationships are mindfully shaped, a graphic symbol system is created and—within the social context of a

music classroom—employed with a certain level of shared understanding. In collaborating with others to negotiate the meanings of musical sound and possible ways to represent it graphically, students exchange their thinking with others. This occurs in the making of the map as well as in the final sharing of the map with the entire class.

As teacher-researcher, I conducted a qualitative, ethnographic (van Manen, 1990; Wolcott, 1998) study, observing one of my fifth grade music classes informally while teaching and formally through the study of videotapes recorded during their weekly class sessions for a period of seven months. During this time, students engaged in regularly scheduled curricular experiences, including creating original maps representing what they heard while listening to a particular musical work. Throughout all classroom activity, two key informants wore small audiotape recorders with microphones, which enabled me to accurately hear their musical responses such as singing or humming as well as their musical and verbal interactions with peers. After each class, all video- and audio-recordings were transcribed and analyzed for emergent themes. My own logs and journals, as both teacher and researcher, and classroom artifacts were also collected and analyzed. Interviews with small groups of students about the process and product of mapping were used to supplement classroom discussion. As I reflected on the emergent issues and their meaning in the context of the students' learning, hierarchical relationships became evident. Heuristic diagrams were created to manage and creatively seek relationships among the issues, with a quest for essential meanings (van Manen, 1990) driving the process. Reflexive analysis of the data with repeated forays into literature served to continually inform process, data analysis, and reflection, on findings and generated meanings.

As I studied the lived experience of my music students and sought to express the story of their experience while creating musical maps, the process of engaging in narrative research and writing the research in a narrative form informed my understanding of the metaphorical (Lakoff & Johnson, 1980/2003) relationship between the students' process while creating musical maps and my process as researcher and writer. It is this relationship that will be explored while sharing the experiences of these students.

Student-Created Musical Maps

This project began as a means to study the ways in which students make meaning during listening experiences in the classroom. Initially, several strategies emerged that seemed to enable student success, including the kinesthetic and visual ways that students engaged with music, enacting its sound to both figure out musical problems and to express musical meanings. The observation of student strategies provided the impetus to study relevant literature (Bamberger, 1991; Barrett, 1997, 2001, 2002, 2004; Espeland, 1987;

Gromko, 1994, 1995, 2003; Kerchner, 1996, 2000, 2004; Uptis, 1987, 1990a, 1990b, 1992) and seek ways to enable my students to further their musical understanding while listening.

Two studies in particular informed my initial work. Cohen's (1997, 2001) use of kinaesthetic analogues supported the ways I had seen my students express themselves musically through gesture. Her students had created kinaesthetic analogues for the music, and had done so in a teacher supported environment. To begin, Cohen created a kinaesthetic analogue, or "musical mirror" which she modeled for her students, providing them with a window into her musical understanding and allowing them, by inviting them to perform it with her, to enter into the experience—her listening experience. Later, students created their own musical mirrors with a new piece of music; with repeated listenings, reflection and attending to its salient features, students created movements that represented their musical understanding and personal response to the music.

Dunn (1997, 2004, 2005) had used graphic representation for the same purposes—exploring ways to enable students to outwardly express what they knew about the music and to create problems that encouraged reflection-in-action (Dewey, 1916) while listening to music. Dunn (2004) identifies the maps that his college students created as "figural maps" that include graphic representations of the mental images created by students while listening, a "visual representation of an individual's intuitive, musical sense of the piece" (p. 4). I termed the graphic representations created by my fifth grade students "musical maps," in which they created a graphic musical score representing actual musical ideas and themes within the music, with an emphasis on melodic contour.

With these studies in mind, I developed a series of lessons that would provide the essential groundwork to enable student success in creating musical maps—visual representations of music supported by their own kinaesthetic response to the music. Students' prior experience with melodic contour puzzle cards¹ figuring out music and its visual representation for teacher-created musical maps, "filling in" an incomplete musical map, and "drawing" the shape of music in the air while listening, provided visual and kinesthetic groundwork that included the strategies I had observed students using during prior listening lessons. With the support of peers and the valued use of peer scaffolding (Wood, Bruner & Ross, 1976) also noted in the classroom context, the students then worked in small groups to collaboratively create a visual representation to a new piece of music, Mussourgsky's "Ballet of the Unhatched Chicks."

¹ See Espeland, in Wiggins (2001), *Teaching for Musical Understanding*, McGraw-Hill.

As the curriculum evolved, so did the study. In honoring student strategies, what the students knew about music through prior experiences and were coming to know through classroom experiences, the study grew to include the process of the students' creative expression through the designing of musical maps (Figure 1) and the product of their listening experience as evidenced in the sharing of their maps and the ensuing discussion with teacher and peers.

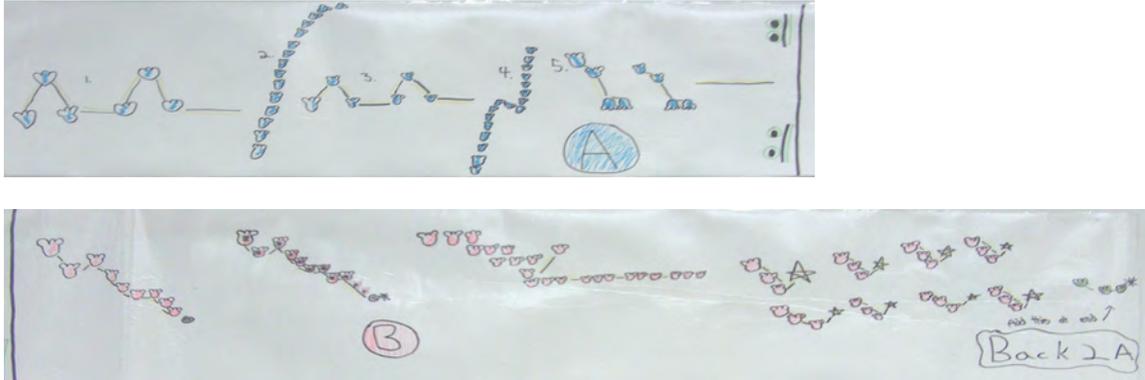


Figure 1. Student-created musical map

The Mapping Process

Danny, Abby, and Roger are working on their representation of the B section. During the first listening to the B section, it first appears that Danny is just listening, but then his fingers begin to move, barely tapping the floor, matching the pattern of the background music. During the second listening, he gestures more broadly, sometimes showing the melody, but most often gesturing with the background music.

We turn to listening to the B section phrase by phrase. Danny looks at Abby, gestures and sings the background—for Danny, this is more salient. It is what he notices and attends to. When this phrase repeats, he now sings the melody as he has noticed something different (the ringing sound) that he associates with the melody (Figure 2).

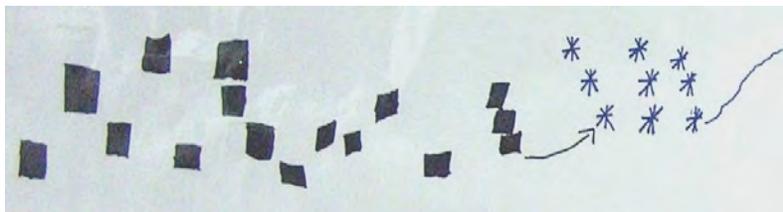


Figure 2. Danny and Abby's Map (beginning of the B section)

When Danny sings this phrase, he sings it with a “brrring” sound. To gesture this melody, he opens and closes his hand like a starburst for each pitch, moving his hand up and down as well. As the music progresses, Danny’s gestures cease, then resume at the last section where his hand moves back and forth, and eventually settles into an up and down motion as the pitches move higher and lower (Figure 3).

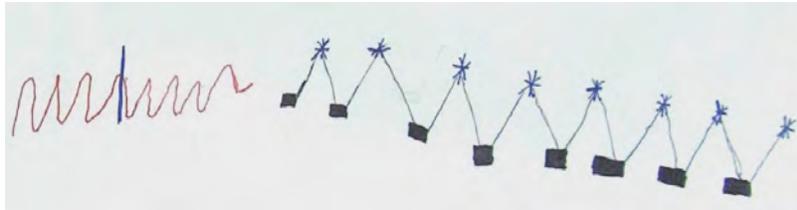


Figure 3. Danny and Abby’s Map (end of the B section)

With successive listenings, his singing becomes increasingly more accurate and he is able to fill in all the sections with appropriate gestures—wavy horizontal lines with a lift in the middle or jagged up and down points within a horizontal line.

Abby steadfastly works on the map, conferring with Danny, listening to him sing the phrases and watching his gestures, which Danny occasionally “transfers” to the paper with an imaginary pencil.

The students’ gestures, while recurrent, were also continually developing. Gestures became more sophisticated, singing became more accurate, and visual graphics were continually edited or being given more detail. Confirming one’s work or simply following the map for one’s own pursuit were common occurrences. In addition, even after time had passed, students could and would easily and accurately trace their maps, enact the music vocally, and focus on the visual representation that they had created.

In order to show graphically what students know about the music, they must think and rethink about what they hear in the music. Reflecting on their listening, on their understanding of that listening, of their gestures and how they might be transferred to paper, and whether or not what was gestured and drawn accurately depicts the meaning they are intending, requires reflection-in-action—thinking that informs their doing and doing that informs their thinking (Dewey, 1916; Bamberger & Schön, 1991; Schön, 1983, 1987). This on-the-spot reflection that informs action, reflexive with actions that enable meaningful understanding, is at the core of these students’ experience as they complete their musical maps.

Before the students came back to class the following week, I prepared large blank sheets of paper for the final drafts of their maps, about 12" high x 5' long. Students have their rough drafts to work from and are supplied with pencils and markers, and upon request, rulers and 'white-out.' While again listening to "The Ballet of the Unhatched Chicks," the students work on their maps, redrawing what they had already drawn on the scrap paper, editing, adding colors and all sorts of graphics to show what they have come to know about the music

Even though Lauren had done most of the drawing of the rough draft, Jessica, her partner, now joins Lauren in drawing the final copy. They are very precise in their drawing of icons and have requested a ruler. While the music plays over and over, students are able to work on any part of their maps, regardless of what is playing. By this point, they know the music so well that they can tune into the sections they are scrutinizing as it is played or if the music is not in the right spot, can sing the section they are working on. Jessica and Lauren negotiate spacing of graphics, colors, placement of staccato marks and repeat signs (Figure 4).

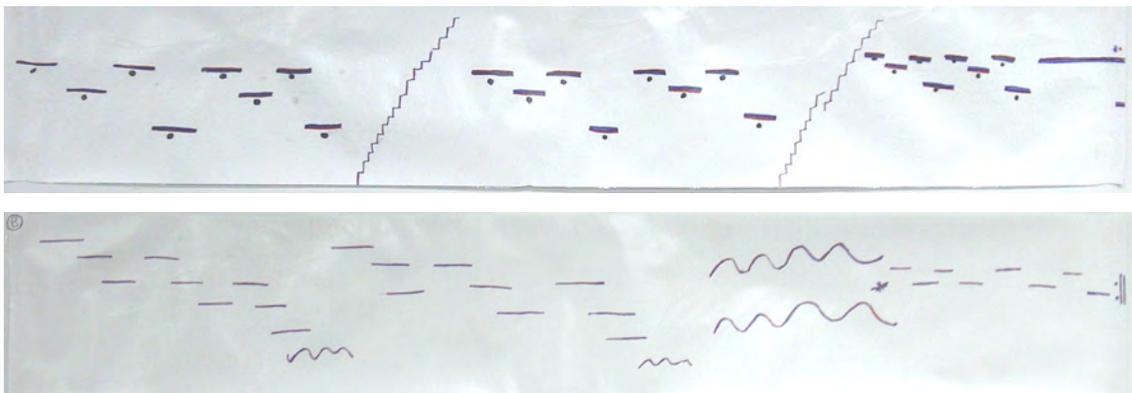


Figure 4. Jessica and Lauren's Map

Danny sees a discrepancy in his group's map—the accented 4th pitches in the first two phrases need his attention. After drawing something, he sits back, sings the phrases, accenting those notes, and gestures up and down with his hands, making a pouncing gesture where the accents are. "We have to put, like a boom, in it. Maybe like one of those star things," he explains to Abby, who has begun to work on the final draft (Figure 5).

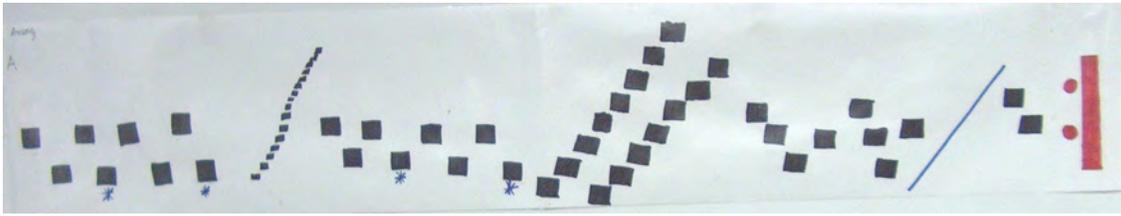


Figure 5. Danny and Abbey's map - the A section

Sharing the Maps with Peers

The final phase of the mapping process was for each group to share their map with the class while the student map-creators traced the map as the music was again heard. The procedural strategies used to create the map were similarly employed when later reliving the map or describing it for others. Students spontaneously applauded their peers' "performance" of the map and affirmed their efforts with genuine compliments and thoughtful questions about what the marks on the map might represent. The tracing of the map supported the visual graphics in the ways the students intuitively used gesture to demonstrate articulation or dynamics. Verbal response to student questions invariably infused gesture and singing to support musical ideas not easily put into words.

After Jenny and Kathy shared their map (Figure 6), their classmates were particularly intrigued with the footprints they had drawn along the second half of the B section.

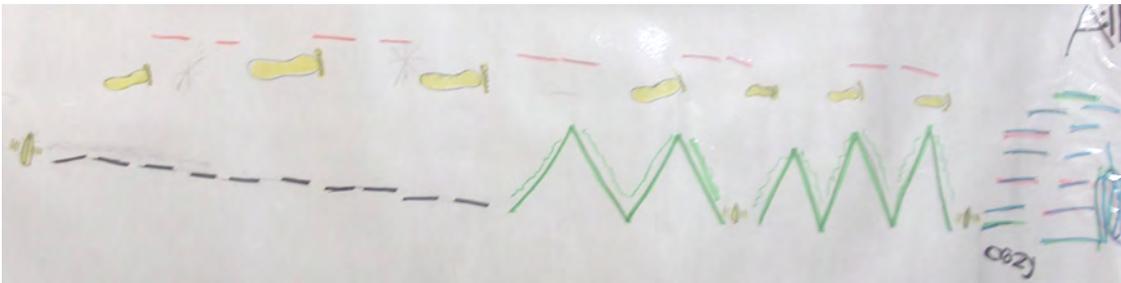


Figure 6. Jenny and Kathy's Map

Seth: What are those footprints?

Jenny, running her hand along the footprints: 'Cause when we heard this and all like through that, we heard like this sound (steps deliberately and sings) dun, dun, dun, dun . . . like steps.

Kathy, her partner, interjected, "Like stepping." I suggested that we hear it again and asked her to point to the "extra stuff" so we could see what it was for. Jenny traced it again and while pointing to the melody, looked up and said, "Hear it?" While pointing, she made a stepping motion with her other hand that perfectly fit the background music.

The visual map, together with gesture and verbal communication, serves as a frame of reference for the students' expression of musical understanding.

Conversation with Materials

Bamberger (1991) suggests that as children create graphic representations during multiple hearings of a piece of music, the creation of the written material becomes something that

holds still so that children can reflect *on* it. In a conversation back and forth between playing on the paper and looking back at the trace left behind, the children can learn about their own knowledge, their *functioning knowledge*, which ordinarily escapes scrutiny as it passes by in action and through time (p. 52, emphasis in original).

Because music is an art form that is temporal and thus refuses to hold still, it becomes difficult for students, while listening, to hold on to their musical ideas and even harder for them to develop them. Ideas come to mind, but are fleeting as new music is heard and new images replace current or passing ideas. When the music is finished, students have experienced so much that, while they may be able to discuss the most recent musical idea, it may be difficult for them to return to earlier musical images. Sloboda (1985) compares this to the "listening to a lecture or the reading of a book, the details [of which] may fully engage one's intellect *whilst* one experiences the unfolding of ideas, but they may leave few recoverable traces at the end of the session" (p. 151, emphasis in original).

When students are able to listen to the music many times and, with others, recreate their experience through the design of a graphic representation, a conversation ensues (Bamberger, 1991, 2000; Bamberger & Schön, 1991)—individually and socially—that acknowledges and further enables musical understanding. This conversation with the materials—the materials being, first of all, the music, but also the concrete materials of the map, the paper and markers—is a constant give and take. Within this process is constant reflection to define, edit, refine, and elaborate, all while collaborating with others, justifying one's ideas or learning from another's ideas. This all occurs while listening, interacting with the music in a real and personal way. By drawing the map,

students are able to create a canvas for the musical frame of understanding that develops within the experience.

A hearing is a performance; that is, what the hearer seems to simply find in the music is actually a process of perceptual problem solving—an active process of sense-making. . . . [It] is both creative and responsive—a conversation back and forth between the music, as material, and the hearer as he or she shapes its meaning and form in some particular way (Bamberger, 1991, pp. 8-9).

A student's personal perspective will both *shape* his or her experience, as evidenced in the uniqueness of each map, and a student's personal perspective *will be shaped* by his or her experience as meaning making generates musical understanding for each individual. The process of conversing with the music, but also with the design of the graphic representation, propels this understanding, refines and defines it, enabling it to be tangible rather than tacit.

Richardson (2000) and others have suggested the metaphor of writing as inquiry, particularly writing as done by qualitative researchers when interpreting lived experience.

I consider writing as a *method of inquiry*, a way of finding out about yourself and your topic. Although we usually think about writing as a mode of “telling” about the social world, writing is not just a mopping-up activity at the end of a research project. Writing is also a way of “knowing”—a method of discovery and analysis. By writing in different ways, we discover new aspects of our topic and our relationship to it. Form and content are inseparable (Richardson, 2000, p. 923).

When we write, we are thinking conceptually in language, but interacting with words (through computer or pen and paper as tool) and the interaction itself furthers and refines our own thinking and understanding. The processing of ideas through thought and language, the requiring of self to find precise words, sentences, paragraphs, even headings, to articulate and pull together disparate ideas and notions is a process of meaning making. It is the wording of these thoughts and notions, with the manipulation of the materials of computer, keyboard and screen that transforms data and findings into essential meanings, transforming self and informing others.

When we create a musical map, we are thinking conceptually in sounds, interacting with pitch, rhythm, phrases, dynamics, etc., (through paper and pencil or markers as tool) and the interaction itself furthers and refines our own thinking and understanding. In the process of reflection-in-action while “mapping” as an expression of musical ideas, meaning becomes clarified and ideas are developed and creatively represented.

Maps tell the story that has been experienced by the mapmakers. They do not substitute for the experience of ‘being there;’ they only show what was there on the day the map was made, in the way that it was seen by those cartographers. The perspective of the cartographers is clearly depicted in the map they’ve designed, and that perspective shapes the way we think about the world (McCotter, 2001).

This perspective about maps as a context for interpreting our surroundings aptly describes the experience of these students and their mapping projects. They experienced a musical context and found ways to describe it in a graphic form, much like a map—with landmarks and embellishments reflecting a personal perspective that both shaped their experience and was shaped by their experience. These maps told the story of their musical experience.

Creating a Frame for the Lived Experience

Musical maps allow us to participate in a unique world that would otherwise be closed to us—the world of our students’ listening experiences. The sharing of the maps provides the opportunity for peers to enter into another’s musical experience and for the creators of the maps to allow others to enter into their own experience. Like readers who recreate an experience for themselves while reading narrative, or listeners who recreate music when listening, observers of another’s musical map are recreating the music and the person’s listening experience through the sharing of that map, extending the scope of musical discourse through listening. The experience is mediated by each student’s own personal lens, but the level of shared understanding from also creating a map for the same music offers valuable common ground for the development of musical ideas.

In this study, students eagerly shared their completed maps with their classmates by physically tracing their distinctively created graphic representation while listening to the music. Thus presented, the map provides a frame for reliving the experience, for further exploration, for the sharing of ideas. It may not represent everything someone experienced when listening to the music, but it is a frame, featuring salient points or things to which the listener especially attended.

Students represent what is important to them, those things which are meaningful during their musical encounter. This does not mean that other features were not heard or tacitly known. What is known tacitly is sometimes brought into focus when watching another student’s map and noticing something new—something known but not personally articulated. The map frames the living and telling of the story as the map is created, providing reference points for nonverbal and verbal discussion of musical ideas. The map frames the reliving and retelling of the story as the map is shared, providing reference

points for the reliving of one's own musical listening experience and uniquely allowing others to enter into their own listening experience.

Parallel Processes

The process of creating a graphic representation (musical map) facilitates the listening experience and enables musical understanding, enhancing social discourse of the shared event. The process of narrative inquiry and the writing of the "story" (Figure 7) facilitates meaning making for the storyteller, particularly pertinent to our role as researcher, enabling and clarifying understanding of the experience of data (participants, events, and setting) and enabling a more sophisticated interpretation. "We conduct a dialogue with the living work in progress" (Nachmanovitch, 1990, p.109).

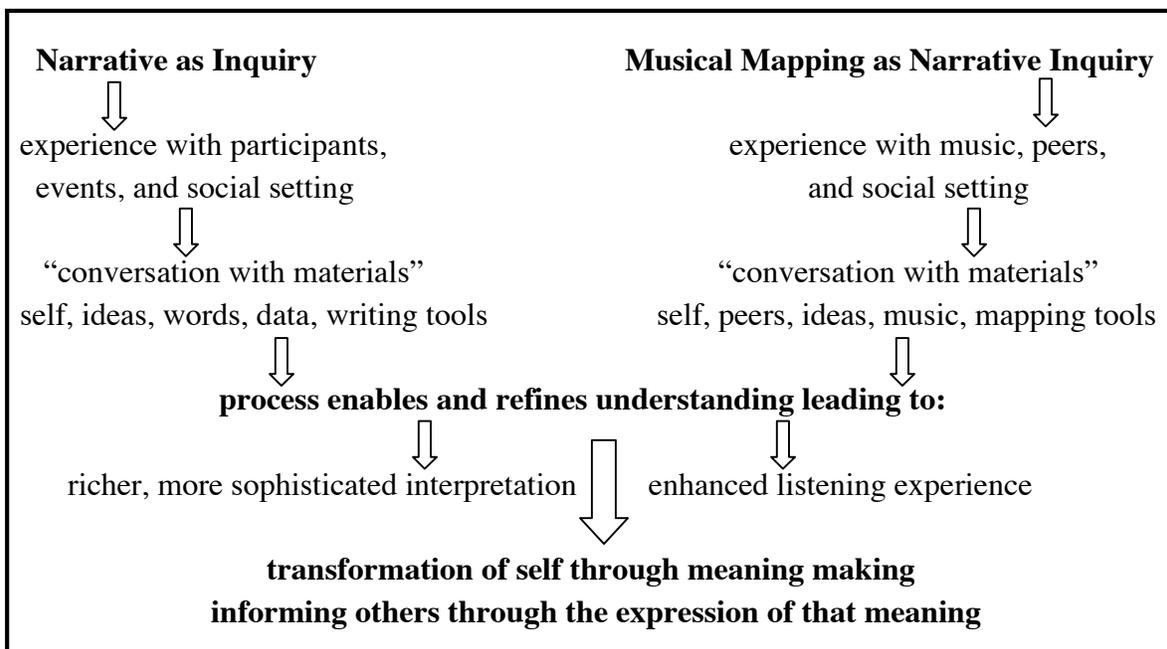


Figure 7. Parallel Processes: Musical Mapping and Narrative Inquiry

Musical Mapping as Narrative

Barone and Eisner (1997) support the notion that narrative may take many forms, that it is not an exclusively verbal discourse.

We have discussed artistically based approaches to educational research as if the primary medium through which such reports would be presented would be written prose. It is true that what has been called "storied narratives" and "educational criticism" have employed linguistic material almost exclusively. Scholars write

and publishers publish. . . . Nevertheless, it is important to point out that neither language nor number have a monopoly on the means through which humans represent what they come to know. . . . Visual images, for example, make it possible to formulate meanings that elude linguistic description. Humans invented maps to make plain relationships that would be many times more difficult to describe in words or number (p. 90).

A narrative is a verbal expression (written or spoken) of an essential meaning. In an attempt to express meaning, the author develops a story that has many parts, even landmarks, and includes details that expand our understanding of the whole. The story uses words and sentences and punctuation, but the story is not the words and sentences and punctuation. The essence of the story is the meaning that the words and sentences, when put together in unique combinations, convey.

Likewise, graphic representations of music, the musical maps of students, are a form of narrative. Like ink on a page, they tell the story of the creator's experience. Yet, it is not the ink that is important, it is the essence of the experience that has meaning. The marks on the page are not the complete representation of the experience, but they provide landmarks and points of meaning for each particular cartographer. These maps become a frame for the experience, a tool which enables each listener a way of allowing others into their experience, much like a literary narrative enables the reader to enter into the writer's experience.

The forms of representation that humans have invented—writing, for example—have made it possible to create an indelible record of aspects of our experience, a record that memory alone could not sustain. Maps allow us to see a world we cannot see. These forms both stabilize our experience by fixing it in some medium and transport us psychologically to places we can encounter only through the forms of representation that populate our culture. Through music, painting, poetry, and story, we can participate in worlds that would otherwise be closed to us (Eisner, 1994, pp. 18-9).

If the process of mapping is the lived experience and the creating of the map is the “writing” of the narrative of that lived experience, then the sharing of the map is the telling of the story and the tracing of the map while listening to the music is the reliving of that experience. Clandinin and Connelly (2000) suggest that there is a reflexive relationship among these elements of a lived experience shared through narrative—the living, telling, retelling, and reliving—which enables the construction of the narrative and which enables the transformation and growth of participants. In research, this responsibility falls upon the author. In the music classroom with maps serving as

narratives, the students become the authors and are affecting change in themselves and others as they share their “stories.”

[Our] principle interest in experience is the growth and transformation in the life story that we as researchers and our participants author. Therefore, difficult as it may be to tell a story, the more difficult but important task is the retelling of stories that allow for growth and change. We imagine, therefore, that in the construction of narratives of experience, there is a reflexive relationship between living a life story, telling a life story, retelling a life story, and reliving a life story (p. 71).

Whether the ink represents words on a page or shapes on a map, it is still “ink.” Both represent thoughts formed, developed, written to be shared, and with the potential to transform both author and audience. Narrative as a form of inquiry enables understanding of experience, affecting change in self through the living and constructing of the story and affects change in others through the sharing and telling of the story.

Dewey (1934) suggests that transformation within a reflective/expressive experience occurs when two things occur—the outer manipulation of materials (grasped and gathered and given order) and the ordering of the inner materials of images, observations, memories and emotions. This act of physical doing and reflective imagining results in the transformation of materials as an artistic expression and the transformation of self as ideas and feelings are ordered.

Narrative research and musical mapping, as modes of inquiry, share the common feature of an informed and informing experience—reflective discourse between this manipulation of materials and articulation of developing images resulting in the transformation of self and, as emergent ideas are shared, transformation of others.

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