MOVING LANGUAGE: AN EXPLORATION OF BODIES AND SPACE IN THE
CLASSROOM

By

Kaitlin Glause

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Curriculum, Instruction, and Teacher Education—Doctor of Philosophy

2020

ABSTRACT

MOVING LANGUAGE: AN EXPLORATION OF BODIES AND SPACE IN THE
CLASSROOM

By

Kaitlin Glause

This project stemmed from a collaborative effort in curriculum development and
instruction between me and a fifth-grade teacher, Ms. Page (pseudonym). During the fall of
2018, Ms. Page and I facilitated a process-drama curricular unit (Kao & O'Neill, 1998), which
introduced fifth graders to the overarching themes for science, social studies, and language arts.
The purpose of the process-drama was to build a collaborative foundation of understanding for
content-area and social learning goals that Ms. Page and her students could return to over the
course of the school year. The structure of the process drama, adapted from earlier renditions,
broke the class into four islands, each with its own natural resources and cultural identity. The
drama lead students through a series of dramatic exchanges and creative collaboration. I
participated as a researcher, collaborator, and teacher-in-role (Kao & O'Neill, 1998) in the
classroom for the purpose of exploring students' language use in a collaborative, arts-based
setting as the students were asked to embody their learning in new ways. As students became
more autonomous in their collaborative and creative efforts, it became clear that not only were
students using verbal language in interesting and iterative ways, but they were also using their
bodies and physical space to articulate, negotiate, and build new meaning. This project builds
upon theories of embodiment in collaborative meaning making to be understand the role of the
body in critical, creative, and collaborative efforts. In order to do so, this dissertation is
organized into five parts: (1) an introduction to my own embodied identity as a
researcher/teacher/artist; (2) a reconceptualization of the imbricate and embodied nature of

language, cognition, and bodies; (3) a methodological examination of arts-based research as a performative technique for examining bodies and space in the classroom; (4) an empirical discussion of the findings and significance of meaning-making bodies during critical collaboration; and (5) a poetic and improvisational imagining of the potential of arts-based research in embodied studies. Findings from this project suggest that students critically and flexibly negotiate the space of the classroom, the space collaborative group, and the ways in which they use their bodies, energy, time, and action to articulate, deliberate, and come to consensus of new meaning. The findings from this project are significant for researchers and teachers because they highlight the importance of supporting students in developing autonomous bodies and space in order to meet a range of material and affective needs, rather than continuing to treat bodies and space as highly routinized and controlled instruments of learning.

This dissertation is dedicated to Adam, Isaac, and Ruby.
You are the best of everything I've ever made.

ACKNOWLEDGEMENTS

A project as extensive as a dissertation should never be undertaken alone. Any success I have achieved, anything I have created or shared, was accomplished because I have a human network that is both broad and deep. My human network has bolstered me when I felt overwhelmed by the enormity of the task at hand. They have empathized and problem-solved with me when I needed a new perspective. They have listened and leaned in when I needed to share frustrations and roadblocks. They have risen to the occasion when I needed resources and materials. They have celebrated successes and accomplishments when I had no energy to celebrate myself. To that end, I have an extensive, though hardly comprehensive, list of family, friends, colleagues and scholars to thank for their ever-present love and support.

I would like to start by thanking my fabulous collaborating teacher and students for allowing me to come to school to learn. Talking, laughing, learning and playing with you were the highlight of my graduate career. My favorite days were spent in your classroom. I would also like to thank Terry Edwards for her compassionate care and advocacy for me and my children over the course of my graduate career. Terry, thank you for making my wellbeing a priority and for caring for my children as though they were your own. My kids were always welcome, and they will remember your kindness fondly for years to come. And especially to Joni Starr, whose mentoring and leadership over the last five years have been second to none. Thank you for bringing out the best in me and my work.

Additionally, I would like to thank the outstanding scholars who have mentored and supported me over the last five years. The four women on my dissertation committee have been exceptional. I would like to thank Dr. Carrie Symons, my advisor, for her tireless efforts to

support, encourage, challenge, and motivate me across my entire graduate career. Thank you for constantly asking what I need and then listening when I tell you. Thank you to Dr. Janine Certo, my dissertation chair, for supporting any and all of my efforts to ask and answer questions in ways that are meaningful to me and useful to my communities. Thank you for your patience and support in my continued efforts to harmonize occasionally discordant identities. To Dr. Lynn Fendler, thank you for your wisdom, criticality, and refusal to tolerate the status quo. Thank you for your candid feedback that sends me on revelatory journeys I might not have taken on my own. To Dr. Joanna Bosse, I am thrilled that the stars aligned to cross our paths, though I wish it had happened years sooner. Thank you for welcoming me into your space without hesitation and for making me feel at home in scholarly communities outside the College of Education.

While my time at Michigan State University has been critical in my development as a scholar, I would not have made it thus far without the mentorship Dr. Rebekah Kowal, who took an interest in my undergraduate career at the University of Iowa. I very clearly remember the angle of the sun streaming through the office window as you listened to my graduation plans and suggested I complete the application that ultimately launched my career in education. Thank you for seeing and articulating a vision of what I could become. Thank you, also, to the women who lead me through graduate school as peers, colleagues, and mentors. To Dr. Mandie Dunn, Dr. Lindsay Wexler, and Dr. Julie Bell, you all illuminated the paths I could take and modeled exceptional scholarship and exceptional collegiality, which I will continue to emulate as best I can.

Additionally, I must send a very heartfelt thank you to the 2015-2016 CITE cohort, a collection of colleagues, who, from the very beginning of our program made me feel both welcome and seen while simultaneously challenging me daily to be a better version of myself.

sense to anyone but you." Even as I transitioned into adulthood, you have been a constant source of support across personal and professional decisions, from preparing conference presentations and sending emails to vetting appliances and discussing the best ways to peel tape after painting a room. Thank you, Mom, for showing me, very explicitly, all the things that I can be.

2020 has not been the year that any of us expected, and without my village, I would never have made it this far. Thank you, all, for caring for me.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

KEY TO ABBREVIATIONS

CCSS	Common Core State Standards
NGSS	Next Generation Science Standards
ABR	Arts-based Research
ABER	Arts-based Education Research
CCMME	Critical collaborative meaning-making episodes
PM	Pivotal moment

Epistemology

I am not Science.
Methods, the stone steps,
propelling to the highest towers.

There is a live tree.
Right here, branches
bright and cool. One
should not hew steps into live wood.

I understand. Stone steps
are carved through systematic study
and valid measures, each tower
a monument of theory evidenced
empirically. They are one way

to tell one story. See those
petals over there? They are worthy
of our attention, too, I think.

If I shimmy up this tree trunk,
a dance of torso, limbs, and hands,
will I not find silky medallions among
this branch, that branch, this branch?

Perhaps.
Your methods may be better
understood; may be more efficient;
may show a wider range of qualities,
quantities, descriptive detail,
statistical significance that is True.

Once I saw a tree curved
as a question. Splintered hands
and scraped knees realized my
fragrant methods have a place as well.
So do the leaves that surround them,
and the stems that connect them
to the branches that support them
as the insects scrabble through the bark.

Positioning

A Living System

      This research project was conceptualized collaboratively with a fifth-grade classroom teacher, Ms. Page (a pseudonym). Over the summer of 2018, Ms. Page and I worked together to expand upon an arts-integrated process drama, a social studies and literacy driven unit engaging students in a series of world-building scenarios, which we had piloted the previous fall. Ms. Page asked me to return to her classroom in the fall of 2018 to participate in the facilitation of the "Four Islands" process-drama in her classroom: a unit designed to introduce her students to the overarching themes of the fifth-grade classroom for science, social studies, and language arts. One of Ms. Page's goals for the unit was to build a collaborative foundation of understanding for key ideas that she and her students could return to over the course of the school year. The structure of the process drama, which we adapted from earlier renditions, broke the class into four islands, each with its own natural resources and identity. The drama then lead students through a series of dramatic exchanges and creative collaboration. I participated as a researcher, as a collaborator, and as a teacher-in-role (Kao & O'Neill, 1998) in the classroom with the intent of exploring students' language (verbal and non-verbal) in a collaborative, arts-based classroom setting.

      After initial observations, it became clear that not only were students using verbal language in interesting and iterative ways, but they were also using their bodies and physical space to tell a more multi-faceted story than oral and written language alone could provide. While oral language was students' primary mode of communication and negotiation, I began to notice students' embodied experience played a role, often implicit and overlooked, in their negotiations. It was then that I decided I would center this project on students' bodies and the

2

diligent work being done within, through, and around them. In order to do so, I frame this dissertation around four distinct, though interconnected, sections (1) literature and theory to reconceptualize the body as meaning; (2) dance as an arts-based education research methodology; (3) empirical analysis and discussion of project data; and (4) a dance performance art piece.

Arts as a Way of Knowing

The arts as a way of knowing play a critical role within this project, with the arts being broadly defined as any creative endeavor (often falling into categories such as visual art, dance, theater, music, poetry, etc.) (Cahnmann-Taylor & Siegesmund, 2018). Within this dissertation, the role of the arts is two-fold. First, the curriculum designed and implemented by Ms. Page with her fifth-grade students was a process-drama, which is a dramatic improvisational technique (Kao & O'Neill, 1998). Throughout the process drama, students engaged additionally in visual art through painting, sculpting, and drawing. They engaged in music and dance through the creation and presentation of musical island themes, as well as drama/theater practices through staged performances and in-role improvisation, including the development of social contracts and forms of government. The fifth-grade students in Ms. Page's classroom engaged in extensive collaborative group work to create materials and to respond to the various scenarios presented by the teacher. The collaborative group work where students created arts-based materials is the focus of this project, not the arts-based materials themselves.

Second, this project includes dance as an analytic technique to examine the embodied experiences of the students in their collaborative group work. Using the language of students' bodies and the language of their discussions, movement phrases were choreographed and arranged in a dance performance. This dance performance serves as the findings of the project,

which is then discussed in terms of its relationship to current understandings of collaborative

classroom practices. While it may seem counterintuitive and unwieldy to focus attention on

students' bodies during collaborative work, as an arts-based researcher, it felt unethical to simply

examine student oral and written language when, as a classroom observer, students' bodies and

spaces told a complex and nuanced story. Therefore, this project draws upon arts-based theories

of meaning making and arts-based methodologies, but it does not study arts-based classroom

content. In other words, this is not a study of students' artmaking. This is an arts-based research

study of students' embodied meaning making during collaborative group work endeavors.

Embodied Research

Seams
Bright water laps against the shore
as children tread lightly in cool stasis.
Cautiously, I approach,
unwilling to startle.
Toe first,
the ripples lengthen and roll.
The water rings push against
the skin of the children.
Faces, alerted, turn to see
the impetus.
Toe foot calf knee thigh.
It laps around my waist
as the displacement lifts the children,
pushing them to the tips of their toes.
I work my way around the edge,
disruptive body conscious,
watching the ripples wave
as I lean down into the broken plane.
The children return
to their endeavors,
unsteadied by the risen tide.

Researchers hold a powerful embodied presence in classroom spaces, disguised by a

widely accepted stance of neutrality or invisibility. Researchers partake in observations or even

interventions, where the researcher's body is intended to blend into the background, poised

behind a computer, clipboard, or notebook. Yet to dismiss a researcher's body as neutral or invisible is an act of power (Ellingson, 2017). The body of a researcher entering a classroom space inherently shifts the tide of the space and bodies within. In order to undertake a project that closely examines the embodied experiences of my participants, it is critical I address my own body-being. As Ellingson (2017) suggests, to hide my own body in this project is to hide my privilege. I come to this project from an embodied position of power. I present and identify as a White, able-bodied, upper class woman. I am identified in classroom spaces as an expert and scholar worthy of attention and deference from teachers and students alike. I am allowed to enter and exit the classroom community and space as I see fit. I am allowed to ask questions and offer insights as I deem appropriate and necessary.

When I enter a classroom, I do so quietly and assertively. I rarely knock on the door, but I look before I enter. I take three steps into the classroom and find a place to stand on the classroom periphery, hands at my sides or holding my bag, until I am greeted by the teacher. I am still and relaxed, using my head and eyes to survey the room and its occupants. As I wait, I smile at students as they catch my eye. After a verbal or non-verbal greeting by the teacher, I find my invited or agreed upon seat in the room. This is often a table or teacher's desk where I can set my things and enter more completely into the classroom space.

I rarely sit long. It is not in my nature nor experience to sit quietly in the classroom, and I recognize my presence is never innocuous. From the time I enter the classroom, my bodied presence has already begun to shift the embodied experience of teacher and students. Students sit a little taller or slouch a little lower. Their gaze flicks back and forth between teacher, researcher, and materials. As an outside presence entering into new space, I put my body to work. I prepare materials for teachers (i.e. cutting clay or finishing a poster). I answer questions for students (i.e.

directing them to a nearby bin or explaining who I am). I enter classroom instruction (i.e. as a collaborating or lead teacher). I support students (i.e. conferencing with groups or asking clarifying questions). My conversations with teachers begin early and often span the course of my time in the classroom. I exit the room as I entered, quietly and assertively. I say goodbye and thank you with words, smiles, gestures and tokens of appreciation.

My body and my presence hold meaning for teachers and students, and I do not try to pretend otherwise. My body and presence are unsettling and foreign. My body and presence hold power and privilege. My body in the classroom takes space and shapes space. At the same time, I recognize that students' bodies take space and shape space, though this reality is often overlooked by students, teachers, and researchers alike. This project is designed to articulate and reconceptualize what that embodied experience means for students, their teachers, and those who support learning in education spaces.

REFERENCES

REFERENCES

Cahnmann-Taylor, M., & Siegesmund, R. (Eds.). (2018). *Arts-based research in education* (2nd ed.). Routledge.

Ellingson, L. L. (2017). *Embodiment in qualitative research*. Taylor & Francis.

Kao, S. M., & O'Neill, C. (1998). *Words into worlds: Learning a second language through process drama*. Greenwood Publishing Group.

CONCEPTUALIZING BODIES: LITERATURE AND THEORY OF BODIES AND
MEANING MAKING IN CLASSROOM CONTEXTS

Introduction

Classrooms are embodied spaces. Within their walls, teachers and students work together to explore ideas and develop new meaning through the use of shared experience. Within classroom walls, space, time, bodies, language, and material are driven and manipulated toward learning goals. Classrooms are complex and nuanced spaces where students work to develop and share meaning over the course of the school year. Each day, students and teachers bring their bodies to the classroom to experience first-hand ongoing learning. However, what happens to a body once it crosses the classroom threshold? For many, the schooled body of the classroom becomes little more than managed (Alerby et al., 2014; Duncum, 1999; McLaren, 1999; Yuan, 2017), disciplined (Banovcanova & Masarykova, 2014; Connor et al., 2004; Franklin-Phipps, 2017; Niccolini, 2016; Stahl, 2019), an objective object of study (Andersson & Garrison, 2016; Orlander & Wickman, 2016), or an object of isolation and segregation (Erevelles, 2000; Snyder & Mitchell, 2001).

These are particularly limiting perspectives because of the way they emphasize the body as an object or impediment to learning, rather than as a key component to lived meaning making (Hughes-Decatur, 2011). Indeed, in many cases, bodies are considered objects that must be managed in classroom spaces much as materials and tools are managed. To this end, desks, tables, and materials enact as "spatial confinements" for bodies, where students are required to sit or stand in particular designated spaces (Alerby et al., 2014; Spina, 1999). While I would not argue that management practices are entirely problematic (they play an important role in the development of functional learning environments for many students), they are often utilized to

regulate and control bodies as another classroom object, as if bodies were another piece of furniture designed only to transport and protect a person's brain. The lack of explicit attention to the body and the role it plays in learning experiences becomes additionally problematic when classroom routines and structures become viscerally harmful, such as the physical anxiety students feel during management practices like round-robin reading (Jones, 2013). Additionally, curricular practices have also been utilized to manage and mitigate bodily experiences, especially the experiences of students of color, which are often stigmatized as needing more management and control (Yuan, 2017). In a traditional classroom setting, the development of a well-structured learning environment mandates controlling bodies in order to minimize their distraction of or interference with the learning taking place in the mind with little acknowledgement of the bodily harm those practices might cause.

Similarly, part of the managing bodies in the classroom is the utilization of disciplinary practices. Bodily discipline in the classroom can take a range of forms. In some cases, the disciplining of classroom bodies takes the shape of convincing students to conform to particular routines and ritual practices. An example of this can be seen in the work of McLaren (1999) in his study of Catholic school practices, where a large part of schooling was asking students to conform to notions of the body as a servant of capitalism. Additionally, the body as an object of discipline can take the extreme form of physical contact between teachers and students, and between students and students, where one person exerts physical power or control over another through contact between bodies (Connor et al., 2004). While this is often surprising and unexpected to both the person in the position of power and the person being disciplined, it is still an enactment of discipline with bodies in classroom space. As Hughes-Decatur (2011) explains, "bodies have *everything* to do with education and teaching because we are disciplined by

10

discursive mechanisms in popular and educational culture to police and standardize our bodies, while we are simultaneously learning how to read bodies as normal or deficient visual texts" (p. 73). In many cases, the burden of cultural standardization falls on Black and Brown bodies, which are overly disciplined, surveilled, or removed from classroom spaces because of the way that classroom disciplinary practices are enacted (Franklin-Phipps, 2017; Stahl, 2019). Like the management of bodies, discipline has been argued as a necessary part of minimizing the distraction or interference of the body. Often, extreme bodily discipline is justified as essential for creating a "safe" classroom environment where the mind is free to learn, grow, and make meaning.

Another common understanding of the body in the classroom is related to the notion of experiential learning, where the body is the object of study. Examples include subjects such as physical education class, where embodied knowledge becomes critical for students' learning because their learning is about the body and how the body is used during physical education (Andersson & Garrison, 2016). Similarly, this sort of experiential learning of the body has also been studied in science classrooms, where once again, the body becomes an object of learning, whether that be the subject of biology or anatomy and human systems, but also in science classrooms where the body is required for enacting the science, such as during a lab which includes scientific routine (Almquist & Quennerstedt, 2015; Franks & Jewitt, 2001; Orlander & Wickman, 2010). In these cases, the body can be studied much as that of a tool used in a science laboratory. It becomes clear in physical education classrooms and in science classrooms that the learning would not happen if it were not for the body in the classroom. In all of these cases, the body, while capable of great meaning making, is identified as an object or material of the

classroom space, which can be moved, manipulated, or controlled as needed to reach particular learning outcomes.

Finally, an often-overlooked area of classroom embodiment is the separation and isolation of disabled bodies from mainstream classrooms as exemplified through the theorizing and research of disability studies (Erevelles, 2000; Snyder & Mitchell, 2001). As disability scholars have argued, normative classroom practices that value and idealize "abled" bodies are often used as a bodily standard where bodies that are viewed as different are also viewed as limited or as needing too much support to justify inclusion with peers. Erevelles (2000) states that "because disabled students have historically been perceived as 'unruly; subjects who have consistently disrupted the ordered functioning of schooling and consistently resisted the disciplining forces that are called into play, they have been banished to special education classrooms to be (re)habilitated in an effort to enable them to (re)turn to 'normal' life" (p. 42). Indeed, Snyder and Mitchell (2001) posit that the objectification of the biological body points to disability as deviance rather than positioning bodies as "interdependent social entities" (p. 370). The result of bodily objectification through science, and economics as well, is the segregation and isolation of disabled bodies from their peers in educational contexts.

While research has gained insight about classroom spaces by observing the body as an enactment of discipline, management, isolation and object of study, I would argue that the classroom body can also be conceptualized as a significant contributor to the way meaning is imagined, developed, and shared throughout the learning process in classroom spaces (Mulcahy, 2012; Perry & Medina, 2011). This requires a shift in the contemporary perspective from viewing the body as an object to conceptualizing the body as a critical component of meaning-

making and learning spaces. To that end, this manuscript seeks to answer the question: *What is the relationship between the student body and meaning making in the classroom context?*

In order to do so, I first share a discussion of what the body is, focusing on a brief history of the body as it has been socially and culturally understood in Western communities. I will then shift to the body in the classroom in order to think more carefully about the ways in which the body is engaged in the classroom through management and discipline, including what is known thus far about the body in learning and communication. Next, I will discuss current understandings of meaning making by first exploring how people make meaning through inquiry and social contexts. I will then discuss how meaning is made in classroom spaces, focusing on the role of the teacher and learning objectives geared towards explicit meaning making. Following, I will discuss sharing meaning in classroom contexts, focusing on how teachers and students currently share meaning with each other through a discussion of literacy and text practices. This section will explore how literacy and text play a role in sharing knowledge in classroom spaces. Afterwards, I will discuss the reconceptualization of the body in the meaning-making process by explicitly exploring the role of the body in the conceptualization, enactment, and sharing of ideas throughout the meaning-making process. Then, I will discuss the meaningful body in order to think about what performance art and aesthetics can teach us about embodied meaning making and in thinking about the body as a critical component in meaning-making contexts while also exploring how embodied meaning making can play a role in classroom spaces. Finally, I will conclude by sharing next steps for reconceptualizing the body in classroom spaces with particular emphasis on thinking about how to adjust thinking about bodies and meaning making in order to better support students' embodied learning in classroom spaces.

What is the Body?

In order to best understand the relationship between the body and meaning making in classroom contexts, the body must be defined in terms of its historical contexts. Traditionally in Western culture, the body has been understood through the wide acceptance of the Cartesian mind/body split. In this theory, the mind is viewed as objective, rationale, and the holder of all higher order thinking while the body is seen as subjective, irrational, and emotional (Banovcanova & Masarykova, 2014). In this case, the mind and cognition hold prominence in any thinking about meaning making and learning, whereas the body is an irrational and emotional object that must be disciplined and managed in order for any real meaning making or higher order thinking to occur. This conceptualization of body dominates classroom contexts, where school settings see the body as a distraction from learning opportunities, which is where the development of management and disciplinary techniques that view the body as an object to be mitigated.

Similar to theories of dualism and structuralism is the notion of representationalism, where theorists and researchers who explore ideas of body and culture and social practice think about the body as "an ethnographic other" (Csordas & Harwood, 1994, p. 10). In this case, the researcher or theorists position themselves from a point of privilege, where they use their own discourses to create a linguistic representation of another culture through the examination of bodies and embodied practices. Limiting understandings of the body to linguistic representation can other and marginalize communities dissimilar from the ethnographer's own. As Perry and Medina (2011) argue, "the body is impenetrable by the means that we have at our disposal – words, ink, page, computer. And… the endeavor to talk about the body is also challenging if not futile, due to the discourses that we have at the ready, that is, the dominant discourse of the

mind" (p. 64). Csordas and Harwood (1994) suggest that rather than thinking about discussions of culture and social practice through representation, bodies should be considered for what they "evoke" rather than what they "represent" (p. 11). Given the limitations of language as a tool for understanding embodiment, language could be better utilized as a modality for "disclosing" rather than representing a being-in-the-world (Csordas & Hardwood, 1994, p. 11). This idea of "evoking" or "disclosing" rather than representing is an important distinction when thinking about bodies and what they do in studies of social and cultural practice. Rather than thinking about bodies as objects, the body can be understood instead as "a function of being-in-the world… for whom embodiment is the existential condition of possibility for culture and self" (Csordas & Harwood, 1994, p. 12). When bodies are described using binary discourses, as objects or as irrational selves, then the body has been merely represented, rather than understood for its capacity to evoke meaning.

Theorists of embodiment, and embodied knowledge, have developed frameworks to more clearly articulate the role of the body in social and cultural practices. Embodied knowledge, which is rooted in theories of poststructuralism, critiques the linguistic, social, and cultural binaries that place bodies in opposition to cognitive processes (Ellingson, 2017). A key underpinning of embodied knowledge is the shift in theory that there is no direct separation between a body and mind, a direct rejection of a Cartesian understanding of mind/body dualism. Instead of viewing the body/mind as a dichotomy, embodied knowledge embraces the "recognition of the embeddedness of thought in experience as it emerges in our interactions with the natural and technical world" (Davidson, 2004, p. 198). In this case, the use of the mind is integrally connected to the use of the body, which places the body as "a critique of educational rationalism" which relies upon dualisms of mind over body, adult over child, rational over

irrational, and male over female (Peters, 2004, p. 26). For example, one common classroom

practice is for teachers to attune to students' bodies only when they think that students need a

"brain break". In this case, teachers ask students to move their bodies, through choreographed

dance or exercise routines, as a way to "refocus" and "rest" their minds from the cognitive tasks

of learning (Dinkel et al., 2017; Perera et al., 2015). Embodied knowledge and embodied

learning suggest, on the other hand, that the basis of knowing is the body in interaction with its

social and material environment (Davidson, 2004).

Particularly in classroom spaces, research has developed and strengthened understandings

of cognitive and linguistic processes that support students in learning and making meaning.

Often, in such research paradigms, the body is included implicitly, through secondary analysis,

or as a tool for supporting language and cognition. However, conceptualizing classrooms as

embodied spaces does not require discounting cognitive and linguistic traditions – as binary

approaches often suggest we do. As Zembylas (2007) argues, "there is no body outside the

discourses and representation systems in which it is impeded… discourses do not simply reflect

or describe reality, knowledge experience, relationships, and practices; rather, discourses

constitute the world and individuals" (p. 22). Rather than thinking about bodies, minds, and

classroom space as working in opposition to each other, Ellingson (2017) describes them as

"imbricate," meaning that "participants' bodies depend upon one another for meaning in a given

space" (p. 21). This imbricate relationship also means that embodied knowledge relies upon

language and expressive bodies to make meaning through bodies, lived space, time, and their

relationship to others (Van Manen, 1990). Furthermore, Van Manen (1990) argued that an

affordance of this interconnected understanding of knowledge is that "the experience of

something that appears ineffable within the context of one type of discourse may be expressible

by means of another form of discourse" (p. 113). Because embodied knowledge foregrounds the body as a site of meaning making and learning, it can function as a reframing of educational spaces, which have often valued disembodied ways of knowing.

In spite of this reframing potentiality, Spatz (2015) cautions that efforts to further the cause of embodied knowledge have been problematic in their lack of specificity and attention to the history and transformation of embodied understandings over time. To that end, Spatz (2015) includes helpful definitions of embodiment, specifically *technique* and *practice*, which make theories of embodiment more substantive and easier to discuss and understand. The central tenet of the text, "technique is knowledge that structures practice" (p. 1), provides a guiding principle through which complex notions of embodiment can be recognized and understood. According to Spatz (2015), *technique* "structures our actions and practices by offering a range of relatively reliable pathways through any given situation" (p. 26). In other words, dancing, walking, sitting, are all embodied techniques that, though they vary through person and context, are all recognizable, reliable, and repeatable. *Practice* is defined as a set of actions and the patterns that link them together, which are bounded by person, space, and time, "concrete moments of practice are structured by knowledge in the form of technique" (Spatz, 2015, p. 40). For example, I as a dancer have learned the *technique* of ballet. Through processes of learning and acquisition I have developed *relatively reliable pathways* through which I can engage in *practice.* My ballet *practice* is bounded by my body, and the time and space in which I am dancing. Though I draw upon the same technical knowledge, each example of ballet *practice* is unique - never exactly replicated. For a classroom, a teacher may see the *technique*, the embodied knowledge of students entering and exiting the classroom. Though each *practice* is bounded by body, space, and time, never to be exactly replicated, the *technique* of entering and

exiting the classroom (i.e. quietly, single file, one at a time) is predictable and relies upon knowledge which is generally recognized and replicable.

Utilizing technique and practice for examining embodied knowledge have particular affordances. For one, Spatz (2015) describes how "the concept of technique solves the dilemma (of magical performance versus mundane everyday) by conceiving of both specialized and everyday practices in terms of their knowledge content" (p. 10). By using technique and practice, a person can experience, discuss, and understand the embodied knowledge of any embodied experience, especially those in a specialized context like a classroom. Additionally, understanding embodiment as technique and practice affords us additional tools for meaning making. Often, bodies are reduced to signification or gesture, where the body stands in for language. Spatz (2015) argues:

> Even when the semiotic content of a practice seems paramount, we should not ignore or discount the embodied effort that makes it possible… When we "read" embodied practice in terms of signification alone, we ignore much of its meaning, which is located not in the relationship between signs but in the quantity and quality of embodied effort that goes into the enactment of technique. Signification, in this sense, is a surface phenomenon. It is important an important dimension of the meaning and effectiveness of embodied technique, but by no means the only one. (p. 50)

Embodied knowledge as technique and practice provides analytic and reflective tools, which can examine the ephemeral experience of practice as well as the produced knowledge of technique.

The technique and practice of the body in a classroom context can be discussed in a variety of ways. Though varying in practice, there are predictable and replicable techniques for sitting, standing, producing, sharing, and participating in the classroom space. By examining the

experience of classroom bodies as technique, embodied researchers can benefit from what Spatz (2015) calls *transmissible knowledge*. This is defined as technique that moves across national and cultural boundaries and holds power (p. 30). In fact, the transmissible knowledge of education techniques in Western cultures has become so pervasive that "in regulating their bodily and affective practices in teaching, teachers control themselves out of fear of being 'punished' by society and its norms" (Zembylas, 2007 p. 20). In education research, transmissible knowledge is often seen as a problematic feature of embodied research because of the 'ephemeral' nature of practice, as in, it is bounded by the live experience and cannot be replicated. However, for teachers and students, the transmissible knowledge of classroom technique regulates the unseen yet governing forces of classroom bodies and action. Yet, in the case of a classroom context, transmissible knowledge does not have to be limited to the management of affect, but could be used to develop an understanding of students' embodied meaning making as part of their learning practices. What is the knowledge that provides *relatively reliable pathways* for understanding student's embodied knowledge in these meaning-making endeavors?

When considering this in relationship to the body in the classroom, evoking and disclosing the body through examination of technique and practice rather than representation allows a shift away from discipline and management towards notions of embodied learning and communication. The body in learning can be seen in a number of examples. First, this is seen in the study of science classrooms where the body is an implicit component of learning which serves to participate in and communicate meaning making (Almquist & Quennerstedt, 2015; Franks & Jewitt, 2001; Orlander & Wickman, 2010). In these cases, the learning that happens in the science classroom must include the body such that looking only at the language of the

students would be insufficient for understanding their learning and meaning making. Examples of embodied meaning making are also seen in the shop classroom where students are learning techniques for building with their hands, where bodies are acting polyrhythmically and bodies perform a range of critical communicative functions for meaning making (Andersson & Risberg, 2018). For example, the teacher in the shop classroom might use their body to support their student in thinking through and modeling next steps for a classroom, where if you looked only at their oral language, you would miss critical components of the collaboration and meaning making. This can also be seen in classrooms that utilize performative inquiry where bodies are generating meaning through creative processes and where students are asked to enact multiple modalities as part of their learning (Buchholz, 2015) or when studying the assemblage of body, material, language, and affect for understanding how students and teachers engage in and interact with curriculum and learning (Yuan, 2017).

What is Meaning Making?

Part of the work reconceptualizing the body as an integral part of the meaning-making process is examining contemporary understandings of meaning making in classroom contexts. Social scientists have developed theory of meaning making as a social process that includes learning and growth as collaborative and communicative (Wenger, 1998). Learning as personal development and growth has been identified as a social process where a learner interacts in a group that is part of a larger community. Through the process of engaging with the interpersonal group, using the norms and expectations of the larger community, a learner grows and develops over time (Rogoff et al., 1995). Additionally, meaning making has been understood a communicative process where the learner is developing not only social practices, but also new and additional discourses, which they can use and expand upon in order to participate in their

social groups (Halliday, 1993). Within these social groups, meaning making is developed

through the act of inquiry, where a learner asks and answers questions in order to make

connections between what they know and what they are learning over time. Gee (1991) describes

the different ways a learner develops meaning making over time by describing the processes of

learning and acquisition. In the process of acquisition, skill and understanding are developed

through the act of participating in the social, cultural, and literacy practices of a group. This

continues over an extended period of time so that the learner can eventually take on the values,

skills, and ways of knowing as a member of the community. The act of learning, on the other

hand, is tied to the development of metacognitive understandings of the practices of the

community, where the learner may not be an active participant or member of the community but

has developed an understanding of that community's practices through study and observation.

Acquisition of a discourse and community practice in a classroom context is often seen through

an apprenticeship or trade school, where students acquire practices and crafts of the community

by active participants within that community. On the other hand, traditional disciplinary

classrooms are conducted to support students' learning about community practices through more

explicit and metacognitive means. Meaning making is a complex and ongoing process over time

where a learner interacts with and between communities to make connections, answer questions,

and build knowledge.

The curricular and instructional techniques developed to support learning and meaning

making in classroom settings have been established using highly routinized structures and

practices. In a classroom setting, the development of meaning making over time is usually

facilitated by a teacher through the use of learning goals and objectives. Examples of the kinds of

learning goals and objectives utilized in a classroom context can be seen through the work of

such texts as the Common Core State Standards (CCSS) and the Next Generation Science Standards (NGSS). These objectives are broken down into developmentally appropriate parts through which teachers scaffold, slowly support students in building skills and knowledge over time in a series of pre-determined steps with expert modeling, in an effort to work towards the end-goal or product of the learning (Vygotsky, 1978). The scaffolds designed by teachers are meant to support students as building blocks toward the larger yearlong objectives provided by such tools as CCSS and NGSS (Common Core State Standards, 2020; Next Generation Science Standards, 2020). The objectives designed in schools also signal to students what meaning making is deemed valuable and important by the educational community. Meaning making in traditional classrooms is often a highly structured and routinized process, where teachers develop and monitor the context, learning goals, process, and ultimately, the product of learning experience. In this sense, meaning making in classroom contexts is carefully mediated by the school community so that every student is enacting the same learning as their peers. Often, the products and outcomes that constitute meaning making are tied to text-based artifacts, created through oral and written language. Rather than including the body as part of the meaning-making pedagogy, systems of education, as exemplified in highly routinized environments, "spend tremendous time, energy and resources on training teachers to enact a specific style of pedagogy which requires the frequent monitoring of students' bodies," justified as an effort to ensure highest levels of learning.

Sharing Meaning in Classroom Contexts

In order to determine if learning goals have been met, students in classrooms are asked to share their learning and meaning making using particular modes of assessment. During teacher preparation programs, teachers learn a range of formative and summative assessment strategies,

which seek to make explicit students' meaning making in the classroom. Black and Wiliam (1998), in their highly influential literature review, state that the use of the term "formative assessment does not have a tightly defined and widely accepted meaning… it is to be interpreted as encompassing all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged" (pp 7-8). While the review suggests that teachers utilizing formative assessment move away from "unitary notions of intelligence" (Black & Wiliam, 1998, p. 56), established formative assessment strategies are still predominantly tied to oral and text-based literacy practices, whether students are asked to report verbally on their learning, or through a text-based artifact, such as a written feedback loop or an end-of-class reflection. Oral and text-based assessments of learning are certainly those taken most seriously in classroom spaces for tracking and scaffolding meaning-making experiences. Bodies are included in sharing by managing input and output (i.e. having students raise their hands to signal that they would like to answer a question) or by managing scaffolds and sequencings (i.e. having students put their finger on their nose to signal they are ready to move on to the next step; having students give a thumbs up or thumbs down to show how well they feel they are understanding a concept). As Black and Wiliam (1998) claim, "spaces in schools are designated for specified activities, and given the importance attached to 'orderliness' in most classrooms, teachers' actions are as often concerned with establishing routines, order and student satisfaction as they are with developing the student's capabilities" (p. 58).

While assessment may be defined as a feedback cycle designed to inform the modification of teaching and learning activities, sharing meaning through those feedback cycles in classroom contexts is also highly dependent upon the literacies and texts valued by the

students and teacher. In its most limiting capacity, literacy has been defined as the ability to read and write text, where text is defined as the use of alphabetic writing to record knowledge. These original definitions of text as alphabetic writing were lauded as opening the doors "to write easily and read unambiguously about anything which the society can talk about" (Goody & Watt, 1968, p. 39), which was seen as more sophisticated and advanced than societies that used oral traditions to maintain culture and tradition (Goody & Watt, 1968; Olson, 1977). However, definitions of literacy and text have shifted over time as we have begun to recognize the ways in which other cultural traditions continue to proliferate even against the colonizing literacy practices based on Western practices of alphabetic text (Collins & Blot, 2003).

Over time, definitions of literacy have expanded beyond the reading and writing of text. Gee (2012) pioneered the understanding of literacy as Discourse practices, which he defined as:

Distinctive ways of speaking/listening and often, too, writing/reading *coupled* with distinctive ways of acting, interacting, valuing, feeling, dressing, thinking, believing with other people and with various objects, tools, and technologies, so as to enact specific socially recognizable identities engaged in specific socially recognizable activities. (p. 152)

This was a seminal step in definitions of literacy that moved beyond reading and writing to include the values and ways of being that are critical components of any literacy practice. Other theorists have also worked to complicate and add nuance to understandings of literacy and text. Collins and Blot (2003) theorized relationships between power, identity, literacy, and text, where the enactment of literacy practices include deciding whose interpretation of text is right and whose is wrong - a critical practice steeped in power and identity. Collins and Blot have also theorized the rise in technology, examining how technology "enables a coordination of social

24

action in unprecedented precision and scale, thus enabling the development of unique and institutional complexity" (p. 17). This has been a drastic shift from early definitions of literacy and text, where alphabetic prose was seen as the height of sophistication and cultural progress. These new theories which explore value, power, and identity have shed light on the ways that literacy and text have acted as agents of colonizing and cultural reproduction.

As definitions of literacy have expanded, so too have definitions of text. Rather than thinking about text solely as alphabetic prose, text has moved beyond print to the "skills, behaviors, and ways of thinking" associated with a text rather than just emphasizing the autonomy of its nature" (Gee, 2012, p. 173). When examining text as a work of communicative practice, the emphasis turns away from mode as primary importance (such as alphabetic prose) to communicative and meaning-making practice as primary importance, meaning that definitions of text could be expanded to include all sorts of communicative modes. This could include photography, graphic art, music, dance, and any range of multi-modal communications. Rather than thinking about text and language as separate from the body, embodiment theorists have begun to make connections between literacy and body, such that "the notion of affects and bodies *as* assemblages focus on the dynamic process of discursive practices *and* the materiality of the body in various modes of representation" (Zembylas, 2007, p. 29, original emphasis), suggesting that language, bodies, and the material world constantly creating new connections and affective experiences.

In fact, shifts in technology, such as the prominence of audio and video recording, have provided much more visceral examples of "dynamic discourses" afforded through affective and material connections, including the varying ways oral traditions, such as storytelling and singing, and embodied traditions, such as folk dance and movement studies, act as communicative text.

These technologies have also become much more prominent in classroom spaces, where schools have worked hard to provide one-to-one technology packages for students to expand their own understandings of text into digital worlds (Buchholz, 2015). These shifts in value, behavior, and ways of thinking have opened up new opportunities for students interested in sharing their knowledge and learning beyond textual staples of alphabetic prose. Though it was certainly possible to share meaning through other means, such as oral and embodied traditions, before the introduction of advanced digital technology, certainly having such tools have cleared pathways for sharing and assessment in classroom spaces that acknowledges modes of communication beyond alphabetic prose. It is in fact this very shift toward valuing embodied knowledge that makes the body in the meaning-making process so exciting.

Reconceptualizing Body in the Meaning-Making Process

Though curricular and instructional techniques in classroom contexts often present learning as a relatively linear process of skill building and knowledge acquisition, the process of making new meaning is, in fact, a messy task. Models of meaning-making processes, such as the model of creative processes by Mace and Ward (2002) highlight the cyclical and iterative nature of any task where a new product or idea is generated. While models often make explicit the complex cognitive and linguistic tasks of meaning making, the body is notably absent. For example, in the Mace and Ward model, the only mention of the body is in "Activities of Idea Conception," which includes "cognitive and behavioral, general and specific." Even in this case, the body is only identifiable implicitly through understandings of what a person does. Though this model was developed through the examination of visual artists during the production of artwork, the body is mysteriously absent. While it is clear that the body plays a critical role in the process (hands sketch, eyes see, arms reach), it remains implicitly understood behind cognition

(structuring, evaluating, expanding). However, as embodied persons, a reader would recognize in this context that a body must *act* and *do* in order for new meaning to be made. Rarely does a body sit still and silent while the brain works. Therefore, it is important here to attempt to more clearly conceptualize how the body contributes to the meaning-making process.

In order to do so, I have developed a diagram of the meaning-making process which attempts to implicit the role of the body while attending to context, goal, process, and outcome as typically understood in a classroom context (see Figure 1). In this diagram, I make special note of the "imbricate relationship" (Ellingson, 2017) between the body, cognition, and language, all of which play a critical role in the goal setting, development, and sharing of any meaning-making endeavor. Bodies, though often overlooked, are inseparable from cognitive and linguistic practices. Quite literally, cognition is housed inside the body, which is then instrumentalized in different ways to create language (vibrating vocal chords, hand gestures and signs, etc.). Bodies participate quite explicitly in the perception and experience of the physical world (eyes see, ears hear, mouths taste, etc.). Yet, the body also participates quite explicitly in the affective experience of social and cultural worlds. Bodies understand and resonate with social practices, such as an outstretched hand or a turned back. Bodies understand and resonate with cultural practices, such as how a person experiences color and texture in a woven rug or pitch and rhythm in a lullaby. Bodies also experience and resonate with linguistic practices, such as the way shoulders and necks tense during a heated argument or the way fingers flash furiously fast to compose an email. In any lived moment, bodies participate with minds and linguistic practices to make sense of the world - including the various ways that a person makes meaning in that world. In order to make the body more explicit in the meaning-making process, I will articulate my understanding of its role in the conceptualization of ideas (goal), the enactment of

ideas (process), and the meaningful sharing of ideas and generated text (outcome), recognizing that body, cognition, and language play an inseparable role in each.

While the diagram below of the meaning-making process and the consequent discussion may look and sound linear in nature, meaning making is, in fact, a complicated, complex, and chaotic practice. Throughout the iterative and cyclical process, there is any range of entry and exit points. The study of ethology, which examines both material action of a body in addition to its ability to affect and be affective points to the infinite possibility of the body when engaged in speed, time, space, and action so much that "you do not know beforehand what a body or a mind can do, in a given encounter, a given arrangement, a given combination" (Deleuze, 1992, p. 627). While instructional practices in education settings often ask students to engage in meaning making through series of pre-determined and linear steps leading towards a particular product, embodied theory presents, rather, an unlimited range of possibility – an ongoing capacity to enter and exit meaning making based on the material and affective context.

Figure 1.

Diagram of the meaning-making process through four phases.
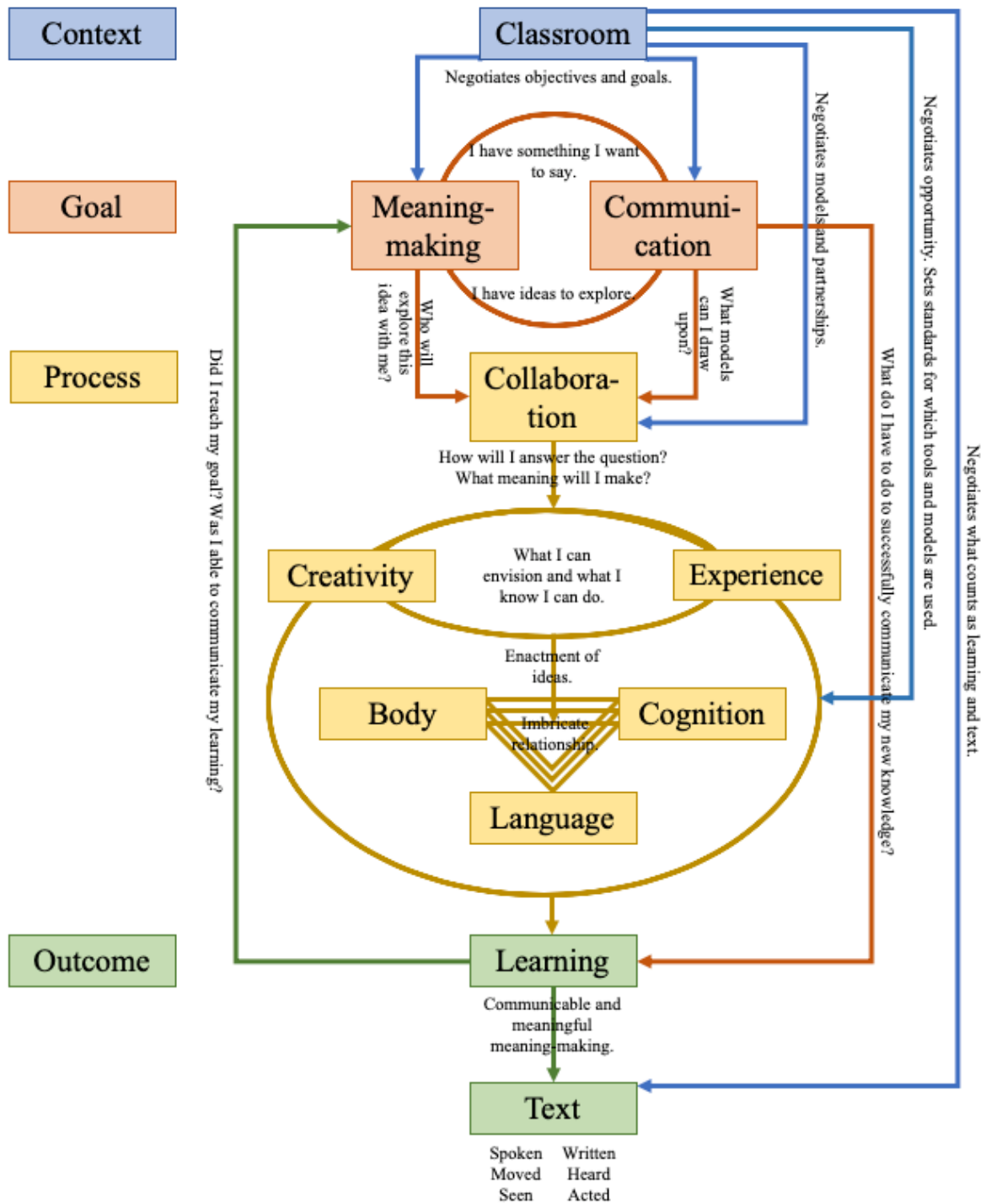
Conceptualization of Ideas

Recognizing that an embodied process can be undertaken through infinite possibility, I will still endeavor to explicit the role of the body throughout varying potential stages of meaning making, beginning with the conceptualization of an idea. A critical step in the meaning-making process is setting a goal for what meaning is to be made and how that meaning will be communicated at the conclusion of the process. As an act of inquiry, a person might pose a question that they wish to explore, or they may decide upon an idea (based on a question or an experience) that they may wish to share. Similarly, goal setting is deeply tied to embodied knowledge. Ellingson (2017) describes embodied knowledge as the way that knowledge that is felt and understood through the overlapping sensation of bodies and minds. Inquiry and meaning making is an iterative act built upon the extension of a person's current knowledge and understanding. Often, efforts to enact and communicate new meaning making are based upon an experience or question that is found to be thought provoking. Just as embodied knowledge suggests, that act of inquiry is developed through bodies as well as through minds.

Whether explicitly understood or not, the experience of the body shapes the conceptualization of ideas and the goal setting of projects (i.e. How does my body feel? What does my body do? What signals does my body send?). For example, the aching of a lower back and limbs of a student sitting long hours may drive a project about the benefits of standing and moving during class time, or halting on a walk to observe an eye-catching display of street art may contribute to the conceptualization of a new visual art piece or short story. Bodies are also critical in the conceptualization of ideas because they play a tangible role in the enactment of those ideas (i.e. Will my body be able to do that? Does my body know how to do that?). For example, a novelist understands that preparing to write a new manuscript will entail hours of

sitting to write or speaking into an audio recorder with explicit attention to describing the lived

experience of bodies. A dancer understands the extent of their training and whether or not that

training will support them in undertaking a new role. Part of the task of setting goals for

exploring new ideas is the understanding of whether or not bodies, minds, and language will be

able to successfully develop and communicate the new idea. This is also a critical step in

understanding what embodied skills and understandings must be developed in order to

successfully communicate the new meaning at the conclusion of the project.

Enactment of Ideas

In addition to making decisions about which ideas will be explored and how, the meaning

maker also takes initiative for how those ideas will be communicated, including the various ways

in which the body participates in the iterative process of enacting meaning making. Recognizing,

that meaning making is a socially embedded process, new ideas can be generated through

conversation with others, which could include dialogue enacted face-to-face or through written

exchanges, and which could also include the examination and exploration of models and mentor

texts. In both cases, knowledge and skills are gained for the enactment of meaning making

through building a dialogic understanding of the ideas and work of others. This happens at the

levels of bodies, cognition, and language. Collaboration, through conversation and text, is

utilized to gain insight into how others think about a particular topic, talk about a particular topic,

and do/experience/feel a particular topic. Regardless of how explicitly stated, a person enacting

meaning making will have to come to understand *how* a body participates in the discipline under

discussion in order to successfully enact and communicate the meaning making. As exemplified

above, a novice novelist may be in conversation with an expert novelist about how they

physically enact the process - What does their body do? What does their body feel? How do they

make decisions based on the perceptions and experience of the body? Without that information, a novice novelist may have a difficult time enacting their desired meaning making. Similarly, a dancer may explore a new performance role through watching video models and participating in technique classes in order to understand and develop the practical and affective skills required to enact a project.

Through the generation of knowledge and skills with collaborators, a meaning-maker can continue to build on their ideas through the enactment of their creativity and experience. In other words, a meaning-maker may ask themselves, "How do I bring my vision to life?" This envisioning can take embodied, cognitive, and linguistic forms (What do I see my body doing? How do I conceptualize my ideas? How do I talk about my ideas? What signs and modes might I include?). Having an explicit understanding of the body is essential to the creative process by allowing a meaning-maker to envision a range of possibilities for what the body can do as a tool (such as painting brush strokes) and for what the body can signify (such as a series of bodied photographs).

In an effort to bring a creative vision to life, a meaning-maker can also ask themselves, "What do I know how to do?" This is the type of question that requires a meaning-maker to draw upon and elicit their experience as it relates to the task at hand. As discussed earlier, Spatz's (2015) definitions of *technique* and *practice* become particularly relevant when thinking about the generation of ideas through knowledge and skill. Having a clear understanding of the techniques a meaning maker needs and has will support them in effectively enacting the ideas they have envisioned. While a meaning-maker may recognize that the technique of double-bowing is required for successfully playing a Mozart violin concerto, they will have to decide if the practice they've developed over time will support them in effectively enacting their idea of

the concerto. It is this understanding of embodied technique and practice that will support a meaning-maker in seeking out the appropriate experiences and collaborators in order to build upon their ideas over time.

Meaningful Sharing of Ideas and Generated Text

Bodies, cognition, and language become especially important in the meaningful sharing of ideas and text. As a meaning-maker prepares to share their new ideas, their embodied knowledge becomes critical in communicating those ideas and generating new text related to those ideas. As described earlier, definitions of text and sharing have changed over time. While history has predominantly favored written alphabetic prose over other forms of text, there is still a wide range of cultural and linguistic practices to draw upon in the sharing of ideas. The body plays an important role in communicating new ideas developed by a meaning-maker. In some cases, the body can be an instrument for the development of text, such as a writer who uses their fingers to hold and move a pencil or to push down keys on a keypad. The body can also play a role in sharing ideas through the performance act of an oral presentation, where the body is both the instrument of the speaker while also enacting communicative practices, such as gesturing, responding to stimuli, and signaling movement and transition of ideas. The body can also contribute to the sharing of new ideas by enacting the text itself. In the case of movement studies, the body becomes the signifier which simultaneously shares and enacts meaning such as a dancer or actor in a performance art piece. Regardless of the mode utilized for the development and sharing of ideas, the body plays a critical role in developing the shareable text. As definitions of text have expanded over time, the body has become more apparent in the development and sharing of ideas. Expanded definitions of text have also made more room for bodies to participate as explicit communicators of ideas. As a person moves their meaning making into

shareable ideas and text, it remains critical that they understand the role that embodiment plays in that communicative act.

Body, Cognition, and Language in the Classroom Context

Contextually, classroom spaces play a large role in negotiating what counts as meaning making and communication of knowledge. Even though the students are the ones enacting learning and participating in meaning-making processes, the models, tools, partnerships, languages, texts, and practices are often decided upon by the teacher. This is particularly problematic because it frequently limits meaning making to a known and quantifiable outcome rather than as "joyous" encounters which "give rise to unforeseeable and unimaginable effects" (Sparrow, 2010, p. 172). Placing limits on what counts as meaning making and learning also places systematic barriers around students who do not see themselves reflected in the meaning-making practices valued in the classroom (Heath, 1983). In particular, students labeled as disabled are often "banished to special education classrooms to be (re)habilitated in an effort to (re)turn them to 'normal life'" (Erevells, 2000, p. 42) while students of color are "suffocated, monitored, and punished in both curriculum and the physical classroom environment" because the expressiveness of their bodies is disproportionately perceived as disruptive (Yuan, 2017, p. 71.) Because the classroom decisions around meaning making, such as collaborations, tools, and texts are often being made by the teacher or through mandated curriculum, it is possible that students are missing opportunities to engage in classroom meaning-making that recognizes and rejoices in the imbricate embodiment and unexpected affect of body, language and cognition.

The Meaningful Body

While the field of education is still grappling with the role of the body in meaning making, there are certainly examples that exist of meaningful bodies in a range of

communicative contexts. In particular, performance art disciplines, such as dance and theater, have much to share about embodied meaning making and the ways in which the body communicates meaningfully. According to Katan-Schmid (2016), "dance is a perceptual process" in which "the process of perception generates action with meaning" (p. 12). The meaning generated by bodies is developed through a mutual understanding between participants, such as the dancer and audience. Preston-Dunlop (2006) describes the process of perception as the enactment of shared bodily codes:

> Each genre has codes and conventions.
>
> They shift and change with each new style,
>
> each new dance,
>
> is formulated
>
> and settles its own way of representation.
>
> With no shared code
>
> there can be no communication,
>
> only kinetic / visual / aural non-sense
>
> And sometimes that is just what a semi-formed dance is. (p. 8)

In other words, dance is the act of communicating with the body, through which understanding is maintained. Katan-Schmid (2016) also notes that the "articulation of movement is not an illustration or a demonstration," but rather that "aesthetic expressions are submitted by physical acts" (p. 12). The interaction of embodied perception and aesthetics supports dancers in generating movement that is affective, meaningful, and communicative.

By looking to performance art, an understanding of the body as meaningful communicative practice can be developed. When conceptualizing bodies in classroom spaces,

performance art can present a clearer picture of the various ways the body plays a meaningful role in the development and sharing of ideas. One example of a classroom practice where bodies are explicitly recognized as part of the meaning-making process is through arts-integrated learning. Silverstein and Layne (2010) defines arts-integrated learning as "an approach to teaching in which students construct and demonstrate understanding through an art form. Students engage in a creative process which connects an art form and another subject and meets evolving objectives in both" (p. 1). In arts-integrated instruction, explicit attention is paid to the use of bodies and space in order to meet arts-based learning goals simultaneously with content-area learning goals. Not only does the student develop skills and knowledge about the material use of the body, such as a movement study to dance or how the body manipulates materials in creating a visual art piece, but within arts-integrated lessons, the body also acts explicitly in the sharing of ideas. In an arts-integrated science and dance lesson, for example, a student can share their meaning making about a rainforest biozone through a dance which pairs their understanding of the qualities of movement with their understanding of flora and fauna in the rainforest (The Kennedy Center, 2020). The body is recognized as a key component of the communicative task.

Another example of classroom instruction where bodies play a meaningful role in meaning making is through process drama. Process drama is an instructional technique where a group of people work together to develop a shared world through a series of improvisational scenarios (O'Neill, 1995). When used in a classroom setting, students use their bodies, minds, and language to create and develop characters, setting, and plot in response to changing and evolving objectives presented by the facilitator. Students create and share meaning through the use of their bodies, embodying characters and enacting scenes. In both of these cases, the instructional approaches to teaching and learning explicitly support students in embodied

learning practices where they attune to their bodies, minds, and language as part of the meaning-making process. This includes the generation, enactment, and sharing of ideas in the classroom. These classroom practices also include opportunities for sharing that stretch beyond traditional approaches to assessment and text. In both process drama and other arts-integrated learning opportunities, students often develop and share their meaning making through performance-based practices and movement studies, which support them in making explicit connections between their bodies and their meaning making.

Conclusion

As the integral nature of bodies, cognition, and language is explicated, it becomes clear that the body plays an important role in meaning making and communicating learning. The body plays a meaningful role in how a person experiences the world around, including how they ask questions, generate meaning, and communicate ideas. Because meaning making is such a critical component of the classroom the role of the body in that context must be reconceptualized beyond understanding the body as an object of discipline and management. To limit the body thus means continuing to enact hidden and implicit curriculum, which will inherently value some embodied knowledge over others, perpetuating the same inequalities of education that have been experienced through a number of disciplines and contexts (Ellingson, 2017). Understanding the nuanced and complex contributions of the body to meaning making can shift teacher and student perspectives toward explicitly address the body in all classroom spaces and contexts, while also opening curriculum and instruction to the infinite assemblages of material and affective possibility.

While reimaging classroom spaces through infinite possibility may seem like a daunting and impossible task, Yuan (2017) cautions that teachers must see "enacting embodied

pedagogies not as 'add-on' teaching activities but as the 'new norms' of accepting and advocating students' bodily expressions in their everyday school lives" (p. 71). For example, steps that can be taken in classroom contexts for explicitly including the body in meaning-making processes might include changing the way the general classroom space is utilized, especially the arrangement of desks, tables, and materials. Rather than thinking about classroom space as a means for bodily confinement (Alerby et al., 2014), classroom space and materials can be used flexibly for enacting learning and making meaning. In some cases, this flexibility of space and materials, such as moving tables and chairs into new shapes or even out of the way entirely, can support students in reimaging their space in order to create new meaning, even if the process looks and sounds louder and more chaotic than traditional uses of space as bodily management (Buchholz, 2015). Reimaging and flexibly adapting the use of space and materials in order to support embodied meaning making can also take the form of developing equitable discussion practices, where students extend and manipulate their physical space in order to provide access to all learners (Gonzalez, 2015). This includes the use of structures such as jigsaw, snowball, or concentric discussions in which students are required to literally move their bodies through space in order to encounter new ideas and develop shared meaning.

Inevitably, because of education's commitment to "body as object" forms of management, teachers and facilitators are concerned about the maintenance of control and "on task" behavior in the classroom. However, reconceptualizing bodies as imbricate in the meaning-making process rather than as objects of the meaning-making process does not require that classrooms lose sight of learning goals or useful classroom structures and routines. Rather, it a shift in understanding of how the body functions in the classroom space. By recognizing that the body explicitly supports meaning making, teachers and researchers can provide explicit and

scaffolded discussion and reflection with students to explore and examine the ways bodies and space support meaning making and collaboration. Rather than assuming that the regulation of bodies will lead to increased learning, teachers and students can work together to explore and explicate the ways in which their bodies making-meaning in the classroom context - including which routines (such making eye contact with the speaker or flexibly moving chairs and desks into a new discussion space) support an equitable learning environment and which prioritize discipline and control (such as obligatory hand raising or sitting in seats at a desk facing the front of the room). Allowing students to make flexible and meaningful use of their bodies and space in meaning-making endeavors may look and sound less obviously structured than a traditional classroom context, but the explicit recognition that bodies participate in the enactment of meaning making will support students and teachers in making sound pedagogical decisions.

Additionally, shifting perceptions of the body in meaning making can shift teacher and researcher expectations for how students share knowledge in the classroom context. Recognizing that the body plays a critical role alongside language and cognition means that communication of ideas can move beyond oral and written language. While written prose has traditionally been the staple for documenting meaning making throughout history, explicitly including the body in sharing meaning means finding new and inventive ways for embodied communication. This is also the case for using oral language to share meaning, which traditionally ties the body to a chair, table, or podium. Rather, the twenty-first century provides ample opportunity for sharing meaning beyond the use of the body as an instrument for writing or an object for speaking (Spatz, 2015). Advanced audio and visual technology provide the capacity to capture, share, and historicize knowledge through audio recording, video recording, image capturing, and multi-modality in both print and online forums. While embodied communication does not have to be

recorded to be meaningful, advances in technology have highlighted for us the possibility and value of explicitly including the body in the sharing of meaning and new ideas.

Whether conceptualizing, enacting, or sharing new ideas throughout the meaning-making process, the body works critically and imbricately with cognition and language. Importantly, theory and research around classroom cognition and linguistic practices are not at odds with embodiment. Rather, exploring students' meaning making as an embodied practice offers additional nuance and insight into all the ways that students use language, cognition, social practices, and their space and bodies to experience learning. Connecting embodiment in research of classrooms and learning is a critical step for advancing understandings of students' meaning-making experiences. Research across disciplines and fields recognizes that implicit classroom practices, as the work of bodies often is, ultimately lead to inequitable and dehumanizing practices, exemplified by research the term "hidden curriculum" to refer to the educational function of "inculcation of values, political socialization, training in obedience and docility, the perpetuation of traditional class structure-functions that may be characterized generally as social control" (Vallance, 1974, p. 5). While teachers and facilitators negotiate much of the meaning-making process in the classroom context, instructional practices can validate and make visible the work and contributions of the body while scaffolding and supporting students' embodied experience rather than by minimizing embodied learning through management, discipline, and isolation. This reconceptualization of the body for meaning making and communicative practices is a critical act in enacting the fruitful learning environments that educational stakeholders all wish classroom spaces to be.

REFERENCES

REFERENCES

Alerby, E., Hagström, E., & Westman, S. (2014). The embodied classroom—A phenomenological discussion of the body and the room. *Journal of Pedagogy*, *5*(1), 11–23. https://doi.org/10.2478/jped-2014-0001

Almquist, J., & Quennerstedt, M. (2015). Is there (any)body in science education? *Interchange*, *46*(1), 439–453. https://doi.org/10.1007/s10780-015-9264-4

Andersson, J., & Garrison, J. (2016). Embodying meaning: Qualities, feelings, selective attention, and habits. *Quest*, *68*(2), 207–222.

Andersson, J., & Risberg, J. (2018). Embodying teaching: A body pedagogic study of a teacher's movement rythm in the "sloyd" classroom. *Interchange*, *49*(1), 179–204. https://doi.org/10.1007/s10780-018-9321-x

Banovcanova, Z., & Masarykova, D. (2014). The docile body—Reflecting the school. *Journal of Pedagogy*, *5*(2), 251–264. https://doi.org/10.2478/jped-2014-0012

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy, & Practice*, *5*(1), 7–74.

Buchholz, B. A. (2015). Drama as serious (and not so serious) business: Critical play, generative conflicts, and moving bodies in a 1:1 classroom. *Language Arts*, *93*(1), 7–24.

Collins, J., & Blot, R. K. (2003). *Literacy and literacies: Texts, power, and identity*. Cambridge University Press.

Common Core State Standards. (2020). *About the standards*. Common Core State Standards Initiative: Preparing America's Students for College & Career. http://www.corestandards.org/about-the-standards/contact/

Connor, D. J., Newton, R. M., Pennisi, A. C., & Quarshie, A. A. (2004). Tales of body/space invasions in school. *Qualitative Inquiry*, *10*(4), 495–508. https://doi.org/10.1177/1077800403259707

Csordas, T. J., & Harwood, A. (Eds.). (1994). *Embodiment and experience: The existential ground of culture and self* (Vol. 2). Cambridge University Press.

Davidson, J. (2004). Embodied knowledge: Possibilities and constraints in arts education and curriculum. In L. Bresler (Ed.), *Knowing bodies, moving minds: Towards embodied teaching and learning* (pp. 197–212). Kluwer Academic Publishers.

Deleuze, G. (1992). Ethology: Spinoza and us. In J. Crary & S. Kwinter (Eds.), *Incorporations* (Zone 6) (pp. 625-633). Zone Books.

Dinkel, D., Schaffer, C., Snyder, K., & Lee, J. M. (2017). They just need to move: Teachers' perception of classroom physical activity breaks. *Teaching and Teacher Education*, *63*(1), 186–195.

Duncum, P. (1999). The semiotics of children's bodies as found in popular media. *Arts and Learning Research Journal*, *16*(1), 78–81.

Ellingson, L. L. (2017). *Embodiment in qualitative research*. Taylor & Francis.

Erevelles, N. (2000). Educating unruly bodies: Critical pedagogy, disability studies, and the politics of schooling. *Educational Theory, 50*(1), 25-47.

Franklin-Phipps, A. (2017). Entangled bodies: Black girls becoming-molecular. *Cultural Studies - Critical Methodologies*, *17*(5), 384–391. https://doi.org/10.1177/1532708616674993

Franks, A., & Jewitt, C. (2001). The meaning of action in learning and teaching. *British Educational Research Journal*, *27*(2), 201–218. https://doi.org/10.1080/01411920120037144

Gee, J. P. (1991). What is literacy? In *Rewriting literacy: Culture and the discourse of the other. Critical studies in education and culture series.* (pp. 3–11). Bergin & Garvey.

Gee, J. P. (2012). *Social linguistics and literacies: Ideology in discourses* (4th ed.). Taylor & Francis.

Gonzalez, J. (2015, October 15). *The big list of class discussion strategies*. Cult of Pedagogy. https://www.cultofpedagogy.com/speaking-listening-techniques/

Goody, J., & Watt, I. (1968). The consequences of literacy. In J. Goody (Ed.), *Literacy in traditional societies*. Cambridge University Press.

Halliday, M. A. K. (1993). Towards a language-based theory of learning. *Linguistics and Education*, *5*(1), 93–116.

Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms*. Cambridge University Press.

Hughes-Decatur, H. (2011). Embodied literacies: Learning to first acknowledge and then read the body in education. *English Teaching: Practice and Critique*, *10*(3), 72–89.

Jones, S. (2013). Literacies in the body. *Journal of Adolescent & Adult Literacy*, *56*(7), 525–529.

Katan-Schmid, E. (2016). *Embodied philosophy in dance: Gaga and Ohad Naharin's movement research*. Springer.

Mace, M.-A., & Ward, T. (2002). Modeling the creative process: A grounded theory analysis of creativity in the domain of art making. *Creativity Research Journal*, *14*(2), 179–192.

McLaren, P. (1999). *Schooling as a ritual performance: Toward a political economy of educational symbols and gestures*. Rowman & Littlefield.

Mulcahy, D. (2012). Affective assemblages: Body matters in the pedagogic practices of contemporary school classrooms. *Pedagogy, Culture, & Society, 20*(1), 9-27.

Next Generation Science Standards. (2020). *Improving science education through three-dimensional learning*. Next Generation Science Standards: For States, by States. https://www.nextgenscience.org/

Niccolini, A. D. (2016). Terror(ism) in the classroom: Censorship, affect and uncivil bodies. *International Journal of Qualitative Studies in Education, 29*(7), 893-910.

Olson, D. (1977). From utterance to text: The bias of language in speech and writing. *Harvard Education Review*, *47*(3), 257–281.

O'Neill, C. (1995). *Drama worlds: A framework for process drama*. Heinemann Drama.

Orlander, A. A., & Wickman, P.-O. (2011). Bodily experiences in secondary school biology. *Cultural Studies of Science Education, 6*(3), 569-594.

Perera, T., Frei, S., Frei, B., & Bobe, G. (2015). Promoting physical activity in elementary schools: Needs assessment and a pilot study of brain breaks. *Journal of Education and Practice*, *6*(15), 55–65.

Perry, M., & Medina, C. (2011). Embodiment and performance in pedagogy research: Investigating the possibility of the body in curriculum experience. *Journal of Curriculum Experience, 27*(3), 62-75.

Peters, M. (2004). Education and the philosophy of the body: Bodies of knowledge and knowledges of the body. In L. Bresler (Ed.), *Knowing bodies, moving minds: Towards embodied teaching and learning* (pp. 13–27). Kluwer Academic Publishers.

Preston-Dunlop, V. (2006). *Looking at dances: A choreological perspective on choreography*. Verve Publishing.

Rogoff, B., Baker-Sennett, J., Lacasa, P., & Goldsmith, D. (1995). Development through participation in sociocultural activity. In *New Directions for Child Development, No. 67* (pp. 45–65). Jossey-Bass.

Silverstein, L. B., & Layne, S. (2010). Defining arts integration. *Kennedy Center for the Performing Arts*, 1.

Snyder, S. L., & Mitchell, D. T. (2001). Re-engaging the body: Disability studies and the resistance to embodiment. *Public Culture, 13*(3), 367-389.

Sparrow, T. (2010). A physiology of encounters: Spinoza, Nietzsche, and strange alliances. *Epoche, 15*(1), 165-186.

Spatz, B. (2015). *What a body can do*. Routledge.

Spina, S. U. (1999). Student bodies as bodies of knowledge: Moving beyond Cartesian pedagogy. *Arts and Learning Research Journal*, *16*(1), 96–98.

Stahl, G. (2019). Critiquing the corporeal curriculum: Body pedagogies in 'no excuses' charter schools. *Journal of Youth Studies,* 1-17.

The Kennedy Center. (2020). *Lessons and activities: Arts-centered, standards-based resources for in and out of school*. Education. https://www.kennedy-center.org/education/resources-for-educators/classroom-resources/lessons-and-activities/

Vallance, E. (1974). Hiding the hidden curriculum: An interpretation of the language of justification in nineteenth-century educational reform. *Curriculum Theory Network*, *4*(1), 5–22.

Van Manen, M. (1990). *Researching lived experience: Human sciences for an action sensitive pedagogy*. Althouse.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Harvard University Press.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.

Yuan, T. (2017). The teaching of "dangerous" school bodies: Toward critical embodied pedagogies in English education. *English Journal, 106*(4), 67-72.

Zembylas, M. (2007). The *specters* of bodies and affects in the classroom: A rhizo-ethological approach. *Pedagogy, Culture, & Society, 15*(1), 19-35.

LIVING ROOM: THE AFFORDANCES AND CHALLENGES OF DANCE AS AN
ANALYTIC TECHNIQUE FOR EXPLORING CLASSROOMS

Introduction

The field of educational research is rich with methodologies and analytic techniques, which, over time, have led to the development of nuanced variations of qualitative, quantitative, social-science, and arts and humanities-oriented research. Each methodology works as an analytic frame (or frames) for researchers to ask and answer important questions about the complex classroom context. Though research methodologies are in constant states of adaptation and flux, many social-science research methods focus primarily on text-based and language-based analytic techniques for exploring classrooms. Often, researchers use student and teacher utterances and artifacts to build a systematic narrative about the phenomenon under investigation. Additionally, researchers develop and share their findings through text-based presentations and manuscripts.

While social-science education research as a field develops complex understandings of the phenomena within classrooms, text and language-based approaches to conducting and sharing research are not the only, nor even the most appropriate ways of unpacking the nuances of body and space in classrooms (Cahnmann-Taylor & Siegesmund, 2018). While much social-science research includes practices such as videotaping classroom activities, keeping field notes, and writing memos (Glesne, 2016), which are all tied to documenting and describing the body and space, these techniques for documenting classroom bodies and space are limited by their reliance on linguistic representation for unpacking complex and nuanced uses of body and space. Even research methodologies that explicitly include the body through the analysis of gesture, gaze or facial expression, such as Conversational Analysis (Liddicoat, 2011; ten Have, 2007),

often relocate the body to a secondary or instrumentalist position behind oral and text-based analyses.

Oral and written language in educational studies have provided rich and fruitful context for understanding students' cognitive and linguistic practices. Undoubtably, the conceptualization of cognitive and linguistic practices through research have expanded our understanding of the classroom as a site of learning and meaning making. Still, by extending the analytic reach of research to include the body as a central feature of meaning making, scholars, artists, and teachers can further understandings of students' learning. In addition to the use of text-based and language-based practices for analyzing and sharing education research of the body, I argue researchers turn to dance as an arts-based education research methodology to delve more carefully at the disjointed space where bodies meet analysis. In this article, I make the case for an arts-based (in this case, dance-based) education research methodology and analytic techniques as an effective, productive, and valuable approach to asking and answering questions about bodies and space in educational contexts.

In this paper, I will carefully unpack the affordances and challenges of dance as an arts-based education research (ABER) methodology. In order to do so, I will draw specific examples from my own dance as ABER research while making connections to the opportunity for dance ABER more broadly. First, I will explore definitions of dance and dance as an ABER methodology in order to establish a shared understanding of the analytic basis of the methodology under examination. I will then connect dance as research to the context of teaching and learning in classroom contexts, including a discussion of the kinds of aims and questions that can guide inquiry using dance as an ABER methodology. Next, I will discuss the nature of data generation, analysis, sharing, and evaluation through my own example of dance as an ABER

methodology, including the challenges, affordances, and opportunities of dance as arts-based education research as they relate to additional approaches to dance as inquiry. Finally, I will conclude with a discussion of next steps and suggestions for readings, models, and examples for researchers interested in further exploration of dance as an ABER methodology.

<div align="center">**Building Background**</div>

Body and Space in Classrooms

Bodies and space in classrooms, especially in Western classrooms, have been conceptually challenging, often frustrating students, teachers, and other stakeholders alike in efforts to make sense of how the body functions in the learning environment. For many pre-service teachers, their greatest concern upon entering educational contexts as an authority figure is their ability to successfully enact "classroom management," which they see as instructional techniques and skills for managing students' space and bodies in classrooms for the purpose of providing safe and productive learning environments (Stoughton, 2007). While teachers often grapple with the ethical complexity of classroom management, many teachers are asked to participate in systems of control, where students' bodies and space are highly regimented and regulated (i.e. with tables and chairs) with the teachers making implicit and explicit decisions about what qualifies as the 'appropriate' use of bodies and space (Alerby et al., 2014; Duncum, 1999; Stahl, 2019). In other cases, teachers and students experiment in the use of classroom space which is flexible (i.e. with tables and chairs) are more outwardly autonomous than a regimented classroom (Buchholz, 2015). In both instances, teachers and students develop a shared understanding (both implicitly and explicitly) of *how* a body and space in the classroom can be appropriately utilized for promoting safe and productive learning environments.

Most educational understandings of bodies as management in classroom spaces is also tied to understandings of bodies and space in classrooms as a site of social and cultural practices or reproduction. Classrooms are indeed social spaces, where students and teachers act together and against each other toward a shared vision of culture and practice where "a person's horizons for learning are established through the on-going and sometimes changing interrelationship between their dispositions and the learning cultures in which they participate" (Hodkinson et al., 2008, p. 40). As learning in classroom contexts is a social event, classrooms themselves are seen as cultural spaces, where the "learning culture will permit, promote, inhibit or rule out certain kinds of learning" (Hodkinson et al., 2008, p. 37). At times, this understanding of social and cultural practices for bodies and space in the classroom are developed through collaboration between the students and teachers, while at other times they are developed through the reproduction of norms (often those set by the teacher or school), which have been established through mainstream or 'typical' practices. In the case of bodies as social and cultural practice, teachers and students must agree upon shared understanding of how a body and space in the classroom can be appropriately utilized for promoting a shared community, while disagreements often result in disciplinary measures.

Typically, adherence to classroom norms as a social practice are closely tied to the use of disciplinary techniques in classrooms and schools. In particular, there is a raft of research that explores the myriad ways in which black and brown bodies in classrooms are hyper-surveilled and over-disciplined in comparison to their white counterparts (Franklin-Phipps, 2017; Niccolini, 2016; Stahl, 2019). In these cases, student bodies are isolated or removed from classroom spaces in order to punish or intervene. As access to technology has increased, the act of video recording classroom practices and posting them on heavily trafficked social media sites has captured

disturbing scenes of students being physically removed from chairs, desks, and classrooms by larger, stronger adults. In other instances, unruly bodies are removed to the periphery of classroom spaces where they cannot see or hear the content of a lesson. In the case of bodies as discipline, teachers and students are often at odds about *what* applications of body and space in the classroom are appropriate or valuable.

While bodies and space in classrooms are often considered in relation to discipline, control, safety, and productivity (bodies that allow for productivity, not necessarily bodies that are productive), there is also the opportunity to explore bodies and space as an integrated and integral part of the learning and thinking in classrooms. Embodiment theorists recognize that people learn with their minds and bodies through a range of experiential contexts, so that lived bodies become a critical component in the understanding of learning (Ellingson, 2017). Though this approach to bodies and space in classrooms is currently less well understood than traditional classroom management practices, there is a burgeoning field of research that explores embodied learning in a number of educational and disciplinary contexts (Almquist & Quennerstedt, 2015; Andersson & Risberg, 2018; Franks & Jewitt, 2001). In the case of embodied learning, the bodies and space of teachers and students alike develop a shared understanding (again, both implicitly and explicitly) of *how* a body and space in the classroom can be appropriately utilized for the development of meaning making both in individual and shared contexts.

Understanding embodied learning has also extended understandings of language and literacy practices beyond traditional approaches to reading, writing and speaking. In the case of embodied learning, the body participates not just in the process of learning but also in the sharing of new knowledge. This includes the work of meaning making done collaboratively in classroom settings, where students' embodied language and literacy practices are a critical component in

their collaboration and meaning making. While this can include typically understood gestures such as a raised hand or a thumbs up, it can also include less overt gestures in addition to gaze, positioning, and qualities of movement, all meant as communicative acts. In fact, Farnell (1999) posits that "human beings everywhere engage in complex structured systems of bodily action that are laden with social and cultural significance" which can be used expressively (p. 343). In this case, teachers and students develop a shared understanding of how a body and space in the classroom are utilized for linguistic and communicative purposes.

These are some of the ways, though certainly not an exhaustive list, that teachers, students, researchers, and other educational stakeholders have conceptualized bodies and space in classrooms. Though some of these cases include examples of explicitness in educational understandings of bodies and space, many others rely upon a degree of implicitly shared understanding that often goes unnoticed or overlooked in educational settings. While bodies and space may be explicitly discussed in relation to classroom management, that rarely includes any discussion of how bodies and space are a part of embodied learning and communicative practices. Similarly, classroom teachers may make explicit references to bodies and space through establishing shared norms and values, but much of the problematic disciplining of bodies in classrooms is done through implicit understandings of 'appropriateness.'

Arts-Based Education Research

Given the complexity and variance of conceptual understandings of the body in the classroom, social science research that relies upon linguistic and text-based artifacts first and the body second may not provide the best analytic approaches for engaging with embodied phenomenon. Thus, researchers have the opportunity to explore additional modes of inquiry

which prioritize the body along with the linguistic and cognitive artifacts of the classroom: such as dance as arts-based research methodology (ABER). In order to discuss dance as ABER, I will first lay the groundwork with definitions of ABER and dance as a mode of inquiry. Arts-based education research is a subset of arts-based research (ABR), a methodology that explores and shares a line of inquiry through an art form (Barone & Eisner, 2011; Leavy, 2015). In the case of ABR, the art form is the methodology - the approach to gathering, analyzing, and sharing data - rather than the object of the study. For example, a researcher may study the changing skyline of a community through a series of oil pastel sketches or a research may study the migratory patterns of sea turtles through an improvisational movement study. In each case, the art form informs the inquiry. This is also the case in ABER, where educational contexts are explored using art (Cahnmann-Taylor & Siegesmund, 2018). Examples include the use of poetry to answer questions about teachers' use of language to discipline students (Latremouille, 2018) or the use of theater to answer questions about students' developing identities during a summer exchange program (Kao & O'Neill, 1998).

Arts-based education research has slowly evolved and gained academic traction over time, and it poses many affordances for answering questions about education spaces in addition to the quantitative and qualitative learning done through the study of language, artifacts, and other text-based forms of data. Arts-based research methodologies serve a number of key purposes. First, ABER provides the opportunity to re-image familiar educational spaces as "means to increase attention to complexity, feeling, and new ways of seeing" (Cahnmann-Taylor & Siegesmund, 2018, p. 1). Classroom spaces and educational settings are highly familiar spaces. A child in a Western context might begin their formal education as early as three and

continue well on into their adult years. As that person becomes increasingly familiar with the school context, it can become increasingly challenging to reflect critically on that context.

Additionally, ABER provides an opportunity to value additional ways of knowing. In many academic settings, value is placed upon particular forms of public speaking and publication of written text. Value is also placed upon particular registers of language and communication that are reflective of academic norms and standards. However, the academy may not be reflective of all of the values and discourses present in educational settings. In this case, ABER can extend the discussion which discourses are valued in education research and why. Similarly, ABER also expands notions of what counts as text and ways of knowing. While most education research is shared in the form of presentations, journal articles, and book chapters, ABER provides opportunity to expand thinking beyond speech and word. ABER also includes text that is painted, danced, sculpted, improvised, sung, played, and performed. Each of these is a fresh opportunity for examining education spaces.

The tenants of arts-based research as an important methodological framework are supported by the work of embodiment scholars. Embodied knowledge includes four key affordances for its use in empirical research (1) the exploration of salient topics that were otherwise unknowable; (2) the opportunity for new means of analysis and representation through the use of multiple senses and multiple modes; (3) the enhancement of research validity through the situating of knowledge claims as "inevitable, intriguing sites" as opposed to bias or weakness; (4) the potential for engagement with non-academic audiences through research that is visceral and immediate (Ellingson, 2017, p. 8). When imagining the possibilities for conducting embodied research, the arts must be included in the conversation. Particularly, "the arts… are an arena in which the body is central to the process of inquiry and constitutes a mode of knowing"

(Bresler, 2004, p. 9). This resonates in classroom spaces where bodies often go unexamined. Therefore, educational scholarship should embrace the arts as a means for examining embodied knowledge in classroom spaces. That being said, researchers of and through embodied knowledge must carefully consider their own positionality as an embodied person. Ellingson (2017) warned that "leaving (our own and others') bodies unmarked in reports and other representations is the privilege of the powerful" (p. 6). This is especially the case in classroom settings, where bodies are often privileged based on their heteronormativity, gender, class, and race. Teachers who ignore student bodies as an integral part of learning inadvertently privilege students who already hold power in their bodies through their privileged identities.

Dance as Inquiry

While ABER methodologies can draw upon many forms, methods, and materials, this paper focuses specifically on the affordances and challenges of dance as a research methodology (Bagley & Cancienne, 2002; Blumenfeld-Jones, 2008; Cancienne & Snowber, 2003; Sklar, 2000). Dance as a discipline is a complex and multifaceted field. Western culture includes a broad range of movement techniques (both formal and informal) including somatics, improvisation, contact improvisation, contemporary, modern, ballet, hip-hop, jazz, and ballroom, to name a few. While there are many different disciplinary techniques that can be studied and mastered over time, each includes a shared understanding of what movement *is*. Dance is "an act of moving bodies in time and space" (Katan-Schmid, 2016, p. 9) where the integrative and contextualized combinations of bodies, spatiality, and timing of action evoke meaning. Performance itself becomes a study of behavior as an object in a "special metaphoric space" (Hahn, 2007, p. 4). In order to understand the complexity of movement, the field of dance includes variations and combinations of the following five elements: body, action, space, time,

and energy (Aldis et al., 2018). A body can be described as a whole or parts, including the head, neck, shoulders, torso, hips, legs, and feet, etc. The body can be described by its use of shapes, patterns, and systems. For example, the body in Figure 2 can be described as crouched low at the table, knees and legs tucked closely under the torso, gaze forward with the hand close to the chest. Dance also examines the use action in movement, including locomotor and non-locomotor movement. Though the images in the figure below are still, the body shifts from side the side and the dancers face and gaze turn sharply from one direction to another while the torso and legs stays primarily in one location. Additionally, art form of dance utilizes space meaningfully, including the size, level, direction, path, plane, and relationship of movement. The body in Figure 2 lives in space that juxtaposes of a crouched, low-level body which has simultaneously been raised over the table by a chair. While the arms of the body are tight to the torso, the changing direction and outward gaze of the eyes allow the dancer to take up additional space. The art form of dance can also be understood through time, where bodies and action can be described by their speed, tempo, accent, and rhythmic patterns. Though the images below are still, it can be imagined that the body might shift quickly from side to side, or pause persuasively in one gaze or the next. Finally, the art form of dance can be described by its energy, such as the attack, tension, force, and weight of its movements. The body in Figure 2 is compact and tightly held. The movement from side to side suggests sharp, percussive movement that shifts quickly and energetically. At any given time, a body is participating in action through space and time with energy. Whether intentionally or not, all humans have bodies that can be understood and described through the elements of their movement. This presents affordances and challenges for those interested in creating, interpreting, and sharing meaning through movement.

Figure 2.

A body moves

Part of the complexity of dance is the creation of meaning across many stakeholders, including choreographer, dancer, and audience. As a work of art, dance is active in that it is an encounter between the artist, the art, and the audience where the "process of perception generates action with meanings" (Katan-Schmid, 2016, p. 12). In dance, meaning may be carried with codes, conventions, and recognizable forms of representation, which can be used in direct and indirect ways. Preston-Dunlop (2006) describes meaning making in dance as follows:

> Meaning is complex.
>
> A dance does not have to mean something nameable
>
> to be meaningful.
>
> Meaning meanings are not verbal.
>
> Feelings are non-verbal.
>
> Recognition per se is meaningful.
>
> It means, 'I've seen that before,
>
> I know it, I receive it, I respond to it.' (p. 20)

For many, the nature of communicative meaning making is both the challenge and the affordance of dance as an art form. By placing dance in conversation with an audience, the meaning of the work is bound to shift, change, and adapt based on the process of perception.

Dance's transmorphic relationship to meaning making can be frustrating for those who find discomfort in ambiguity. This is not to suggest, however, that dance is meaningless or that all interpretations of dance are worthwhile. For many dancers/choreographers, creating a new performance piece is an act of research and inquiry. As Liz Lerman (2014) writes, dance as inquiry is "a way of life, a way of making art, a way of making space for others to engage in the conversation, of naming things to encourage dialogue, of reordering ideas, or of making something useful or beautiful or both" (p. 4). Indeed, for choreographers, dancers, and moving artists, meaning making with the body becomes an integral form of thinking and knowledge-sharing. Yet, as Lerman (2014) shared after the mixed reception of one of her dance performances, audiences may be troubled or surprised by the notion that dance can be a form of inquiry. "Without research," she reflected, "how did anyone think we could make the dances? People seemed to assume that if it is art, it must be exclusively personal expression based entirely on feelings or intuition - and therefore no research would be necessary… that we somehow just made it all up" (p. 207). This tension caused by the intersection of research, art, and meaning making is central to the tensions of arts-based education research as well.

Making Connections

Reimagining Educational Spaces through Dance

Classrooms and other educational spaces are places where bodies move through space with time and energy. As a deeply social context, the complexity of classroom life can be identified as a dance itself: teacher and students move bodies through space using recognizable

patterns and movement codes that are reflective of the social and cultural understandings of the group. The classroom exemplifies the ways in which "movement systems have structured content, they can be visual manifestations of social relations, the subjects of elaborate aesthetic systems, and may assist in understanding cultural values and the deep structure of society" (Kaeppler, 2000, p. 117). Part of the challenge with other qualitative and quantitative research methodologies is that they can describe the body and space practices of classrooms linguistically, or they can count the movements and actions numerically, yet neither is ideally situated for dealing with the complexity of body, space, action, time, and energy as they are enacted poly-rhythmically in classroom contexts. This is specifically where dance as an ABER methodology can begin to inform inquiry.

The field of performance dance studies to understand educational spaces is small but dedicated. Cancienne & Snowber (2003) describe the wide-ranging capacity of movement methods to "pose critical questions; to connect with the emotions of participants; to understand theoretical concepts, the self as place of discovery; and to represent through performance for an audience" (p. 237) for the purpose of improving and supporting educational spaces as complex and multifaceted sites of learning where "each person's movement schema expresses social and cultural meanings" (p. 239). Because classroom contexts are filled with particular uses of bodies and space, the classroom is already rich with movement data and it makes sense that the embodied movement of the space center the movement study (Blumenfeld-Jones, 2008). Given the inescapability of bodies and space in classroom contexts, it only makes sense that researchers utilize movement-based tools to examine the data that reflect the nature of the data itself. In other words, bodies, space, and movements should play a critical role in understanding and analyzing bodies, space, and movement in classroom contexts.

Aims and Questions

To this end, I posit that dance as an arts-based education research (ABER) is a viable methodological option for teachers, students, and researchers interested in better understanding the complexity and nuance of bodies and space in the classroom. Using dance as an artistic frame, dance ABER can begin to ask and answer questions about classrooms (i.e. *Who is moving? What movement are they doing? Where are they moving? When are they moving? How are they moving?*) From these inquiry frames, dance ABER can start to pose questions about intention, relationship, and meaning (i.e. *What can a person's movement tell us about their thinking and understanding? How are people moving in relation to each other? Why are they responding in that way?*) Dance as ABER methodologists can also start to think more deeply about these questions that might inform classroom-based inquiry and understanding of the purpose of bodies and space in classrooms. Researchers interested in the relationship between bodies, space, and management practices might ask, *"How are students' bodies adapting to the space, materials, and time presented by the teacher?"*. Researchers interested in the relationship between bodies, space, and social/cultural practices might ask, *"How are teachers' and students' bodies moving in relation to the shared expectations for using classroom space?"*. Researchers interested in the relationship between bodies, space, and disciplinary practices might ask, *"How do teachers' and students' bodies change over the course of a disciplinary action?"*. Researchers interested in the relationship between embodiment and learning might ask, *"How are teachers' and students' bodies moving in response to their meaning making?"*. Researchers interested in the relationship between embodiment, language, and communicative practices might ask, *"What does it look like when ideas are passed from one person to another?"*. This is certainly not an exhaustive list of the kinds of questions that can be asked and answered with thinking about

bodies and space through the lens of dance. Any time a teacher, researcher, or student seeks to better understand the use of body, action, time, space, or energy in the classroom, a question can be formed and explored through a dance form. Both the question and the object of inquiry a vocabulary and way of knowing with dance.

Researcher-Dancer

Though dance may provide a critical lens for inquiry in education spaces, an education researcher interested in bodies and space may or may not identify as a dancer. Particularly in the context of the United States, dance, or the identity of 'dancer', has traditionally been a privileged position reserved for the disciplinary elite. There may be the stance, implicit or explicitly stated, that those wishing to engage in dance as an ABER methodology must have earned the identity of dancer. However, I would respond to this with two rebuttals. First, I argue that to live in a body is to be a dancer. At any time, teachers, scholars, and dancers alike make decisions about where, how, when, and with what energy their bodies move, they are enacting a form of dance. To use dance as an ABER methodology is to recalibrate the view of bodies and space in the classroom in order to see with new eyes what may have been taken for granted previously. Second, the methodology, performance, presentation, and publication of ABER work can take many forms. To ask and answer a question using dance as a methodology does not presuppose that the researcher must be the dancer. It may be that the researcher is a collaborator with other stakeholders engaged in the act of dance, such as the teachers and students themselves or a trained professional. It should not be assumed that the presentation of knowledge through dance is the right of the researcher alone. Therefore, whether a currently practicing dancer or a moving pedestrian, the paper seeks to provide support for those interested in dance as an ABER methodology.

Dance as ABER Exemplar

In order to more closely explore the possibilities of dance as an ABER methodology, I will describe methodological considerations of one of my own dance as ABER projects. In the following sections, I will describe the steps that I enacted throughout my research process, highlighting the role of dance as inquiry. These descriptions, however, are not meant to be stagnant series of steps for replication. Any ABER project is a work of art, meaning that it comes from the research, experiences, aesthetics, and active understandings of those participating in the inquiry. No two works of art are exactly the same, and no creative process can be exactly replicated. The purpose of describing this example is to contextualize the affordances and challenges of dance as an ABER methodology, not to suggest that this is the only nor the best way to engage in movement inquiry (see Appendix B for additional models of dance as ABER methodology).

Question and Context

This dance as ABER project was developed through the work of a group of fifth-grade students in a small suburban community in Michigan, USA. In this classroom, twenty-eight students were split into four island groups for the duration of a three-week interdisciplinary process drama unit as part of their science, social studies, and literacy curriculum. A process drama is an interactive improvisational drama where participants (in this case, classroom students) are led through a series of scenarios in which they must work together to create a shared world in response to the scenario (O'Neill, 1995). The four islands of this fifth-grade classroom, Greenel, Bluenel, Brownel, and Greynel, participated in twelve activities over the course of three weeks. This project follows specifically the collaborative work of the island of Greynel over the course of the process drama.

The island of Greynel consisted of seven students: Alice, Ben, Cato, Darcy, Elizabeth, Fletcher, and Gwen (all pseudonyms). Over the course of the process drama, these seven students worked closely together to create artifacts (i.e. an acrylic and clay island map, an essential agreement, thematic movement study, island treaties) and to respond to scenarios (i.e. natural disasters). By participating in the process drama, the group of students was participating in critical collaborative meaning-making episodes (CCMME). A critical-collaborative meaning-making episode refers to the points throughout the process drama where students had to work closely with each other through the articulation, deliberation, and consensus of ideas in order to create new meaning. The CCMME were the work of the students alone with little interruption or management from the teacher or I (both of us participated actively in the process drama).

While I initially entered the project interested in how students were sharing and negotiating their ideas as a collaborative group, it quickly became clear to me that text-based analysis of artifacts and audio transcripts were not going to do justice to the work of the group. As the process drama unfolded, what became particularly clear was that students' embodiment was playing a critical role in the work of the CCMME. While students were articulating, deliberating, and conceding their ideas with the use of their spoken language, they were also negotiating ideas with their bodies. Driven by the idea that the critical work of the CCMME was happening in the bodies of the students and the use of their space in addition to the work of their words, I asked the following two questions: *(1) How are students' physical bodies a part of their collaborative learning spaces in creative endeavors; (2) What do students' physical bodies suggest about their collaboration and meaning-making processes?*

My desire to answer these questions thoughtfully while also recognizing the complexity, nuance, and seemingly chaotic nature of bodies in space led me to dance as an ABER methodology.

Data Generation and Preparation

The generation for data in the project was driven by two forces: (1) the nature of empirical data; and (2) the nature of artistic [data]. As a qualitative researcher in an observational setting, I collected a range of empirical data sources including audio recordings of each group, video recording of the classroom, and artifacts created by both the teacher and the students. Additionally, I generated my own artifacts including observation protocol, daily research memos, and interviews with both the teacher and the students. Through the generation of these data sources, I also worked to enact analytic practices informed by both aesthetics and intuition. While generating empirical data, I also allowed my participation and observation to guide my noticing, sparked interest, and unusual moments over the course of data generation. I allowed myself room to ask additional questions such as, *"Did you see the way Elizabeth and Fletcher were looking at each other over there? What is happening?"* or, *"It's been ten minutes and Gwen hasn't moved. Why?"* In addition to enacting my own preparation of field notes and participation in the classroom itself, I also allowed myself room to still, slow down, and let my attention redirect itself to the moments my body was noticing but my eyes were missing.

From all the data generated in this project, the audio and video recordings became the most critical in my analysis using dance as an ABER methodology. While the memos and field notes allowed me to re-see the structure of the unit as a whole in order to establish the moments from the unit that would best answer the questions of my inquiry, the audio and video recordings of the island of Greynel became the initial fodder for movement generation. Prior to the

generation of movement, I reviewed the structure of the unit and selected four of the twelve

classroom activities from the unit, using the following inclusion criteria: (a) the collaborative

nature of the group work; (b) the inclusion of all group members; (c) requirement that the group

come to a shared understanding of a new island component; and (d) their relative equidistance

over the course of the Four Islands project. The purpose of the inclusion criteria was to find

*critical collaborative meaning-making episodes (*CCMME), where island members were

arguing, negotiating, developing, structuring, and revising the meaning-making ideas supporting

the development of their island. Examples of collaborative group work were excluded when the

island was working explicitly with the teacher or receiving instructions, or when the group was

implementing or sharing ideas that had already reached consensus.

After identifying four CCMME, I then transcribed the audio data from the CCMME (on

average, 50:00 min). From the transcripts, I coded student contributions as articulations of new

ideas/information, deliberation of ideas that had been articulated, and consensus of how ideas

would be taken up into new meaning. After coding the transcripts, I identified one-minute

segments that were represented of a pivotal moment - the most meaningful segment for the

collaborative work of the group, focusing again on articulation, deliberation, and consensus. I

then timestamped video and audio data so that I also had video data of each pivotal moment in

addition to the audio and transcript. These pivotal moments across the four CCMME are the

central to my analysis and understanding of the work of the group.

Data Analysis

Preparing the data became a critical step in analyzing the data. In order to best answer the

questions of the inquiry, I needed to be able to explain exactly which moments of the

collaboration I was analyzing and why. Narrowing the view of the project also became critical

for making meaning of students' bodies across the collaboration. While a transcript of audio may only show one or two students talking at a time, a student never leaves their body. Their body is always present whether they are actively speaking or not. Because my interest is in students' embodied collaboration, I worked to narrow the scope of my data in order to more richly examine, describe, and analyze the embodied work of students over time. Below I describe in detail the key components of my analysis as I danced to deepen and share my understanding.

Viewing the Data

Before I moved myself, I reexamined my classroom data through a series of pointed video observations. My goal through these video observations was twofold: I wanted to observe the movement of students as individuals and I wanted to observe the movement of individuals in relationship to their peers. I also wanted to re-observe the experiences of the group through the lens of body, action, space, time, and energy. Rather than trying to 'read' or 'infer' what students were doing, I wanted to re-see the aesthetic of action. I watched each one-minute pivotal moment clip (15 total) 14 times, twice for each student. As I watched each clip, I would record my observations. The first time I observed a particular student, I would describe the action, body, space, time, and energy of the individual student, trying to notice and attune to the unique movement vocabulary of the student. Then, I would immediately watch the clip again, still focused on that same student. The second time, I would note the action, body, space, time, and energy of that student in relation to their peers, attuning to the ways in which their movements were enacted towards, with, around, between, in addition to their peers.

Describing and Naming

In these re-observations using video data, I made a practice of describing what I saw utilizing vocabulary of movement as is found in elements of dance (Aldis et al., 2018). In a T-

chart, I worked to vividly describe movement using words of action, shape, direction, speed, attack, and the like (see Table 1 for an example). I was careful in my descriptions to focus on what I could observe and see rather than what I thought the movement meant. Often in the observation of bodies and space, attention is focused on literal and representational interpretations of what a body means (i.e., *the student has his head on the desk so he must be bored, the student is raising their hand so she must have a question*). Even in description of a students' movements in relationship or response to their peers, the language of the description focused on the body, action, space, time, and energy rather than on any inferences I might make about what that movement meant. While inferences and interpretations are a valuable part of analytic processes, in these opening stages of re-observation my goal was to re-see movement in the context of meaning making.

Table 1

Example of descriptive language from video re-observation

Student	Individual	Group
Darcy	D leans forward on her elbows, legs tucked up. Her body faces forward. D raises her hand slowly, opening and closing her palm. Her movements are small and close to her body. She sits all the way down in her chair, her head barely clears the table. She pops up to stand, hands on the table before leaning back on her arms.	D leans forward toward C and B. D raises her hand and sweeps her attention across the group, landing on G and A. She sits all the way down, lowering herself well below her peers' eye level. She tilts her head back to look at the speaker. She stands as another group comes by, and then leans back down close to the table, centering on the middle of the group.
Elizabeth	E sits straight in her chair, arms resting on the table. She bounces periodically, arching as she laughs. She shoulders raise to her ears and relax back down. She does not raise her hands but taps her fingers lightly on the table. She shifts her weight quickly back and forth on her seat. She quickly and quietly lifts her	E focuses her face and eyes toward her peers. She does not raise her hand when others do. She continues to shift her weight, until at one moment, C and A lean in towards her. She lifts her thumb subtly towards D, who stands. *(She has voted D president)*. She sits very tall, and then points her thumb again

Table 1 (cont'd)

forearm, pointing with her thumb. She sits tall straight and still, pointing with her thumb again.	towards D, this time lifting her whole arm off the table.

After the practice of describing and naming, I also highlighted descriptive movements that were aesthetically meaningful. In some cases, it was because the movement was surprising, unusual, in opposition to others, energetic, still, heavy, light, recognizable, or intentionally communicative. Highlighting these moments made it possible to return to the places where action moved beyond the pedestrian mundane. From these descriptions I was also able to begin identifying and organizing movement themes, such as the pattern of students' levels, their use of pathways and direction, the variation in time and energy of their actions, the direction of gesture. These re-observations of video data became the groundwork for the development of choreography.

Building Phrases

Through the iterative process of reviewing observation memos written at the time of the study and of re-observation of video data, I had developed a strong theoretical understanding of the movement attributes of particular students as well as the ways bodies, ideas, and actions moved through, around, and within the space of their collaborative group and the classroom as a whole. The next step was then to apply theoretical knowledge practically through a series of movement studies. I began building movement phrases by creating individual translations of each students' movement for the first pivotal moment video clip. I developed seven total movement phrases that were each approximately four eight-counts in length. In this initial series of movement phrases, I worked to hone my skill at replicating the shape, action, direction, focus, speed, duration, tempo, accent, weight, and force of students' movements across a series of a

minute. For example, the movements of Alice were sharp, syncopated and fast compared to those of Cato or Ben. This series of movement phrases most closely mirrored the practice of transcribing verbal language into written text or transposing aural sound into musical notes. The purpose of this kind of transcription was to describe the movement of students in my body while attending to the aesthetic practices of dance. Of course, no one can become the body of another or directly replicate the movement of others, part of the work of a dancer is to closely examine and create with body, action, space, time, and energy.

In addition to building phrases by studying the movements of individual students, I also developed phrases through the examination of movement themes across students. For example, by exploring students' different uses of levels throughout their collaborative process, I developed movement phrases that identified and adapted level use, from standing tall in front of the chair to sitting low with a chin propped on the table. Additional movement phrases were developed by analyzing students' uses of energy, rhythmic patterns, space, and pathways, for example. These movement phrases were developed across students and pivotal moments. While attention was still paid to the aesthetics of the body and space, the movement phrases in this case were not a direct translation of any one student but were rather representative of movement themes across students and across time.

Movement phrases were also developed based on the space, action, and energy of ideas. Though less visually obvious because ideas have no corporeal form, the pathway of an idea can still be identified as it moves from person to person to material to person, and so on. Additionally, the speed and rhythm of ideas can also be seen as some ideas move through the collaboration very quickly and others move more slowly through the meaning-making process. While movement phrases developed around ideas did not replicate the shape or action of the

body the way other phrases did, there was still embodied movement to explore on the part of the dancer.

Figure 3.

Movement memo of building phrases

Movement Memo: In Section 2, I am trying to explore the pathways of particular people around the table. Before I was showing flow of ideas across space, but in Section 2, I want to show flow of bodies around ideas if that makes sense.

The middle of Section 2 is still a little messy. I may have too many ideas packed in at one time. ----
In order to choreograph Section 3, I re-watched the four CCMME videos, focusing my attention on student gestures that called for attention or communicated directly.

As I watched the videos, I pulled gestures and put them together into gesture strings (I don't love this). While some students gesture more than others, I tried to make sure that I had gestures representative of each student included.

Once I had three gesture strings, I experimented with how they fit together in the space - including the two chairs and table from yesterday).

Organizing Ideas

As a choreographer, I had a number of choices I could make about the organization of movement phrases into a cohesive unit. I could organize ideas by student, theme, or chronological order. Just as in any piece of writing or storytelling, decisions about the organization of the piece stemmed from the narrative envisioned by the choreographer. In this performance piece, I organized the movement phrases into four sections (see Table 2). While each section is linked to a thematic series representative of the students' embodied experiences broadly, the order of sections is also indicative of the transition of ideas over the course of the collaboration. Part I introduces the movements of students of ideas much the same way that students initially articulated their ideas to the group at the beginning of each CCMME. Sections II and III of the dance explore the different ways that students engaged energy, level, and gesture

to share ideas, deliberate their meaning, and come to a consensus or shared understanding. Sections III and IV of the choreography explore the different movement practices of students and ideas as collaboration reached its ultimate consensus and conclusion.

Similarly, the organization of the performance narrative (the words that I say out loud as I am dancing) is intentional in its use of repetition to signal to the audience that a new section is beginning in the dance though no formal pause is occurring (i.e. *Seven students sit around a table, collaborating*). A similar use of repetition and adaptation of question is used in the performance to frame the inquiry for the audience as they observing the dance unfold (i.e. *Where do…, How do…*). These structural clues have been thoughtfully included as signposts for the audience in order to frame the view of the audience with attempting to do the challenging interpretive work for them.

Table 2

Performance narrative

Sect.	Theme	Narrative
I	Introduction to moving students & moving ideas	Seven students sit around a table, collaborating: Alice, Ben, Cato, Darcy, Elizabeth, Fletcher, and Gwen. Where do their ideas go? How do their ideas move?
II	Pathways & levels	Seven students sit around a table, collaborating. Where do their bodies go? How do their bodies move?

Table 2 (cont'd)

III	Energy & gesture	Seven students sit around a table, collaborating.
		How do their bodies speak? How do their bodies decide?
IV	Pathways & space	Seven students sit around a table, collaborating.
		Where did their ideas go? How did their ideas move?

Experimenting, Building, Drafting, Revising, Adapting, and Moving

The process of any creative work, whether dance or another art form, is an inherently complex process (Mace & Ward, 2002). While there is an overarching series of progress steps (i.e., *gathering information, formulating ideas, drafting, revising, gathering feedback, etc.*), the creation of art is often a convoluted and iterative process. Throughout the process of developing each movement section, I relied upon the individual, thematic, and figurative movement phrases, which I had drafted in the initial stages of my choreography. Over time, those phrases morphed and adapted to fit the aesthetic needs of the piece as a whole while still maintaining an accurate reflection of the collaborative work of the students. In some cases, movement phrases were shortened or truncated. In others, multiple movement phrases were collapsed into one.

The most taxing revisions came from breaking phrases apart and moving them within other phrases. At times during the development of choreography, it becomes clear that a particular series of movements, while important to the piece as a whole, are not organized effectively for the purposes of the narrative. Just as an author may cut a section of text and then paste it into a more appropriate paragraph, so too must choreographers find ways to cut out and shift movement. The challenge arises in that the movement text is held in the

choreographer/dancer's mind and body and, therefore, cannot be easily shifted through the simple means of a keystroke command. Especially when a dancer is working both as choreographer and performer, the transition of movement to a new 'position' can be cumbersome and challenging.

Figure 4.

Movement memo of experimenting, building, drafting, revising, adapting, and moving

Movement Memo: In Section 1, I started with the movement phrases I developed from the student "introduction" phrases. I broke them down into smaller pieces, and I moved them up on the table. I put them up on the table because the collaboration is happening in the center-point. The students may be in their seats, but the action and the ideas are being read across the center of the group.

Revisions for Section 3 included a reworking of the culminating conflict between G, C, and A. This is the section that explores the theme of movement manipulation where one student would actively drive the action of another student through placing their hands on the body of another. I was not happy with the way it bled into the previous section, which highlighted the conflict/meaningful gesture between F and E. Because this was the case, I added a beat to the end of the meaningful gesture section, and then I added a transition of idea to show that the group was coming to the end of their collaboration - they had a shared idea on the floor. From there, I added a sharp contrast from idea to dissenting body, finishing Section 3 with the manipulated agreement of the final student G.

Documenting and Rehearsing

The development and maintenance of dance over time presents its own series of challenges. Without constant and consistent review, movements held primarily in the mind and body can start to lose their sharp focus and practiced edge. In order to continue building productively upon the work of my dance as ABER project, I prioritized consistent rehearsals over the course of drafting and developing the piece. Every two days, I would find a rehearsal space (including my kitchen and a friend's living room) to review what I had created so far and to continue developing and expanding the narrative of the performance piece. In this project, I

found the most success in rehearsing the work chronologically, beginning with Part I and working through Part IV. Each section took the span of one 60-120-minute rehearsal.

Additionally, I would conclude each rehearsal by turning on the video camera and recording each new section twice. Even if the first run-through of the section went well, I would still pause, reset, and repeat. By having at least two runs of each section by the end of rehearsal, I had multiple checkpoints where I could go back, reflect, compare, contrast, and re-think through the development of phrases. Knowing there would be a second run through also lifted the pressure and performance anxiety (even if I was the only person there) that I am prone to feel as a mover occupying public (i.e., recorded) space.

For me, recording the progress of my rehearsals with a video camera was the best way for me to continue building over time. I would position my camera that the 'front' of the rehearsal space, though most of the dance occurs cyclically or in profile. Other dancers may prefer to record movement phrases from the 'back' of the rehearsal space so that they can review and practice without having to mirror. As I discovered in my data generation, having multiple cameras recording from juxtaposing viewpoints can be the most helpful in capturing the nuance of movement from more than one angle.

Additionally, I documented rehearsals and choreography through the use of memo writing. After recording the day's work with a video camera, I would sit and reflect on my computer, highlighting the decisions I had made, the challenges I faced, and the work I had done to address those challenges. Most importantly in the memo writing was the opportunity to track my thinking over time - to see where and when I had made particular decisions - so that I could continue thoughtfully revising, adjusting, and adapting material over time. Others may choose to capture the development of movement graphically, such as through Labanotation (Hutchinson,

1977), which is another means for more concretely fixing movement into a stable, replicable form.

Figure 5.

Movement memo of documenting and rehearsing

Movement Memo: Tonight, I mapped out the pathways of Section 4 before tomorrow's rehearsal. I looked back through the videos, CCMME 1-4, and I mapped onto paper the pathways of each student and the center-point of each pivotal moment.

I split each paper into a storyboard by CCMME and then added blocks for each pivotal moment within the CCMME. I then drew the series of desks/tables into each block.

I started at the beginning of each PM video by labeling where each student started. As I watched the video, I drew arrows for each student as they moved around the room in sequence from the beginning of the PM to the end of the PM.

Today was the first rehearsal in the performance space. X came to watch. The first run of the piece was particularly challenging because the tables that we had put together in the center were actually on wheels. Much of the performance piece moves on or across the tables, and so throughout my performance I was having to speed up, slow down, or add additional shifts to my weight because the tables were shifting underneath me. It was precarious to say the least - certainly not ideal. The first run was additionally challenging because the height of the tables in relation to the height of the chairs was different then when I choreographed the piece. Now the top of the tables was higher than the seat of the chairs rather than flush. This required that I adapt the facing of chairs and the way they were pushed in and out from the table. At one point, I lay on the seat of the chair and put my feet up in the air. I had to drastically change the facing of the chair so I wouldn't hit my head on the table.

Responding to Feedback

A critical step in creative work is the opportunity to elicit and respond to feedback. For some, feedback may be as informal as inviting a friend to a rehearsal. For others, it may include scheduling a formal work-in-progress showcase with an audience and established protocol for reflection and feedback. For most, creating a dance involves combinations of both.

Throughout the beginning stages of choreography, feedback can take the form of responding to the questions and concerns of the dancers presenting the work. For dancers

working as choreographers/performers, feedback can take the form of reviewing rehearsal footage and responding to areas of concern (i.e. unwieldy transitions, gestures lacking clarity, etc.). As the dance comes to life, that feedback can then take a series of more formal forms. In the case of this dance as research project, I began by offering and responding to my own feedback through the review of my memos, the revision of my narrative text and written overview, the review of rehearsal videos, and the continued re-observation of my classroom data.

As the work progressed to a more completed piece, I began to schedule rehearsals in the performance space (rather than the kitchen or living room) where I could invite colleagues or small groups of friends to watch and respond to my work. These opportunities for individualized feedback from a small group of colleagues committed to my success became critical from transitioning the work from my own conceptualization of the project to a work that was generating meaning from others. In these informal settings, conversations were grounded in my colleagues expressing moments that caught their attention, confused them, and/or surprised them, which ultimately lead to a dialogue about what they felt those moments meant. This feedback became crucial to my ability to make decisions for revision (i.e., Is that what I thought would stand out? Is that what I was thinking when I developed that phrase? Is there a miscommunication here?).

Finally, formal opportunities for feedback can be pursued through work-in-progress workshops. At this time, I invited a group of individuals to come together to the performance space to view and respond to a work - knowing that it is a work in progress and that the purpose of the performance is to share and discuss on behalf of the choreographer and dancers. In the case of this project, work-in-progress workshops were conducted using Liz Lerman's *Critical Response Process* as a guiding frame, which includes (1) statements of meaning; (2) artist as a

questioner; (3) neutral questions from responders; and (4) permissioned opinions (Lerman &

Borstel, 2003, p. 28). This four-step process is particularly generative for receiving and

responding to feedback on dance as research projects because it takes the emphasis off of the

'goodness' or 'badness' of the dance and focuses instead on the communicative practices of the

piece. In responding to works of art, it can be easy to fixate so much on the personal effect of

'good' or 'bad' that it becomes challenging to shift the lens to the work itself. Lerman and

Borstel (2003) provide useful guidelines for framing the discussion, both for the artist and

audience, as a generative dialogue rather than as an arbitrary collection of opinions.

Figure 6.

Movement memo of responding to feedback

Movement Memo: X had great feedback for me to think about. Here are a couple of the highlights:

The strength of my body - my posture, my face, my stance with feet apart and shoulders back - lead X to the conclusion that I was a teacher, or at least shifting between teacher and student. This is important for me to find out because I am <u>not</u> a teacher at any point during the dance - but the students were certainly mimicking movement phrases and gestures that are identifiable as 'authoritarian.'

My movement phrases in general look and feel very adult. X suggested finding ways to adapt my posture and dress to be more representative of children - especially since this project is about the collaboration of 5th graders and I am (physically, anyway) an adult. I could also be using my posture and expression to better differentiate between students participating in the collaboration.

Reflecting and Finding the Whole

Reflection is a critical component of the creative process, beginning immediately with the

conception of the project and continuing all the way through sharing or publishing a work. In this

project, reflection became an important tool for envisioning revision. As a dancer taking on the

role of choreographer and performer, I was faced with the particular challenge of enacting the art

as the dancer, rather than seeing or experiencing the art on the body of another person. To this end, reflection - the time to sit or walk quietly and think about the work as it existed thus far - became critical. To facilitate reflection, I relied heavily upon memo-writing to document, not just what I had done or my rationale for doing so, but also the ways I was thinking about the work as a whole. How were the movement phrases speaking to each other? Which gestures were being emphasized by the use of my body and energy? Which narrative moments felt overlooked or lost in the active shuffle? Protecting time in and out of rehearsal for reflection supported my inquiry and the development of a performance piece that was a cohesive whole rather than a series of movements strung together through time.

Reflection and memo writing also provided the opportunity to respond to feedback and to prepare a plan for the next steps of the following rehearsal. As seen in the movement memo below, part of reflecting meant thinking forward to anticipate what would happen next. In order to continue working towards a cohesive piece of art, the reflection and planning for revision provided the opportunity to examine parts of the dance were 'not working' and then prepare an agenda, draft ideas, think through potential revisions for re-working problematic areas of the dance. It is easy to overlook these moments of reflection and preparation because they are often not tied to any movement at all, other than potentially the tapping of fingers on keys, the scratching of pencil on paper, or even the tracking eyes watching cars drive past in the street. The work that happens when the body is still, the potential energy building for the future, is just as important for creating a complete work of art as the kinetic energy transferred in rehearsal. While binary thinking often associates stillness with absence, this is not the case in embodiment. Stillness and silence are equally valued affects of communicative and meaning making processes.

Figure 7.

Movement memo of reflecting and finding the whole

Movement Memo: Just had a thought, at the end when I stand up and hold the paper to the center, I should walk a lap around the table, holding the paper in the center so that everyone has a chance to see it. Then I should stop, do a 180 pivot and work my way through Grace's final scene where her head and hands are manipulated. That may be clearer for showing the way she was physically asked to give in to the final decision of the group.

I need to watch each of the videos again to identify for each student a "stillness" or a "resting place." In other words, when students are still/resting/paused in their collaborative efforts, whether sitting or standing, what does it look like? What is the shape and pattern of their body? By identifying a "resting place" for each student, just as I developed a thematic movement phrase for each of them, I can revise my own movements of stillness to better reflect the stillness of the students. I can also use the resting place as an act of body to better show transition between students and ownership of movement phrases. I believe this revision would ultimately blur the line between my adult dancer body and the movement phrases of the participating youth.

I am going to add a third chair to the table, specifically for G. There are a couple of moments of stillness that are specific to G that currently aren't reading well because she does not have her own designated location in space. This is part of the problem with the shape of the tables in the rehearsal space as opposed to the shape of the tables in the actual collaboration. They are not an exact match.

Analytic Challenges, Affordances, and Ways to Rethink

Analyzing data through dance as an ABER methodology presents its own unique challenges, affordances, and opportunities to rethink methodological techniques and values. Creativity is messy, and messiness is not always highly valued in research settings. Movement studies are messy, sometimes feeling impractical and imprecise, other times feeling cogent and insightful. A shared tenant of arts-based research is the idea that art is challenging and unpredictable, which presents unique opportunities for researchers interested in diving into the unexpected.

Experimenting with dance as an analytic technique raised as many questions about art and research as it did answer lines of inquiry. I do not necessarily see the questions that I've

asked myself over the course of analysis as flaws, but rather as opportunities to re-think and to imagine next steps for dance as an ABER research methodology. What other kinds of data could I have collected that would support my analytic process? Are there other angles, sounds, perspectives that I haven't thought about or that might have remained hidden from view? Where else can I explore and experiment with language that is thick enough and descriptive enough to meaningfully articulate the work of the body? In what other ways could language and text support and challenge the analytic body at work? How and when would the addition of moving collaborators support and challenge the analytic body at work? Asking questions and probing the periphery is an affordance of art as well as an opportunity to rethink the structures consciously and unconsciously used to shape narrative and answer questions.

Figure 8.

Movement memo of analytic challenges, affordances, and ways to rethink

---

Movement Memo: I was trapped in the world of literal replication. I was also developing the phrases based on the order in which they showed up in the video, and because I'm only seeing them on myself (which means not really seeing them at all), it's much harder to think about how to reorder and remix them in a way that might be more meaningful.

On the other hand, today felt harder because in the video there are much more deliberate connections between the gestures. Like, when the gestures held direct meaning, it was much more challenging to connect that meaning to the empty space around me, and to put those meanings in places that made sense for some sort of narrative or thematic arc.

And then, I thought about how those gestures communicated ideas from one participant to another. This part was more challenging because there were gestures that had very specific and intentional meaning behind them, and I wanted to be thoughtful about how they fit into the big picture of the gesture strings. But this also wasn't easy to do because the communicative gestures are rather authoritarian, and I also don't want my audience to get the idea that the students were only working in ways that were controlling - because that's not really true either.

Sharing and Evaluating Dance as ABER

Sharing the Work

Special considerations must be made for how, when, and where to share dance as an ABER project. Performing bodies have not always fit easily into current structures for presenting and publishing work in educational academia. Conference presentations and journal manuscripts rarely provide room, literally or figuratively, for movement-based studies. Conference presentations often take place in lecture halls with a table or podium and screen are placed in the front for speakers and chairs are neatly aligned in rows for the audience. However, as technology and expertise change over time, venues for sharing research and inquiry adapt as well. The twenty-first century has brought with it increasingly advanced opportunities for utilizing technology to capture and share movement studies (Spatz, 2015). With forethought, creativity, and adaptability, researchers sharing dance as ABER have the opportunity to share their work across a range of stakeholders.

Opportunities for Performance

A key component of sharing dance is the act of performance. Dance performance opportunities abound for those interested in sharing their artwork, including work-in-progress showcases, formal performances, and contributions to a performance series. Venues for performance, especially those tied to education spaces, can include, but are not limited to, theaters, green space, gymnasiums, and classrooms, each of which present their own affordances and challenges. Presenters of dance as ABER may find educational spaces to be especially fruitful venues for sharing their work, as schools often include venues for sharing such as auditoriums, cafeterias, gymnasiums, and classrooms themselves. Performance of dance as ABER also has opportunity for sharing through conference presentations and invited lectures,

80

which provide the opportunity to not only perform the artwork, but also to share and explain the analytic and conceptual work happening behind the scenes of the performance art. Consideration should be made for video recording performances of dance as ABER research. Is the live performance an appropriate venue for recording the work? If so, where should the cameras be placed and how will the footage be used afterward? Thinking carefully through opportunities for the using technology to capture performance can be helpful in preparing for sharing and publication.

Opportunities for Publication

Opportunities for publishing embodied research are growing thanks to the development of technology rich modalities and the increased visibility of performative inquiry practices (Spatz, 2015). Video recordings of live performances or of studio-recorded performance pieces can be shared directly in research manuscripts through embedded QR codes or links to platforms such as Youtube or Vimeo. Additionally, some journals, such as the *Journal of Language and Literacy Education, Art/Research International: A Transdisciplinary Journal, Video Journal of Education and Pedagogy,* and *International Journal of Education & the Arts*, offer direct publication of recorded video, which could include video-recorded dance performances. While there are opportunities to share full length performance video, there are also techniques for sharing video clips within manuscripts. For example, GIFs, short, repeating video clips, can be embedded directly into manuscripts with the use of Adobe Acrobat or InDesign. Dancer-researchers can utilize online video editing software to create GIFs, such as GIFBrewery. Certainly, this is not a comprehensive list of techniques for sharing dance as research; however, it is encouraging to find a range of venues and technologies designed for developing and sharing embodied research texts.

Responsible Sharing

When thinking about how and when dance as ABER methodology can be presented and shared, researchers should, as with any publication of findings, consider the ethics of their selected strategy. Depending on the relationship between the dance, researcher, and participants, there are particular considerations for responsible sharing. As the researcher and sole performer of this particular dance as ABER project, there is little risk for my participants from the island of Greynel. My choreography is neither a direct representation of their embodied experience nor is there any recognizable or identifiable information presented in the performance of the project. The performance of this project does not include any video of the student participants, and the audio being utilized as accompaniment is also a recording of the researcher.

However, it may certainly be the case that researchers are interested in collaborating, choreographing, and performing with participants, including children and teachers from the classroom, or with a performing artist. In this case, performance and sharing should be negotiated with the participants. The choreographic inquiry process of Liz Lerman (2014), while not specific to education, is a prime example for the variety of ways that dance can be generated through participation with professional and pedestrian performers alike. Guiding questions may include: In what venue will you share your work? With whom will you share your work? Are they interested in moving the work beyond performance to publication? Are you comfortable being identified within the work? To what extent? Of additional importance is considering how and when participants are given credit for their collaborative efforts in the work: Are they listed as choreographers or dancers? Are they cited or included in publication as collaborators? Are they, especially in the case of collaborating professional artists, receiving compensation for their work? In particular, Cahnmann-Taylor and Siegesmund (2018) stress the importance of utilizing

and appropriately compensating professional artists in endeavors to create aesthetic education research.

Evaluating the Work

One of the challenges of ABER methodologies is evaluation. Arts-based research is particularly challenging to codify and evaluate because it is framed both as a piece of art and as a piece of science. Because of this, it can be challenging to find the balance between two fields, art and science, which can feel at conflict with each other (Barone & Eisner, 2011; Cahnmann-Taylor & Siegesmund, 2018; Leavy, 2015). Educational research in the social sciences have developed very clear guidelines for systematic and rigorous analysis, which can be seen in the "Standards for Reporting on Empirical Social Science Research" developed by the *American Educational Research Association* (2006). These standards were designed to "provide guidance about the kinds of information essential to understanding both the nature of the research and the importance of the results" (p. 33). While the "Standards for Reporting on Humanities-Oriented Research" (American Educational Research Association, 2009) also state that "the term *standards* is understood to be sufficiently broad to encompass the kind of flexibility and judgement in application that evaluating humanities-oriented research requires" (p. 481), it can pose a challenge to arts-based researchers in general and dancers in particular to find the kinds of standards and guidelines that are accessible and reflective of the work at hand. In particular, the AERA standards (2009) reflect that humanities-oriented research "often looks to the overlapping and dialogic qualities between what is studied and the conceptual categories implicitly or explicitly guiding the study" (p. 483). These sorts of key differences between the conceptualization, implementation, and reporting of social science versus humanities-oriented

and art-based research can pose evaluative challenges, especially for burgeoning methodologies, such as dance as ABER.

Defining Analytic Quality

According to the AERA standards (2009), the expectations for implementing and reporting humanities-oriented research are not dissimilar to those for social science research. While the standards problematize the complexity of evaluating humanities-oriented research, the foundation of evaluation is the same. Like social science research, humanities-oriented research is required to make a significant claim, clearly articulate the methodological and conceptual framing of the project and substantiate claims credibly with warrants drawn from scholarly literature, empirical evidence, and other critical and intellectual resources. In the case of dance as ABER methodology, a researcher faces similar hurdles for developing, implementing, and reporting their work. Does the work make a relevant or necessary claim? Does the work make clear how the project was conceptualized and implemented through the rigorous application of theory and practice? While these are all questions that researchers are used to considering, the challenge remains that there are currently few models from which to cull guidance and inspiration, and there are currently few journals and reviewers who can comfortably evaluate the empirical rigor of a dance as ABER work of art.

Defining Aesthetic Quality

While researchers are experienced in meeting the standards for empirical research, ABER scholars must also consider the aesthetic quality in their work. As Blumenfeld-Jones (2008) states, "the insights discovered through the practice of dance as an art form are only available through that practice, and the practice focuses on making art, not on coming to understand. To consider using dance as a primary mode of research, persons must first develop themselves as

artists, understanding that the practice of art is, in many ways, no different from the practice of research" (p. 184). Bagley and Cancienne (2002) shared the challenge of their first foray into dance as ABER, which resulted in a poor-quality performance they felt was undermining and "trivializing" dance as an art form (p. 4). As Snowber (2002) writes about her own dance as research, while all persons experience their lives through their bodies, "to take intuition into action, one needs practice" (p. 28). In other words, the quality of dance, much like that of writing, is "developed, honed, and refined" through practice (Snowber, 2002, p. 28). Having you done the work of an artist, or elicited the support of a practicing artist?

The field of dance and movement studies provide tools for reflecting upon and evaluating dance as a work of art. Lavender (2003), for example, explains the value of artwork as "the *way* in which it rewards attention and the *kind* of reward it offers," which underlies the fact that artwork is intentional - that it is "the result of an intelligent activity of making that usually includes experimentation, decision-making, skilled crafting, revision, and almost always a bit of luck (p. 225). For Preston-Dunlop (2006), the quality of a dance piece is partly a consequence of its structure: how elements of movement build upon or juxtapose each other, how gestures build to moments, to scenes, to complete pieces, and how well the structure carries meaning. A critical step in developing and evaluating performance artwork is through presenting and responding to feedback. While acquiring feedback from an audience can be a daunting task for any presenter of performance art, there are helpful feedback structures available, such as Liz Lerman's Critical Response Process (Lerman & Borstel, 2003), which provide tools for facilitating meaningful discussion around dance inquiry.

Discussion

Challenges and Affordances of Dance as ABER Methodology

As with any research methodology, there are affordances and challenges associated with dance as ABER. On the one hand, dance as research is a powerful technique for developing new perspectives and sharing meaning in a way that honors the questions (i.e. bodies sharing our understanding of bodies), especially in classroom contexts where bodies often go overlooked for the sake of linguistic and text-based markers for learning. Additionally, dance as research provides opportunities to value additional ways of knowing through expanding definitions of language, text, and communicative practices in classroom contexts.

Challenges of dance as ABER include the difficulties of getting started in a new and unfamiliar research paradigm. For many researchers, the energy required to generate momentum in a dance research project may feel insurmountable because dance as inquiry requires ability to ask and answer questions both as a scientist and an artist. While many researchers live each day within the halls of the academy, an appropriate first step for dance as inquiry may be to identify and participate in dance technique classes. In the United States, there are many opportunities for adults to take beginning dance classes with professional teaching artists, which may be a critical first step for explicitly remembering what if feels like to learn in the body. Once those first steps have been taken, then a researcher can continue to build their repertoire between art and science, while honing the skills for sharing the work.

Opportunities for Investigating Classroom Bodies and Space

Currently, there is a real need for education communities to enter a more nuanced understanding of bodies and space in classroom contexts. Education researchers have the opportunity to reanalyze the relationship between the body and critical classroom values, such as

classroom management, disciplinary practices, embodied knowledge and learning, and embodied language and literacy. Currently, bodies and space take a secondary position to oral and written language. Often, bodies are not recognized by teachers, students, or researchers as a viable way to produce and explain knowledge. Even when bodies are included, they are often relegated to secondary positions in favor of language and text-production. Given all that a body can do, it is critical that researchers expand their repertoire to better ask and answer questions of the body in the classroom (see Appendix A for guiding questions in building a dance inquiry and Appendix B for additional reading and models of dance as arts-based education research).

While qualitative and quantitative research methods are valuable tools for asking and answering nuanced questions about the classroom, they are not necessarily designed to be an ideal fit for closely examining the complexity of bodies and space in education spaces. In order to center attention upon classroom bodies and ask critical questions about the role they play in education spaces, the research community would do well to turn to and develop dance as an ABER methodology. Through dance as inquiry, researchers can develop the capacity for generating, analyzing, and sharing body-based data in addition to opportunities to collaborate and perform with various stakeholders, including teachers, students, and performing artists.

APPENDICES

APPENDIX A. Next steps for dance as arts-based education research

Research step	Guiding questions
Form a line of inquiry	• Did you as a question driven by your conceptual understanding of a problem? • Did you ask a question that is best answered with movement-based tools (body, action, space, time, and energy)?
Generate data	• Did you systematically generate data that will answer your question? • Did you generate data that attunes to aesthetic understandings of perception and reflection with room for improvisation and responsiveness to unique situations?
Analyze data	• Have you systematically and thoroughly reviewed your data utilizing a range of linguistic and embodied techniques? • Did you thoughtfully engage your participant community in understanding the phenomena evoked through your work? • Have you elicited feedback from the arts community to drive reflection, revision, and development of the art?
Share data	• Have you systematically and thoroughly recorded your analytic process in order to make a coherent and valid argument for your art and its findings? • Have you engaged your participants and arts communities in accessible options for publicly sharing your art? • Have you made arrangements to produce high-quality recordings of your art that can be shared with the broader community?

Identify and respond to stakeholders	• Have you engaged the insight of various stakeholders?
	  o Participants (students, teachers, etc.)
	  o Colleagues (academics, dancers, teachers, etc.)
	  o Professionals (academics, artists, teachers, administrators)
	  o Public (audience, readers, viewers, etc.)
	• Have you elicited and responded to the needs of various stakeholders? This could include:
	  o Workshops for revising, reflecting upon, and adapting your art
	  o Building arguments and counterarguments for valuing and reflecting upon your art
	  o Providing scaffolded opportunities for reflection with various stakeholders (whether or not they are new to evaluating, critiquing, and responding to art and science)

APPENDIX B. Additional reading and models for dance as arts-based education research

Additional reading and models

Apol, L. & Kambour, T. (1999). Telling stories through writing and dance: An intergenerational project. *Language Arts, 77*(2), 106-117.

Bagley, C., & Cancienne, M. B. (Eds.). (2002). *Dancing the data.* Peter Lang.

Blumenfeld-Jones, D. S. (1995). Dance as a mode of research representation. *Qualitative Inquiry, 4*(1), 391-401.

Bresler, L. (Ed.) (2004). *Knowing bodies, moving minds: Towards embodied teaching and learning.* Kluwer Academic Publishers.

Cancienne, M. B. (1999). The gender gaze: Rethinking gender through performance. *Journal of Curriculum Theorizing, 15*(2), 167-175.

Cancienne, M. B. (2007). The soul moves: Dance and spirituality in educative practice. In *International Handbook of Research in Arts Education (vol 16).* Springer, pp. 1449-1458.

Cancienne, M. B., & Megibow, A. (2001). The story of Anne: Movement as an educative text. *Journal of Curriculum Theory, 17*(2), 61-72.

Davenport, D. R., & Forbes, C. A. (1997). Writing movement/dancing words: A collaborative pedagogy. *Education, 118*(2), 293-303.

Liamputtong, P., & Rumbold, J. (Eds.) (2008). *Knowing differently: Arts-based and collaborative research*. Nova Science Publishers.

Markula, P., & Denison, J. (2000). See spot run: Movement as an object of textual analysis. *Qualitative Inquiry, 6*(3), 406-431.

Snowber, C. N. (2012). Dancing a curriculum of hope: Cultivating passion as an embodied inquiry. *Journal of Curriculum Theorizing, 28*(2), 118-125.

Snowber (Schroeder), C., & Gerofsky, S. (1998). Beyond the span of my limbs: Gesture, number and infinity. *Journal of Curriculum Theorizing, 15*(2), 39-48.

Spry, T. (2001). Performing autoethnography: An embodied methodological praxis. *Qualitative Inquiry, 7*(6), 706-732.

Stinson, S. (1995). Body of knowledge. *Educational Theory, 45*(1), 43-54.

Stinson, S. W., & Dils, A. H. (2007). Dance and qualitative research. In L. Givens (Ed.) *The Sage Encyclopedia of Qualitative Research Methods*. Sage Publications.

REFERENCES

REFERENCES

Aldis, D., Muench, G., & Fasteneau, A. (2018, September). *The elements of dance: Graphic organizer*. The Elements of Dance. https://www.elementsofdance.org/begin-here.html

Alerby, E., Hagström, E., & Westman, S. (2014). The embodied classroom—A phenomenological discussion of the body and the room. *Journal of Pedagogy*, *5*(1), 11–23. https://doi.org/10.2478/jped-2014-0001

Almquist, J., & Quennerstedt, M. (2015). Is there (any)body in science education? *Interchange*, *46*(1), 439–453. https://doi.org/10.1007/s10780-015-9264-4

American Educational Research Association. (2006). Standards for reporting empirical social science research in AERA publications. *Educational Researcher*, *35*(6), 33–40.

American Educational Research Association. (2009). Standards for reporting humanities-oriented research in AERA publications. *Educational Researcher*, *38*(6), 481–486.

Andersson, J., & Risberg, J. (2018). Embodying teaching: A body pedagogic study of a teacher's movement rythm in the "sloyd" classroom. *Interchange*, *49*(1), 179–204. https://doi.org/10.1007/s10780-018-9321-x

Apol, L., & Kambour, T. (1999). Telling stories through writing and dance: An intergenerational project. *Language Arts*, *77*(2), 106–117.

Bagley, C., & Cancienne, M. B. (2002). Educational research and intertextual forms of (re)presentation: The case for dancing the data. In C. Bagley & M. B. Cancienne (Eds.), *Dancing the data* (pp. 3–19). Peter Lang Publishing.

Barone, T., & Eisner, E. W. (2011). *Arts based research*. Sage.

Blumenfeld-Jones, D. (1995). Dance as a mode of research representation. *Qualitative Inquiry*, *4*(1), 391–401.

Blumenfeld-Jones, D. (2008). Dance, choreography, and social science research. In J. G. Knowles & A. L. Cole (Eds.), *Handbooks of the Arts in Qualitative Research* (pp. 175–184). Sage Publications.

Bresler, L. (Ed.). (2004). *Knowing bodies, moving minds: Towards embodied teaching and learning*. Kluwer Academic Publishers.

Buchholz, B. A. (2015). Drama as serious (and not so serious) business: Critical play, generative conflicts, and moving bodies in a 1:1 classroom. *Language Arts*, *93*(1), 7–24.

Cahnmann-Taylor, M., & Siegesmund, R. (Eds.). (2018). *Arts-based research in education* (2nd ed.). Routledge.

Cancienne, M. B. (1999). The gender gaze: Rethinking gender through performance. *Journal of Curriculum Theorizing*, *15*(2), 167–175.

Cancienne, M. B. (2007). The soul moves: Dance and spirituality in educative practice. In *International Handbook of Research in Arts Education* (Vol. 16, pp. 61–72). Springer.

Cancienne, M. B., & Megibow, A. (2001). The story of Anne: Movement as an educative text. *Journal of Curriculum Theory*, *17*(2), 61–72.

Cancienne, M. B., & Snowber, C. (2003). Writing rhythm: Movement as method. *Qualitative Inquiry*, *9*(2), 237–253.

Davenport, D. R., & Forbes, C. A. (1997). Writing movement/dancing words: A collaborative pedagogy. *Education*, *118*(2), 293–303.

Duncum, P. (1999). The semiotics of children's bodies as found in popular media. *Arts and Learning Research Journal*, *16*(1), 78–81.

Ellingson, L. L. (2017). *Embodiment in qualitative research*. Taylor & Francis.

Farnell, B. (1999). Moving bodies, acting selves. *Annual Review of Anthropology, 28*(1), 341-373.

Franklin-Phipps, A. (2017). Entangled bodies: Black girls becoming-molecular. *Cultural Studies - Critical Methodologies*, *17*(5), 384–391. https://doi.org/10.1177/1532708616674993

Franks, A., & Jewitt, C. (2001). The meaning of action in learning and teaching. *British Educational Research Journal*, *27*(2), 201–218. https://doi.org/10.1080/01411920120037144

Glesne, C. (2016). *Becoming qualitative researchers: An introduction* (5th ed.). Pearson.

Hahn, T. (2007). *Sensational knowledge: Embodying culture through Japanese dance*. Wesleyan University Press.

Hodkinson, P., Biesta, G., & James, D. (2008). Understanding learning culturally: Overcoming the dualism between social and invidivual views of learning. *Vocations and Learning*, *1*(1), 27–47. https://doi.org/10.1007/s12186-007-9001-y

Hutchinson, A. (1977). *Labanotation or Kinetography Laban: The system of analyzing and recording movement* (3rd, Revised ed.). Theatre Arts Books.

Kaeppler, A. L. (2000). II. Dance ethnology and anthropology of dance. *Dance Research Journal*, *32*(1), 116–125.

Kao, S. M., & O'Neill, C. (1998). *Words into worlds: Learning a second language through process drama*. Greenwood Publishing Group.

Katan-Schmid, E. (2016). *Embodied philosophy in dance: Gaga and Ohad Naharin's movement research*. Springer.

Latremouille, J. M. (2018). Silence, discipline, and student bodies. *Journal of the Candian Association for Curriculum Studies*, *16*(1), 53–69.

Lavender, L. (2003). The critical appreciation of dances. In J. Chazin-Bennahum (Ed.), *The living dance: An anthology of essays on movement and culture* (pp. 224–252). Kendall/Hunt Publishing Company.

Leavy, P. (2015). *Method meets art: Arts-based research practice*. Guilford Publications.

Lerman, L. (2014). *Hiking the horizontal: Field notes from a choreographer*. Wesleyan University Press.

Lerman, L., & Borstel, J. (2003). *Liz Lerman's critical response process: A method for getting useful feedback on anything you make, from dance to dessert* (1st ed.). Dance Exchange, Inc.

Liamputtong, P., & Rumbold, J. (Eds.). (2008). *Knowing differently: Arts-based and collaborative research*. Nova Science Publishers.

Liddicoat, A. J. (2011). *An introduction to conversation analysis* (2nd ed.). Continuum International Publishing Group.

Mace, M.-A., & Ward, T. (2002). Modeling the creative process: A grounded theory analysis of creativity in the domain of art making. *Creativity Research Journal*, *14*(2), 179–192.

Markula, P., & Denison, J. (2000). See spot run: Movement as an object of textual analysis. *Qualitative Inquiry*, *6*(3), 406–431.

Niccolini, A. D. (2016). Terror(ism) in the classroom: Censorship, affect and uncivil bodies. *International Journal of Qualitative Studies in Education, 29*(7), 893-910.

O'Neill, C. (1995). *Drama worlds: A framework for process drama*. Heinemann Drama.

Preston-Dunlop, V. (2006). *Looking at dances: A choreological perspective on choreography*. Verve Publishing.

Sklar, D. (2000). Reprise: On dance ethnography. *Dance Research Journal*, *32*(1), 70–77.

Snowber, C. (2002). Bodydance: Enfleshing soulful inquiry through improvisation. In C. Bagley & M. B. Cancienne (Eds.), *Dancing the data* (pp. 20–33). Peter Lang Publishing.

Snowber, C. N. (2012). Dancing a curriculum of hope: Cultivating passion as an embodied inquiry. *Journal of Curriculum Theorizing*, *28*(2), 118–125.

Snowber (Schroeder), C., & Gerofsky, S. (1998). Beyond the span of my limbs: Gesture, number and infinity. *Journal of Curriculum Theorizing*, *15*(2), 39–48.

Spatz, B. (2015). *What a body can do*. Routledge.

Spry, T. (2001). Performing autoethnography: An embodied methodological praxis. *Qualitative Inquiry*, *7*(6), 706–732.

Stahl, G. (2019). Critiquing the corporeal curriculum: Body pedagogies in 'no excuses' charter schools. *Journal of Youth Studies,* 1-17.

Stinson, S. (1995). Body of knowledge. *Educational Theory*, *45*(1), 43–54.

Stinson, S. W., & Dils, A. H. (2007). Dance and qualitative research. In L. Givens (Ed.), *The Sage Encyclopedia of Qualitative Research Methods*. Sage Publications.

Stoughton, E. H. (2007). "How will I get them to behave?": Pre-service teachers reflect on classroom management. *Teaching and Teacher Education*, *23*(7), 1024–1037.

ten Have, P. (2007). *Doing conversation analysis* (2nd ed). Sage.

MOVING LANGUAGE: THE ROLE OF CLASSROOM BODIES AND SPACE IN
NEGOTIATING COLLABORATIVE CONVERSATIONS

Introduction

Collective Effort
The rush of hand drums.
The thunder strikes of twin palms.
Ideas hum.
The pitter patter of tracking eyes
      and thinking spirals.
The volleys that sail across the way.

The rush of torso jumps.
The thunder echo of body calm.
Feet hum.
The stillness of hunched repose
      and shadow caves.
The collection that gets tucked away.

Look here!
See here!
I'm here!

Classrooms are spaces specifically designated for the purpose of learning. Teachers traditionally hold the role of leaders of learning, where their purpose is to guide a group of students through a series of scaffolded steps designed to lead them to new meaning and understanding. In order to do so, teachers center students as learners by providing students with opportunities to act as meaning-makers. Social theories of education have led us to the understanding that learning happens in groups, and that learning happens best when the learner creates the meaning (Wenger, 1998). Arts-integrated learning experiences, the act of learning disciplinary content through and with an art form, provide ample opportunities to students to work together, make meaning, and create new knowledge through a range of modes (Silverstein

& Layne, 2010). The possibilities for learning can be exciting when groups of students are put together to create and to enact what they know.

However, arts-integrated learning experiences also require that students work in classroom spaces in new ways - out of their chairs, with groups of people, and with explicit use of bodies for learning and communicating. Particularly when arts-integrated learning is tied to the performing arts (such as dance, theater, music, spoken word), students may be asked to embody their learning in new ways. They must work together to create, and they must communicate their understanding through new modes. As students become more autonomous in their collaborative and creative efforts, it becomes especially important for teachers and students to be critical and thoughtful about students' approach to the use of their bodies and space as part of the learning process.

This research project stemmed from a multi-year collaboration with Ms. Page (pseudonym), a fifth-grade teacher in a small, Midwestern elementary school. Ms. Page and I originally piloted an introductory process-drama in the 2017 school year. Over the summer of 2018, Ms. Page and I collaborated further to expand upon the arts-integrated content of the process drama and to deepen connections to fifth-grade content area learning goals. Ms. Page asked me to return to her classroom in the fall of 2018 to participate in the facilitation of the revised process-drama, which introduced fifth graders to the overarching themes for science, social studies, and language arts. Her goal with the process-drama was to build a collaborative foundation of understanding for content-area learning goals that she and her students could return to over the course of the school year. The structure of the process drama, adapted from earlier renditions, broke the class into four islands, each with its own natural resources and identity. The drama then leads students through a series of dramatic exchanges and creative

collaboration. I participated as a researcher, collaborator, and teacher-in-role (Kao & O'Neill, 1998) in the classroom for the purpose of exploring students' language use in a collaborative, arts-based setting.

After initial observations, it became clear that not only were students using verbal language in interesting and iterative ways, but they were also using their bodies and physical space to communicate and facilitate their shared meaning making. While oral language was students' most obvious mode of communication and negotiation, I began to notice students' embodied experience was another material and affective component of the meaning-making process. In order to better understand students' moving language, I asked:

1. How are students' physical bodies a part of their collaborative learning spaces in creative endeavors?

2. What do students' physical bodies suggest about their collaboration and meaning-making processes?

The Role of the Arts

In this project, the role of the arts, which are defined as creative endeavors falling into the broad categories of dance, theater, music, visual art, and poetry, is two-fold. First, the curriculum designed and implemented by the teacher with her fifth-grade students was a process-drama. In this process drama, students engaged in visual art through painting, sculpting, and drawing. They engaged in music and dance through the creation and presentation of musical island themes, drama/theater practices through staged performances and in-role improvisation, writing through the development of social contracts and forms of government, and extensive collaborative group work to create materials and to respond to the input presented by the teacher. The collaborative

group work where students worked together to create arts-based materials is the focus of this project, not the arts-based materials themselves.

Second, this project includes the art form of dance as a methodology to examine the embodied experiences of the students in their collaborative group work. Using the language of students' bodies and the language of their discussions, movement phrases were choreographed, organized, rehearsed, and revised as part of the analytic process. The dance performance serves, in part, as the findings of the project, which will then be discussed in their relationship to the field's current understandings of collaborative and arts-based classroom practices. While it may seem counterintuitive and unwieldy to focus attention on students' bodies during collaborative work, as a researcher, it felt unethical to examine only student language when, as a classroom observer, it was apparent that students' bodies and space were participating in telling an complex and nuanced story.

Literature Review

Collaboration is an important part of learning experiences in the classroom. Research and practice have worked to develop a shared understanding that collaboration is a key component of centering students as meaning-makers throughout the learning process while offering language-rich opportunities for increased understanding (Chinn et al., 2000; DiCamilla & Anton, 1997; Mason & Santi, 1998; Osborne, 2010; Rimm-Kaufman & Merritt, 2019; Vass et al., 2008). Collaborative group work is also critical because it places value on the ideas of students while requiring peers to respond directly to those ideas in order to move collaborations forward. Specifically, students learn from each other, respond directly to each other, utilize a range of communicative practices and rich language, practice perspective-taking, and develop new ideas

through shared meaning making (M. C. Nussbaum, 2010; Van Boxtel et al., 2002). Collaboration is a key ingredient in developing socially embedded learning environments.

A critical component of collaboration is the use of communicative practices to share ideas. Much of the research on collaborative discourse focuses primarily on students' language use, verbal and written, to communicate new ideas through argumentation and negotiated meaning making (Resnick, 1991). However, students' verbal and written language is not the only way that collaboration and meaning making unfold. Students' bodies are also always present in their collaborative interactions. Often overlooked when thinking about discourse and communicative practices, bodies play a key role in learning (Almquist & Quennerstedt, 2015; Mulcahy, 2012; Perry & Medina, 2011). While research often focuses its understanding of bodies in classrooms through explicit instruction (such as body training in physical education, or learning how to use materials in science education), bodies and space are also contributing to classroom learning, even when they are not the focus of instruction (Andersson & Risberg, 2018; Buchholz, 2015).

Rethinking the relationship between bodies and learning means rethinking the role that bodies and space play in classroom spaces. In many cases, school is associated with the confinement and management of bodies and space (Alerby et al., 2014; Duncum, 1999; Spina, 1999). Classroom spaces are designed specifically with tables, desks, and chairs in mind. They are used to create a range of spatial formations, which students are asked to inhabit. Students are socially conditioned to follow the implicit rules of bodies and space, where bodies are meant to sit quietly within the boundaries designated by their tables and chairs. The boundaries of tables, chairs, and room then signal to students where and how they should be directing their bodies, talk and thinking. Education spaces also associate bodies with power and authority, in both

implicit and explicit ways. Implicit body biases become explicit through the verbal positioning

one body against another, where a person's gender, height, skin color, or affect becomes an

object of authority over another (Ardis, 1992). Similarly, implicit understandings about body and

authority show themselves through the unexpected and unwelcome physical touch of others

(Connor et al., 2004). In order to better understand the role of bodies and space in learning and

communication, research must make explicit how bodies work in classroom spaces while

reimagining bodies beyond management and discipline.

Recently, there has been a shift in research to thinking about the role of the body in

learning and communicative practices. Specifically, research has been conducted to more clearly

identify the role of the body in communicating disciplinary understanding in the science

classroom (Almquist & Quennerstedt, 2015; Franks & Jewitt, 2001). Work has also been done to

better understand the role of the body and physical touch in developing and communicating

learning goals in the classroom (Andersson & Garrison, 2016; Andersson & Risberg, 2018).

Buchholz (2015) has also examined the way that bodies in collaborative contexts can be utilized

for developing and sharing meaning making, especially in relationship to the use of technology.

Theoretical Frame

Social context influences access to and participation in learning. Classroom spaces, in

particular, cast a socially complex net. As theorized by Rogoff, Baker-Sennett, Lacasa, and

Goldsmith (1995), social context is critical for individual development, and social contexts are

constructed of three key planes: community, interpersonal, and personal. The community plane

refers to "culturally organized activity, with institutional practices and development… guided by

cultural values and goals" (p. 46). The interpersonal plane refers to "face-to-face and side-by-

side interaction as well as more distal arrangements of people's activities," which include both

inclusion and exclusion criteria (p. 46). The personal plane "focuses on how individuals change through their involvement in one or another activity," a process which builds and adapts across participation in subsequent activities (p. 46). Classrooms can be described through their community, interpersonal, and personal planes, where the abstract system of 'schooling' and the concrete building of 'schooling' work together form the community in which teachers and students enact interpersonal practices strategically designed to scaffold students through a series of personal activities built upon each other for development and growth.

The classroom as a social context also influences access to and participation in learning. As personal development relies on series of interpersonal activities within a community, personal development is also contingent upon the values and inclusionary practices of that community. When considering classroom bodies and space through the lens of management and discipline, the educational community, implicitly and explicitly, values the variation of tables, desks, and chairs for the practice of spatial confinement - where bodies are valued for their stillness, their controlled manipulation of materials such as paper, pens, or computers, and their unified responsiveness to authority figures (such as Stahl, 2019). The social context of school provides access and scaffolds towards learning, where students who offer a shared series of values and commitments as the school community are granted access to interpersonal activities developed to support learning while students deemed deviant or unruly are not (such as Erevelles, 2000 and Niccolini, 2016).

Discourse practices provide another lens through which to view inclusivity and exclusivity in school communities. The communicative practices, or Discourses, of teachers and students are a key component in who gains access to learning in the social setting of the school. A person's Discourse is a set of literacy practices developed over time in social groups, which,

like the community, share particular ways of speaking, being, valuing, and participating in language (Gee, 1991). As communities share values and rules for participation, they also share Discourses - particular ways of utilizing and valuing language and literacy. Participants in social settings, such as school, are also included and excluded based on their familiarity and mastery of the required Discourse of the community.

Discourse, which includes 'ways of being,' can also be extended to a community's use of embodiment. Embodiment and embodied knowledge recognize the "embeddedness of thought in experience" (Davidson, 2004, p. 198) in which the body cannot be separated from the mind as a person participates in social contexts. Embodied knowledge, which includes intricately the relationship between the mind and the experience of the body, is a development of technique and practices, where the technique is the structured rules guiding the practice (Spatz, 2015). For example, a student in a classroom uses the embodied technique of hand-raising to signal that they agree, have something to say, or want to share. While the act of hand-raising is a common technique across school settings, the practice of hand raising varies from student to student. Some students may slowly raise their hand to shoulder level, keeping their arm close to their chest. Other students may quickly shoot their hand into the air, lifting their arm straight above their shoulder, rotating their palm back and forth at the wrist, fingers wiggling percussively. However, the educational community may value one practice over another - where the technique is properly executed by raising a straight arm above the shoulder, palm facing forward, fingers still.

Schools and classrooms, as social sites of community-based interpersonal practices, include values and expectations for embodied learning that is inclusionary and exclusionary. For some students, exclusionary practices are a matter of regulation, management, confinement, or

discipline rather than for learning and communication (Franklin-Phipps, 2017; Harden, 2012; ; McLaren, 1999; Niccolini, 2016; Stahl, 2019). Reimagining bodies and space in classrooms as sites for learning and communication means rethinking community and interpersonal values in education spaces. This project is part of an effort to explore what can be learned when bodies and space in classrooms are reimagined as a critical component of collaboration and communication.

Methods

This project is developed through the use of arts-based and performance inquiry methodologies. Arts-based research is an approach to inquiry which utilizes the "intrinsic similarities" between art and science which are "grounded in exploration, revelation, and representation" (Leavy, 2015, p. 3). Arts-based research provides "highly nuanced and expressive renderings of human affairs" (Barone & Eisner, 2011, p. 8). This attention to the complexity of humanity is especially applicable to classroom spaces, where diverse groups of people with a range of goals and values are put together and asked to achieve common objectives. Arts-based research, then, provides a new perspective through which to view the classroom. In the words of Barone and Eisner (2011):

> It is indeed through this reexperiencing – not through a logical form of discourse, nor through the acceptance of a linear argument or explanation – that what we call *deep persuasion* might occur. This is a luring of percipients into the acceptance of alternative values and meanings for facets of social issues and practices that were previously misunderstood as being finally understood. (p. 20)

As a means for reexperiencing familiar spaces, arts-based research has unique potential for examining classrooms. Many of us may have spent the majority of our lives in classrooms, as students, teachers, researchers, parents, administrators, and/or community members. We have

become such experts at navigating classroom spaces that it becomes challenging to see beyond our own experiences. In order to 're-see,' arts-based research has "the potential to jar people into seeing/or thinking differently, feeling more deeply, learning something new, or building empathetic understandings" (Leavy, 2015, p. 21). While many may be highly empathetic of classroom life and have developed strong feelings of the work done within, arts-based methodology provides a lens to re-imagine and re-evaluate our own assumptions of classroom spaces. As Leavy (2015) states, "In order to address different issues successfully and communicate effectively with diverse audiences, we need to able to see in different *shapes* and to produce knowledge in different shapes" (p. 3, emphasis in original).

One facet of arts-based research is performative inquiry. Performative inquiry is a method used by researcher-performers to examine questions body, ways of knowing, and social and cultural practices. Though broad in nature, including performance art such as dance, theater, and improvisation, etc., this methodology employs the work of dance scholars and ethnographers to make connections between action and bodies as sites of meaning. Dance ethnographers have long thought of dance as a way to examine "cultural knowledge [that is] embedded in movement" because dance is not only somatic, mental, and emotional, but it also includes cultural history, beliefs, values, and feelings (Sklar, 2000, p. 6). Though dance ethnography is the examination of dance itself, performance ethnography through dance can serve many of the same purposes, where the "analysis of movement experiences becomes a way to meet, somatically, and symbolically, those larger tacit patterns" (Sklar, 2000, p. 71). Just as researchers utilizing text-based research methodologies examine and interpret their observed worlds to answer questions, so, too, does the choreographer. "The choreographer analyzes the observed world, has a motional response, and interprets and rearranges the world through motion"

(Blumenfeld-Jones, 2008, p. 177). Examples of dance as a performative inquiry/arts-based research methodology take a variety of shapes. In some cases, researchers create dance pieces through the analysis of language and text (Apol & Kambour, 1999; Buono & Gonzalez, 2017; Davenport & Forbes, 1997; Markula & Denison, 2000). In other cases, researchers develop dance through the examination of meaningful movement and embodied experience (Cancienne & Snowber, 2003; Markula & Denison, 2000; Snowber, 2012). Research has been conducted by researcher-dancers (Cancienne & Snowber, 2003; Snowber, 2012) and by interdisciplinary collaborations (Apol & Kambour, 1999; Buono & Gonzalez, 2017; Davenport & Forbes, 1997; Markula & Denison, 2000). Because there is no one set of procedures for performative inquiry, much of analytical and methodological tension left to the ethical discretion of the researcher. In spite of the varied procedures employed in dance as a research methodology, ABER has yet to examine classroom bodies and space as site of meaning making and communicative practices.

In this project, dance as an analytic process re-invents classroom spaces while examining both student bodies and student language as sources of vital information. As a researcher-dancer, I take on the roles of data generator, analyzer, and performer. Given the dual nature of the arts in the project, I will explicitly describe the analytic process in two parts: Phase 1, which details the process of data generation in the classroom; and Phase 2, which describes the analysis of said data through dance.

Phase 1: The Process Drama

Setting the Stage

This project follows the collaborative work of four groups of students, Bluenel, Greynel, Brownel and Greenel. Each group consists of seven students who worked together to establish a fictional community based on the description and prompts of their classroom teacher, Ms. Page.

These communities were developed over the course of multiple weeks through the use of a process drama. The process drama was developed by me and Ms. Page as part of the literacy and social studies curriculum. The groups were organized ahead of time by Ms. Page, and they did not change over the course of the study. The collaborative practices of each group were recorded separately, though there was some overlap in communication between groups, especially as the process drama went on. The process drama was conducted through twelve activities/lessons over the course of 11 non-consecutive days (see Table 3).

Table 3

Overview of Ms. Page's process drama

#	Activity	Description	Researcher Role	Duration
1	Introduction	Introduction to "Four Islands" unit. Students brainstormed island governments and individual island maps based on "Four Islands" narrative.		
2	Island Creation	Explicit instruction on "*What is Integration?*" Island small groups began designing and sketching their island visual art piece.	Observer	90 min
3	Island Creation	Island small groups painted island visual art piece and created accompanying sculptures.	Co-teacher Observer	90 min
4	Island Theme & Gallery Walk	Island small groups attached their sculptures to their Island paintings. Island small groups created Island themes (musical numbers examining Island values). Students gallery walk visual art projects with sticky notes for feedback.	Observer	60 min
5	Main Idea & Supporting Details	Whole class instruction related to identifying main idea and supporting details. Island small groups use main idea and supporting details to examine feedback from gallery walk. Students begin drafting essential agreements.	Observer	90 min

Table 3 (cont'd)

6	Essential Agreements & Island Presentations	Whole class instruction of belief/value. Island small group work for developing essential agreement. Island group presentations of visual art projects (with response to peer feedback) and essential agreements.	Observer	90 min
7	Island Theme Performance	Island small groups rehearse and present Island themes, prefaced by Island essential agreements. Explicit instruction on theme of culture.	Observer	60 min
8	"They Say the People…"	Island small group activity of "They Say the People on that Island…" based on a teacher-in-role narrative of rumor and disinformation spreading from Island to Island.	Teacher-in-role Observer	60 min
9	"Two Sides…"	Island small groups began planning for "Two Sides of the Same Story" drama.		
10	"Two Sides…" performance & reflection	Island small groups rehearsed and performed their "Two Sides of the Same Story" dramas. Explicit instruction for the actor's toolkit.	Co-teacher Observer	60 min
11	"Disaster!"	Teacher-in-role narrative of breaking news from Island natural disasters. Island small groups discuss and negotiate cross-island survival plans. Explicit instruction of "making connections" strategy.	Teacher-in-role Observer	60 min
12	"Disaster!"	Teacher-in-role conducted tv interviews of Island small group survival plans. Whole group and individual reflection of "Four Islands" unit.	Teacher-in-role Observer	30 min
Ext	End-of-year reflection	Island small groups discuss Island survival and reflect on "Four Island" experience	Observer	90 min

The Actors

This study focuses particularly on the process-drama actors from one of the four islands:

Greynel. This island was inhabited by seven fifth-grade students, Alice, Ben, Cato, Darcy,

Elizabeth, Fletcher, and Gwen (pseudonyms). Seven of the seven students were native English

speakers, six of the seven students identified as White, one of the seven students identified as a Person of Color, three of the students identified as male, four of the students identified as female, and one of the students had received additional services outside the classroom. The seven students were placed on the island together by Ms. Page. Through Ms. Page's introductory activity, the actors were placed on the island of Greynel and given the description of its geography and its natural resources. From there, the actors were given charge of the development of the island, its inhabitants, and its course of action through several scenarios.

Data Sources

Observation

Observations occurred during October and November of 2018. While the process drama was originally conceived as a one-week unit, it quickly became apparent that students needed additional time and space to participate in and reflect upon their learning experiences. As seen above in Table 1, the process drama was extended over three weeks, with students working collaboratively on unit activities two or three days a week for one to two hours each. Observations were conducted in person. As the researcher, I participated as a collaborator, observer, resource supplier, and, occasionally, teacher-in-role (see Table 3). Observations of classroom activities were audio-recorded, video-taped, and documented using an observation protocol.

Memos

Memos were written at the completion of each observation (Heath & Street, 2008). Memos included lesson goals, descriptions of activities, and my impressions and reflections of the teacher's and students' work that day. When memo-writing, I focused my attention on my interpretations and reflections on the work that I had documented using my observation protocol.

I drew attention to particular language and activities that were unique, on-going, or raised questions. I made notes of my questions, theories, and hypotheses for my observations moving forward.

Video and Audio

Video and audio recordings were generated during classroom observations. Videos were trained on the three participating island groups, using two different cameras from complementary angles. Each participating island group also had an audio recorder that traveled with the group throughout their island activities and interactions.

Interviews

Semi-structured interviews were conducted with Ms. Page after the completion of lessons and activities (Dyson & Genishi, 2005). These interviews included discussion of the goals and objectives of the lesson, as well as the teacher's perceptions of students' achievement of those goals. Additionally, a semi-formal focus group interview was conducted with the students of the island of Greynel (project focus) in May at the end of their formal school year.

Artifacts

Artifacts collected for this project included pictures of students' creative work, such as the visual arts paintings of the four islands (see Figure 9) as well as the posters and scripts developed collaboratively by the island group. Artifacts also include written reflections, worksheets, and sketches completed by individual students. Teacher artifacts also include lesson plans, PowerPoints, memos, and sequencing documents.

Figure 9.

Island of Greynel created collaboratively by seven group members.

Phase 2: A Dance Methodology

The Context for Data Analysis

Choreographer/Dancer

   As the researcher-dancer, I play the role of both choreographer and dance performer. Through the data analysis steps indicated below, I was responsible for the analysis of student movement phrases and for the transformation of those phrases into a solo performance dance, in which I act as dancer and narrator.

Rehearsal Space

   The analysis of data took place in a dance studio. Studio space was used to analyze student movement phrases through video data and to put those phrases in conversation with

audio transcripts from collaborative group work. The use of a designated dance studio is critical for the opportunity to warm up, develop technique and qualities of movement specific to the choreography, and manipulate space in order to best represent the experience of the students.

Memos

Memos were also written as part of the data analysis process, tracking with detail the iterative cycles of watching, recording, and translating video data into movement phrases. These memos will include detailed agendas of the rehearsal as well as summaries of methods utilized, decisions made, and reflections on process.

Video Recordings

Video recordings were kept of the dance analysis process. Movement phrases were video recorded during rehearsals for the analysis of movement phrases for the development of choreography.

Data Analysis

In this section, I describe my data analysis process, which included practices adopted through performative inquiry and arts-based research practices. In order to make these practices as transparent as possible, I outline and describe them step by step. While these analytic steps look very linear on paper (see Table 4) they were, in fact, a cyclical and iterative process, where the work of each step is adapted and transformed based on the implementation, reflection, and revision inherent in any creative process (Mace & Ward, 2002). Similarly, the description of my analytic process is not intended to represent stepping stones for how an arts-based/performance inquiry project should be or must be conducted. However, these steps are meant to provide a cogent trail for those wishing to understand or replicate this particular analysis.

Table 4

Overview of data analysis procedure

Step	Procedure	Data
1	Identify four-unit activities that engaged island groups in critical collaborative meaning-making episodes (CCMME) using inclusion and exclusion criteria.	Field observations Field memos
2a	Transcribe audio of each CCMME.	Audio
2b	Use transcription to time stamp video data for opening and closing of each CCMME. Use transcription to time stamp video data for three segments within each CCMME: (a) articulation of thinking; (b) deliberation of conceptual knowledge; (c) consensus of meaning.	Audio transcripts Video
2c	Identify and time stamp a "pivotal moment" for each opening articulation, deliberation, and consensus. Organize into 1-minute coding blocks.	Audio transcripts Video
3a	"Transcribe" video data into movement phrases using one-minute coding blocks (pivotal moments) for each individual student. (Approximately 20 seconds per 2 8-count movement phrase) Review video data for each student using descriptive and narrative analysis.	Video Descriptive codebook
3b	Use descriptive and narrative analysis to develop themes, codes, and examples for student movement across CCMME.	Video Descriptive codebook
4a	Develop individual and thematic movement phrases based on codes and examples from descriptive and narrative analysis.	Video Descriptive codebook Movement phrases
4b	Extend movement phrases into performance dance piece.	Video Movement phrases

Data analysis will be conducted using video data from the group, Greynel, from the Four Islands project. Four approximately twenty-minute samples of collaborative group work from Greynel were selected over the course of the Four Islands project. The four samples span the duration of the project (see Table 5). These four video samples were selected based on (a) the collaborative nature of the group work; (b) the inclusion of all group members; (c) requirement that the group come to a shared understanding of a new island component; and (d) their relative equidistance over the course of the Four Islands project. The purpose of the inclusion criteria was to find *critical collaborative meaning-making episodes (*CCMME), where island members were arguing, negotiating, developing, structuring, and revising the meaning-making ideas supporting the development of their island. For that reason, video samples were excluded when the island was conferencing directly with the teacher or receiving direct instruction from the teacher, as well as when island members had finished their negotiations and were implementing shared plans (in which case the negotiation of meaning was generally over and the focus of group work shifted from conceptualization to practice).

Table 5

Overview of video data for Greynel analysis

Act. #	Critical Collaborative Meaning-Making Episode	Duration
2	Initial group meeting to design island using individual sketches as basis for discussion (*CCMME 1*).	36:20
4	Group meeting to develop an island theme song by negotiating values and shared beliefs of the island (*CCMME 2*).	50:27
6	Group meeting to develop an essential agreement and government structure in response to peer feedback (*CCMME 3*).	33:53
11	Group discussion of inclusion or exclusion of group into a larger society developed by *Disaster!* Scenarios (*CCMME 4*).	38:44

Step 2

After the selection of collaborative group work samples, the audio of those island discussions was transcribed into written text. Transcripts were first utilized to mark the duration of the critical collaborative meaning-making episodes within the broader video observation data. Then, each CCMME will be categorized and time stamped for three sequential discourse segments: (a) articulation of thinking; (b) deliberation of conceptual knowledge, and (c) consensus of meaning (see Table 6). These discourse categories are consistent with research around collaborative group work, which explains these key practices (Van Boxtel et al., 2002). Examples of articulation of thinking include students' initial responses to the activity or prompts by the teacher and their opening explanations of ideas or pre-writing activities. Examples of deliberation of conceptual knowledge include students' responses to the ideas of others, whether it be to support, extend, challenge, modify, or clarify the group's thinking. Examples of consensus of meaning include ideas and knowledge that are ultimately agreed upon or taken up by the group prior to the implementation or public sharing of the group's meaning making. The purpose of segmenting each CCMME as such was to ensure that movement phrases were generated via video data for each student for each part of the CCMME. This was one way to ensure that the students' body of work was examined across the different peaks and valleys of the collaborative meaning making.

Once the CCMME were identified and segmented into moments of articulation, deliberation, and consensus, the audio transcripts and video data were examined to identify a *pivotal moment* for each CCMME segment (see Table 6). I define a pivotal moment as a one-minute clip of video data where meaning was shared, transformed, taken up, or rejected. Examples of a pivotal moment may be when students land upon one critical idea that they

negotiate intently because of divergent perspectives. It may also be a moment when students sit silently because no consensus can be reached on an idea. Another example may be students' overlapping articulation of ideas as initial thoughts about a project outcome are shared. The purpose of identifying pivotal moment clips is twofold. First, narrowing in on a pivotal moment required keeping focus on the collaborative and shared experience of the students in the group. Second, identifying a one-minute pivotal moment supported the development of movement phrases. The purpose of the movement phrases was not to "transcribe" student gesture movement by movement, but to examine the body and space dynamics of the group as a whole over the course of their collaborative group work. Therefore, identifying pivotal moments allowed the analysis to narrow the focus particularly important meaning-making experiences while examining each students' contributions to body and space as a whole.

Finally, transcriptions were called upon to support the analysis of body and space in video data as needed. For example, audio transcripts were useful in clarifying speaker, positionality of language, and dialogic overlap in the messiness of collaborative group work. Language transcriptions also hold the potential for generating and rethinking movement phrases. The examination of oral language provided additional meaning or clarification to the movement phrases developed through body and space via video data.

Table 6

Overview of critical collaborative meaning-making episodes (CCMME), discourse segments, and pivotal moments (PM) for video samples

CCMME	Duration	Discourse Segment	Total Time	PM	PM Time	Duration
1	10:00 - 46:20	Articulation	10:02-24:54	1:A	10:02-11:05	1:03
		Deliberation	12:00-42:36	1:D	25:53-26:45	0:52
					32:55-33:55	1:00

Table 6 (cont'd)

		Consensus	29:35-42:37	1:C	40:31-41:38	1:06
2	7:05 - 57:32	Articulation	7:05-10:24	2:A	9:22-10:24	1:02
		Deliberation	7:11-51:28	2:D	30:42-32:29	1:47
		Consensus	17:09-24:07	2:C	18:56-19:55	0:59
3	17:51 - 51:44	Articulation	17:51-34:26	3:A	18:16-19:00	0:44
					19:10-20:20	1:10
					21:05-22:25	1:20
					22:42-23:35	0:53
					24:41-25:07	0:26
					25:57-26:24	0:27
					26:26-26:42	0:16
		Deliberation	20:02-51:36	3:D	45:51-46:57	1:06
					47:39-48:52	1:13
		Consensus	23:35-50:40	3:C	28:45-29:59	1:14
4	6:42 - 45:26	Articulation		4:A	9:41-10:34	0:53
		Deliberation		4:D	19:37-20:26	0:49
					38:18-39:40	1:22
		Consensus		4:C	26:07-27:09	1:02

Step 3

Each pivotal moment (PM) was reviewed twice per student. In order to review each PM, I watched video data from the collaboration. During each viewing, I conducted a text-based analysis. First, I watched each PM video and conducted a descriptive analysis where I focused my observation on one student and a time, describing in detail the movement qualities of each student, focusing on their body, action, space, time, and energy (Aldis et al., 2018). In the descriptive analysis, I focused my attention on what I could observe without trying to make inferences about what I thought it meant. After completing the descriptive analysis for the

student, I then re-watched the video again, this time describing the movement of the student in relation to their peers. The level of analysis was still focused on body, action, space, time, and energy with additional narrative description explaining how the movements were being enacted in relation to others within the group.

Throughout the descriptive analysis, I highlighted movement moments that were unique and unexpected, and I also highlighted movement moments that were consistent and thematic across the course of the collaboration. From there, I identified and organized movement themes, including the patterns of students' levels, pathways, time and energy, and gesture (see Appendix A). For each of these themes, I explored different movement variations and coded them with examples from the pivotal moments in the collaboration. For example, in some cases, the movement variations within the theme were specific to a specific student, such as A rolling backward onto the floor during the articulation of CCMME 4, and in other cases the movements were repeated across students and across CCMME, such as students standing up to speak (see Appendix A for additional examples).

Step 4

After identifying thematic movement movements through descriptive analysis, I began the process of developing those themes into movement phrases. In order to successfully do this, I started with individual introductory movement phrases for each of the students, with an emphasis on the use of body, action, space, and energy as it is specific to the individual student. For each student, I re-watched the one-minute articulation PM for CCMME 1. As I did so, I worked to translate each students' action into a four eight-count movement phrase. I use the word *translation* to describe the process of creating these introductory movement phrases because student movement was analyzed and replicated with specific attention to the placement of the

body and the quality and rhythm of their movement. Dance as an art form is very intentional about the use of body, quality, and rhythm. However, typically in classroom spaces, students give much less attention to their bodies and space unless those things are being predetermined or punished (unruliness). Because of this, the creation of movement phrases was not an exact replication of the gestures and actions of the students. Rather, the introductory movement phrases captured the essence of where and how a student moved. This was especially important for then putting students' movement phrases in conversation with each other to better understand how students' bodies and space interact in critical collaborative meaning-making episodes.

After developing introductory movement phrases for each individual, those movement phrases were put in conversation with each other through the exploration of movement themes. Additional movement phrases were developed by re-watching and developing choreography based on thematic examples from descriptive analysis and coding. In this case, the movement phrases were developed not just based on the individual actions of specific students, but on how action and space were replicated across students and across time. After developing a series of individual and thematic movement phrases, those phrases were put together into the choreographic narrative of the performance piece. Choreographic techniques for developing the performance narrative included the manipulation of: (a) space - constructing and deconstructing groupings to replicate or expand upon "classroom" space; (b) time - exploring movement phrases linearly/chronologically versus exploration of movement phrases thematically; (c) speed and rhythm - showing the passing of time by accelerating movement phrases and drawing attention to powerful moments by decelerating movement phrases; (d) amplification - extending and projecting movement phrases to examine potential conflicts and resolutions; and (e) repetition -

repeating key movement phrases or dance moments to highlight, emphasize, or replay powerful or important moments (Aldis et al., 2018; Preston-Dunlop, 2006).

Special Considerations for Dance

Analysis of student movement phrases is conducted through the development and manipulation of choreography; therefore, findings take the form of performative dance supplemented by written text. Choreography developed through the examination of movement phrases pay special attention to the use of space, rhythm, and quality of movement explicitly, which is a different approach to bodies in space than the way they are used implicitly in everyday communicative practices. Thus, while movement phrases are easily recognizable from the video data, they are not exact replicas of the student movement, nor should they be interpreted as an exact representation of any one student.

Findings

As noted above, the findings for this project were presented as a live performance dance. Video from the performance can be accessed using the QR code below (see Figure 10). In addition to video of the live performance, I also share the findings of this project here using textual evidence, describing and exploring the use of movement, bodies, and space as a critical part of students' collaborative meaning-making practices. Students' bodies were a part of the collaborative learning and meaning making through the manipulation of space, energy, level, action, and gesture.

Figure 10.

QR code for "I'm Here: A Dance Performance."


Space

      Throughout critical collaborative meaning-making episodes, students utilized their personal and general space in a number of critical ways. First, the collaborative work of students was focused around a center-point that shifted and morphed throughout activities based on students' flexible use of bodies and space throughout their collaboration. The crux of students' collaborative work was defined by the center-point of their discussion and creation (see Figure 11). The center-point refers to the invisible center of the group, where the facings of students' bodies converge. When students sat in a circle, the center-point often fell in the direct center of that circle as all the students' bodies, attention, and ideas converged in the center space. As students stood up, leaned in, or moved around the circle, their actions would shift the center-point towards themselves, drawing attention to their contributions.

      Center-points also converged over materials used by the group. For example, during the deliberation of CCMME 1, the critical meaning-making episode where students were collaborating on a visual art project of their island, the students had a large paper on which they were sketching the outline of their island map. First, the map was center on their table, allowing

the center-point to stay in the center of the group. As Elizabeth and Fletcher drew the map over

to their side of the table, the center-point of the group shifted, so that the bodies, attention, and

ideas converged directly over the map, which was between Elizabeth and Fletcher. With the shift

in the center-point, Cato, Darcy, and Alice had to lean farther over the table to assert their ideas

while Elizabeth and Fletcher had immediate access to the map. In later activities, as students

moved away from the table, their center-points began to fracture as student bodies and attention

no longer converged at one point. During the deliberation of CCMME 2 and of CCMME 4, there

were multiple groups determining their own center-points that flexed and shifted as students

moved through the space.

Figure 11.

Center-point of collaborative groupwork during the articulation of CCMME 1.
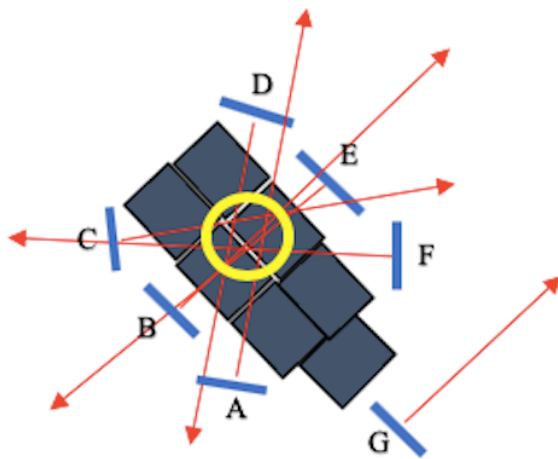
The center-point (again, an invisible marker of the convergence of body facings) played a

critical role in students' access to and participation in the collaboration. As the center-point

moved, because a student moved or because a new material was introduced to the group, other

participants would shift as well in order to maintain their participatory relationship to the center-

point. This included physically standing and transitioning to another area around the table.

During the consensus of CCMME 1, Cato and Ben both moved to physically stand between the

desks of Gwen and Fletcher, placing themselves closer to the center-point, which had shifted

with the map between Fletcher and Elizabeth. During the deliberation of CCMME 3, Alice and

Gwen moved to stand at the tables of Cato and Darcy in order to put themselves closer to the

center-point of the collaboration. Moving to a new position in space was not always an effective

means of accessing the collaboration, however. During the deliberation of CCMME 1, Gwen

moved to sit in Cato's seat. Because the center-point had shifted to Elizabeth and Fletcher,

however, she ultimately was neither closer nor more active in the collaborative efforts of the

group.

At other moments, students would be unresponsive to the shifts in center-point or would

actively face away from the convergence of their peers, effectively isolating themselves from

participation in the shared meaning making. During the group's first articulation during CCMME

1, Gwen kept her body perpendicular to the rest of the group (see Figure 11), which kept her

isolated from the work of the group. During the deliberation of CCMME 2, Fletcher left the

collaborative space around the center-point and returned to his seat, where he remained at a

deliberate distance from the meaning-making work of the group. The disengagement with the

center-point was at times an active resistance and at other times a more passive non-

responsiveness. For example, during the consensus of CCMME 3, Fletcher continued to face

directly forward in his seat, even after the center-point of the collaboration had shifted over to

the space between Cato and Darcy. Similarly, during the deliberation of CCMME 3, Gwen ended

up facing forward and away from the center-point of the group through passive non-

responsiveness. Whether through active or passive means, the facing of students' bodies away

from or outside the center-point of the group reflected a lack of access to the critical meaning

making of the collaboration. It is possible that in some cases, a student's unresponsiveness to

shifts in center-point may also be an act of self-reflection in response to meaning making before re-entering the collaboration.

The shape of the group's personal space also affected students' access to the center-point of the collaboration. Because of the oblong nature of the tables, Gwen was placed much farther away than her peers from the center-point of the conversation. This limited her access to participation unless she exerted additional energy to stand or lean in towards the center-point. Additionally, as the center-point shifted toward a particular student or two another part of the room, students had to renegotiate their access to the center-point, making it easier for some students and more challenging for others to participate in the ebb and flow of ideas through the center-point. Similarly, the long line of the tables presented challenges for the student sitting in the middle to navigate the contributions of their peers sitting next to them. During the deliberation of CCMME 3, Elizabeth sat with her back directly to Darcy, and then, when addressing Darcy, turned her back entirely to Fletcher and Gwen. The long, angular shape of the tables posed challenges for students negotiating their bodies in relation to their collaboration.

Additionally, students' bodies had the ability to limit their peers' access to the center-point of the collaboration. For example, one student could lean in far over the center-point, cutting off another student from being able to see, hear, and access the ideas under discussion. During the deliberation of CCMME 1, Cato leaned far enough forward over the table that he blocked Ben, sitting next to him, from the center-point of the collaboration. Like, during the deliberation of CCMME 3, Ben blocked Alice and Gwen from the center-point of the collaboration. In addition to the inadvertent blocking of peers by leaning of standing, students also limit their peers' access to the collaboration by bending over or curving around a material, or it could also look like a student turning their body by placing their back in between a peer and

124

the center-point. For example, during CCMME 4, Elizabeth and Darcy both took turns with a clipboard holding pertinent information to the collaboration in which they held the clipboard tight to their bodies, limiting anyone else's access to the work being done there. Similarly, during the deliberation of CCMME 1, Fletcher cupped his hands over the group sketch of the island, limiting Ben and Cato's access to the collaborative meaning making of the group. Students' access to the collaboration could also be interrupted when peers held up paper or other materials toward the center-point, making the information visible to some and invisible to others. Each of these large shifts has the potential not only to shift the center-point, but also to inhibit other students' access to bodies, attention, and ideas.

Students in the collaborative peer group also utilized space by facing their bodies in opposition to each other. At points throughout meaning-making episodes, students would transition their bodies away from the center-point of the group to face directly toward another peer. For example, throughout CCMME 3, Ben and Cato made direct exchanges of ideas, as did Elizabeth and Darcy, and Cato and Gwen. Often, the direct facing of bodies included a fast and energetic exchange before returning to the group as a whole. This occurred with students across levels, often between students at the same level - where both peers would be standing or sitting, facing directly towards each other. Interestingly, this direct opposition also included interlocking pairs. For example, in consensus of CCMME 4, Gwen and Alice stood together with their elbows entwined, directly facing Cato. In this case, the interlocking bodies of Gwen and Alice reflected the consensus of their ideas, which stood in opposition to the desires of Cato.

Overall, the use of students' bodies throughout their personal and general space played an important role in their access and participation in the collaborative meaning making of the episode. In a classroom, space is designed in particular ways through the use of desks, tables,

chairs, and material storage. While students made use of their personal space for participating in meaning making (i.e. turning their bodies, moving around the table), the general space developed for them by the teacher and school itself played a role in the collaboration. As seen in Figure 11, the design of the group of tables left Gwen on the outside of the collaborative circle. She was automatically farther away than her peers from the center-point of the group because the placement of her desk at the end of the group was asymmetrical to the rest of her peers. In this case, the historical use of students' desks as parameters for learning impacted students' access to the collaboration.

Energy

Like the use of space to access and participate in the collaborative meaning making of the group, students' embodied use of energy also played a role in how students engaged in the collaboration. The energy of a students' body and action relates to the attack, force, and weight of their movement (Aldis et al., 2018). Throughout the pivotal moments of each critical collaborative meaning-making episode, students utilized the energy of their action and bodies in a variety of ways. In some cases, the use of energy varied between students, where each student energized their movements in ways specific to them as an individual. For example, Alice's movements were typically sharp and sudden where she would wave her hands and arms forcefully. Elizabeth, on the other hand, would often move lightly and quickly, tapping her fingers quietly or sitting momentarily in stillness. Just like a student's body has a unique set of fingerprints which can be used to identify an individual, so, too, can the energy of a person's body be a unique and recognizable signal.

While energy of movement varies between students, the energy exerted by students' bodies also changed over the course of a single activity and over the course of multiple activities.

126

For some students, energy levels acted as a ramp, running from low to high or from high to low. For Ben, this meant that he would start activity with actions that were sharp and percussive and then end them with stillness or resting his head against his hands. Gwen, on the other hand, began the series of activities with low energy actions, including rocking, leaning, or skimming her hands over her paper. By the end of the series of activities, she exerted more energy in her actions, moving around the room and gesturing percussively toward her peers. For other students, the energy of actions acted as waves of water, where energy levels rose and fell over the course of activities. For example, Cato would fluctuate between high energy actions, such as spring to his feet and clapping his hands, and lower energy actions, such as leaning back in his chair and resting his hands in his lap. In many cases, students' energy level was closely tied to the level of their bodies. Students exerted energy to stand up, move around the room, or lean in towards the center-point of the group. On the other hand, students whose bodies stayed in the lowest level of the group, sitting below the eye level of their peers, often exerted the lowest energy. This included students who leaned their heads against their hands, the table, or leaned back in their chairs away from the center-point of the group.

Over the course of activities, deliberation included the highest levels of energy, with students standing often and pointing or gesturing directly to other students in the group. Pivotal moments of consensus were consistently the lowest level of energy across the group, where most students sat in their chairs, leaning against the table or backs of their seats with one or two speakers talking broadly to the group as a whole. Pivotal moments of articulation varied as some discussions were highly energetic across multiple students and other included transitions of high energy speaking to low energy listening. In many cases, the energy of students' bodies related to the articulation of their own ideas. With the exception of articulation in CCMME 3, students'

actions were more energetic as they shared their own ideas or responded directly to the ideas of others. Students energetically articulated their ideas by pointing fingers, lifting or waving papers and other materials, or gesturing toward particular people with their hands or heads. Students' actions also gained energy when they sought to gain their peers' attention, such as through clapping, waving, or standing suddenly. When students were not actively articulating their ideas or responding to the ideas of others, they were more likely to sitting, including rocking back and forth or leaning side to side. In some cases, they would wave and gesture their hands more slowly and closer to their body, or they might rest their head on their hands or the table.

Level

Throughout activities, students participated in the collaboration through the use of high and low levels. In dance and movement studies, level refers to the height of the movement in space. For example, in a dance piece, the upper level includes a range of space where dancers might jump, move on chairs and tables, or lift each other into the air. The lower level refers to a range of space where the dancer might be sitting, laying, or moving low to the group. In the case of the collaborative group work, the upper level included students who would stand to speak, stand to move around the circumference of the center-point, and students who would use their feet on the seat of their chairs to lift themselves above the eye level of their peers. In particular, Darcy would often rest her feet on the seat of her chair in order to prop herself up higher than if she were sitting on the chair with her feet on the ground. Cato, on the other hand, would alternate repeatedly from leaning back in his chair to standing, both when listening and contributing to the collaboration. During CCMME 2, Fletcher and Cato both spent time with their heads resting directly on their desks, lowering their eye level well below that of their peers. Throughout the collaborative meaning-making episodes, students consistently used the upper level to draw

attention to a point they were trying to communicate a new idea, to respond directly to a point a peer had made, or to better position themselves around the center-point for easier access to participation in the meaning making. This was not always successful. A student standing or moving around the circumference did not always guarantee that they were positioned within the center-point. Sometimes, the center-point would shift as the students shifted so that those farthest away stayed the farthest away even after moving.

Students also participated in the collaboration through leaning their bodies in and out of the group's circumference. While they stayed in the same mid-range level, the change in proximity to the center-point played a role in their body's participation in the discussion. In this case, students who wanted to articulate a point or respond to the point of someone else would lean their bodies into the group, closer or directly over the center-point of the group. Students might also lean their bodies into the circumference of the group in order to listen closely to the contributions of their peers. For example, during the deliberation of CCMME 1, where students were arguing over what landmarks to include on their island sketch, Darcy and Alice were both leaning in far enough toward the center-point that their heads were near touching. During CCMME 4, which took place with students sitting on the ground, Cato could be frequently seen kneeling on his hands or leaning directly over the center-point of the group in order to present an idea or a relevant material. On the other hand, students could also be seen leaning out or away from the center-point. In the case of leaning out, these were moments where students stepped back from the collaborative group work, momentarily removing themselves from the moment of inquiry. While leaning out was utilized intentionally for momentary removal from the collaboration, leaning out also happened when a student did not respond bodily to the collaborative work of the group. During the consensus of CCMME 1, Gwen had transitioned to a

new location in order to gain access to the center-point. However, the students around her shifted

the center-point by leaning far in over the tables, once again leaving Gwen inadvertently outside

the circle of inquiry. Leaning out also took the form of grand gestures, where students would be

waving or gesticulating their hands and arms outside the circumference of the center-point.

While these gestures occurred outside the group, the large and energetic nature of the gestures

contributed to gaining peers' attention.

Action and Time

Throughout activities, there were examples of actions that were sharp, syncopated, quick,

and unpredictable. These actions were often paired with high energy moments of articulation or

deliberation. These moments often occurred one peer at a time, and usually paired with the

introduction of a new idea or through the argumentation and deliberation of an old idea. For

example, at different points during the deliberation of CCMME 1, Darcy and Fletcher both

suddenly pointed at the group sketch of the island map while simultaneously hitting their other

hand against the table. During the second series of deliberations in CCMME 4, Alice and Cato

could both be seen waving and pointing their hands above their heads and wide to their sides as

they responded to their peers' suggestions for survival after a natural disaster damaged their

island. On the other hand, student bodies also included actions that were slow, smooth, and

predictable. These actions were often paired with lower energy moments of articulation or

consensus, often when students were listening to the idea of others or presenting new ideas

through more formal means of sharing, such as using a talking stick to establish the introduction

of ideas systematically. For example, during consensus of CCMME 2 after being elected island

president, Darcy would transition smoothly between leaning forward, gesturing toward the

group, and then bending down over the material in front of her as her needs shifted between

talking and writing. Ben could often be seen waving, pointing, and turning repeatedly from side to side as he followed the arc of the collaboration, though his gestures tended to be smooth, repetitive, and predictable in comparison to his peers. These smooth and predictable actions typically occurred when students were sitting, leaning back, or resting in their chairs, often becoming more animated when leaning in or standing.

More interesting were moments of student bodies that were conspicuously still or noticeably inactive. For example, during the deliberation of CCMME 1, a highly active collaborative moment as the group developed their island sketch, Gwen sat very still in her chair with her hands hidden in her lap. Similarly, during deliberation of CCMME 2, in which the group was developing movement phrases to explore life on their island, Fletcher left the group and returned to his seat, sitting frozen in his chair, arms crossed and chin down. In these cases of non-responsiveness, a student would stop moving their body, including their heads and hands, which are often highly active throughout the collaboration. This included a lack of gestures and nodding or head turning in response to the flow of ideas from one person to another. In the case of the first series of deliberation for CCMME 4 where island members argued about where and how to use remaining resources, Alice sat noticeably still throughout the collaborative efforts of her group. Even though she was facing the center-point of the group, she neither rocked, leaned, nor gestured in response to the flow of ideas. While students might still be turned toward the center-point, their stillness articulated a stand-still in their participation in the collaboration. This stillness included both passive breaks from participation and active resistance to participation in the collaboration.

Likewise, students' actions occasionally displayed a unique non-responsiveness to the bodies, movement, and ideas of the center-point. In some cases, this was a passive inaction

131

where a student's body did not respond to the transition of the center-point or the flow of ideas across space. For example, during the consensus of CCMME 1 where students worked closely over the sketch of the island map, Gwen did not change the facing of level of her body in response to the moving center-point, as did her peers. Rather, she continued with a series of actions which had begun prior to the shift of the group. On the other hand, some cases of non-responsiveness displayed active resistance to the movements of the group. During the consensus of CCMME 3, Fletcher meticulously and rhythmically places and folds post-it notes around the stem of his pencil as his peers came to a collaborative consensus on the name of their essential agreement, a document central to the island collaboration. In this case, Fletcher engaged in an action which was repetitive, smooth, strong, and actively dissimilar to the actions of the group around the center-point. Though engaged in different examples of non-responsiveness, both students remained outside the meaning-making efforts of the collaboration.

As the activities of the collaboration progressed, students also began to take up the manipulation of each other's bodies. Manipulation of bodies began during the consensus of CCMME 1 when Alice took Ben's hand and used it to high-five Cato. By the end of CCMME 4 where students were making final decisions for a treaty with other islands, Alice held Grace by the shoulders, pushing her back, then she grabbed Gwen by the harm, holding it behind Gwen as she attempted to move away. During CCMME 4 after the island of Greynel had agreed upon a treaty, Cato also manipulated Gwen's body by lightly placing his hand on her shoulder as well as on top of her head. In each of these cases, one peer would directly manipulate the actions of another, often in direct response to the collaborative work of students around the center-point. In the first case, Cato had been waiting for a high-five from Ben to congratulate him for his

contribution of an important idea. In the last instance, Alice and Cato were manipulating Gwen in response to her unpopular idea that they were trying to overrule.

Gesture and Materials

Students used gestures to draw their peers' attention to a particular idea or material of the collaborative group. This frequently included direct gestures, such as pointing at a peer or material, but also included broader gestures that included the group at large. For example, during the articulation of ideas during CCMME 1, Fletcher hit his fingers repeatedly against Alice's table in order to draw her attention to him and his idea. During the deliberation of CCMME 3, Darcy snatched the talking prop (designed to designate a single speaker) out of the center-point in order to draw her peers' attention and distinguish herself as the speaker. Gesture was also used to draw peers' attention to the materials themselves, such as when students would hold up examples of their drawing or writing and wave their hand or point to elements of the paper in order to gain their peers' attention.

Specific gestures were also utilized to specifically communicate a key piece of information. During a pivotal moment of articulation in CCMME 2, Elizabeth cast her vote for island president by distinctly raising her thumb to point at Darcy. This was a gesture that she repeated twice, without words, to cast the deciding vote in the presidential election. Across the group, raising hands and fists in the air was a generally accepted way for students to cast votes and signal agreement with ideas or speakers. Other gestures were utilized to communicate more disciplinary measures. During the deliberation of CCMME 3, Darcy pointed and flexed her hand repeatedly at Cato, physically demanding that he give her his paper. During the articulation of CCMME 3, Elizabeth paused her sharing in order to turn her head and narrow her eyes pointedly at Fletcher until he stopped tapping his pencil vigorously against the side at the table. In these

instances, gestures were used to communicate with and direct peers within the collaborative group.

Finally, gestures and materials were also used to shift the center-point of a collaborative discussion towards particular students or ideas. While the group sketch of the island map was originally centered on the group of tables at the midpoint between Alice, Ben, Cato, Darcy, Elizabeth, and Fletcher, by the time students had entered consensus, the map had shifted directly in between Fletcher and Elizabeth, which in turn, shifted the center-point of the collaboration, so that Fletcher and Elizabeth had significantly more access to the transmission and implementation of ideas than other students. Similarly, students used their bodies to try and shift the center-point of collaboration towards themselves, through actions such as clapping repeatedly or pointing. The use of gesture and material to shift the center-point of discussions became a powerful tool for providing and limiting access to the deliberation and implementation of ideas.

Discussion

Over the course of the collaborative process-drama, students in the group of Greynel used their bodies in complex ways to share their thinking, deliberate ideas, and come to agreement in their shared meaning making. Throughout the collaboration, students used bodies and space to enter and exit the conversation. This included a number of embodied practices from sitting and standing, leaning out and leaning in, gesturing, and changing facings. Students' bodies acted responsively to the ebb and flow of collaboration, and students' bodies acted responsively and directly to the bodies and ideas of their peers. While student bodies and space were the objective of analysis in this project, the rich and meaningful tapestry of their embodied meaning making is representative of the rich language evidenced in research of collaborative practices (E. M. Nussbaum, 2008; Van Boxtel et al., 2002) Students' bodies and space as an objective of analysis

also brought to light additional ways in which bodies, space, and gesture contributed to and directed the exchange of ideas in such a way that oral and text-based analyses could not have included (Buchholz, 2015).

In addition to the range of communicative practices represented in students' embodied experiences, students' bodies and space were also utilized for sharing and [hiding] ideas. In most cases, students used their bodies to negotiate the ways in which ideas traveled from one participant to another. In some cases, however, student bodies were utilized as a mechanism for shielding ideas from view, such as when a student held their hand over a paper, curved their body around a clipboard, or turned their face away from one peer and towards another. This relationship between bodies and learning, where the student relies upon and can also be hindered by the bodily experience of themselves and others is reflective of the ways in which bodies are always present yet often overlooked in classrooms spaces (Almquist & Quennerstedt, 2015). Regardless, the students' bodily experience in the case of this collaborative work was directly and irrevocably connected to their thinking and learning (Ellingson, 2017).

Students' embodied collaboration was also reflective of the norms, values, and shared expectations of the classroom as a school community (Rogoff et al., 1995). For example, students frequently practice familiar classroom techniques for management, such as raising hands or standing up to gain attention from peers or to make a point (Spatz, 2015). In some cases, the replication of embodied techniques for management was helpful for supporting the communication of ideas. In other cases, however, students replicated more authoritarian uses of bodies and space that were reflective of school practices meant to manage and discipline student bodies. Moments where students would gesture commandingly or even physically move the

body of another student were reflective of the surprising and unexpected moments when a body's power suddenly comes to light in a classroom space (Connor et al., 2004).

Across the collaborative work, students' bodies and space were utilized flexibly and purposefully to engage in the meaningful development of ideas over time. Students' bodies and spaces responded directly to their peers and to the ideas deliberated by the group. Students' bodies also reflected the affordances and limitations of the classroom space for accessing the transmission of ideas across participants, reflecting the often-challenging nature of spatial confinement in a classroom setting (Alerby et al., 2014). Certainly, students' bodies and spaces played a critical role in their ability to articulate, deliberate, and come to consensus of ideas during their collaborative meaning making.

Significance and Next Steps

It is possible that by asking the questions, "How are students' physical bodies a part of their collaborative learning spaces in creative endeavors?" and "What can students' physical bodies tell us about their collaboration and meaning-making processes?" I am simply looking for the opportunity to ask more questions than I answer. This is, after all, the intent of arts-based research (Barone & Eisner, 2011), which causes ABR researchers to critically examine those spaces that are so familiar, they can no longer be seen. This is also the affordance of performance dance. By examining students' bodies and space through dance, a researcher-artist shifts the lens through which classroom spaces are typically viewed. This is bound to be an uncomfortable experience.

Though engagement in arts-based research can support those interested in embodied research to reconsider lines of inquiry, this project also holds immediate implications for students and teachers in classrooms. As teachers and researchers, we are always interested in the utility of

empirical understandings. There are several considerations specifically for teachers and education stakeholders. First, the physical nature of classroom space matters as students need room, literally, to flexibly enact learning. While classrooms are often designed with static furniture and formation (Alerby et. al., 2014; Duncum, 1999), stagnant space is not ideal for collaborative meaning making. Ideally, students and teachers can engage in classrooms where desks and chairs are mobile and flexible, allowing ample space for students to move autonomously and purposefully throughout the room. Similarly, students' collaborative space matters. The space in which collaborative groups work matter in how well students can access, contribute to, and shape the meaning developed in the group. Teachers can explicitly support students in making physically equitable group space where students build skills in equitably utilizing space and materials.

In addition to the use of classroom space, there are very real implications for teachers' and students' understanding of classroom bodies. While gesture, eye contact, and facial expression are well understood social and cultural forms of communicative practice (Liddicoat, 2011; ten Have, 2007), they are not the only ways in which the body communicates and forms meaning imbricately with language and cognition. The energy and force of action tied to the use of space and form are constantly in communicative motion. A students' stillness is as meaningful as their explicit language-based gesture (Goldin-Meadow, 1999). Educators and researchers have developed many tools for supporting students in communicating their thinking through oral and written language; however, there are fewer explicit supports for students' bodies other than management strategies such as sitting up straight and looking at the speaker (Stahl, 2019), which cover a very narrow range of bodily experiences compared to the sophisticated embodiment of collaborative work. Attention to bodies always runs the risk of prioritizing discipline and control.

137

However, I would argue that the intentional reflection of material and affective practices of the body can result in access to meaning making. The emphasis of instructional practices must remain on meaning making rather than on the replication or assimilation of desired normative bodily practices.

The significance and implications of bodies in collaborative meaning making lead to an additional score of questions to be answered by intersections of students, teachers, artists, and researchers. What would classrooms look life if they were designed specifically for embodied and collaborative learning? How do students understand and experience their embodied meaning making? What happens to meaning making when instructional practices see, hear, support, and acknowledge classroom bodies as imbricately tied to language and cognition in communicative practices? For many of researchers and teachers, these ideas are critically important. In order to support students in their learning, growth, and development, it is essential that the utilization of classroom spaces is reimagined, especially in consideration of how and why students are engaging in those spaces, both with their bodies and their minds. Minds are never separated from bodies, especially in critical and collaborative meaning making. Each plays a critical role in both the navigation of physical space and social meaning. The continued disinterest in the bodies of students in classrooms other than to manage or discipline is a limitation and a disservice to students.

APPENDIX

APPENDIX A. Codebook

Reading the codebook:
- Student pseudonyms are abbreviated by first letter
- Critical Collaborative Meaning-making Episodes (CCMME) are abbreviated by CCMME number and by pivotal moment (articulation, deliberation, consensus). For example, a movement example numbered 2:D refers to a movement that occurred during CCMME 2: Deliberation. A movement example numbered 4:C refers to a movement that occurred during CCMME 4: Consensus. Examples that do not include a CCMME reference happened across CCMMEs and pivotal moments by multiple students.

Theme	Description of codes with examples
Energy	Energy levels change over the course of the activity. Different students utilize different momentums of energy over the course of the activity (*i.e. Ben's energy fluctuates from high to low during CCMME 1 and 3; Alice remains consistently high energy across CCMME 1 and 3).*
	During Articulation and Deliberation, students exhibit a range of high-energy gestures (*i.e. pointing fingers, hitting the table with palms or backs of hands, waving, walking).*
	During Articulation and Consensus, students exhibit a range of low-energy gestures (*i.e. rocking and leaning, rotating head, resting head on hands or table).*
	Energy connects with the student body level: Standing denotes higher levels of energy (*i.e. Cato and Darcy stand with energy to share ideas; students move collaboration away from the tables to open space).*
	Energy connects with the student body level: Sitting denotes lower levels of energy (*i.e. Cato rests his head on his arms; Ben leans back in his flexible chair; Fletcher rests his chin on the table).*
Level	Students' bodies move across levels: high to low (*i.e. Darcy sits on her feet to raise herself to eye level with her peers; Alice stands over peers to respond to an idea; Gwen shifts between leaning low over the table to standing and back).*
	Students' bodies move across levels: in and out (*i.e. Ben leans forward to listen to his peers, Fletcher leans around Elizabeth to see what she drew on her paper; Gwen leans back in her chair away from her peers).*
Space (blocking)	The discussion/collaboration has a center-point/mid-point that shifts throughout activities. Students rotate their position/bodies around the center-point of the collaboration (*i.e. the center-point is in the middle of Alice, Ben, Cato, Darcy, and Fletcher; the center-point shifts narrowly between Elizabeth and Fletcher*

as they work on the island sketch; the center-point shifts away from the table and fragments into three groups as the students move into the open space).

Students' bodies move across the center-point: facing toward and facing away from collaboration (*i.e. Gwen turns her body and face in a different direction than the center-point; Darcy continues to face the original center-point after it shifts to a new location; Elizabeth sits with her back directly toward Fletcher, Gwen, and Alice*).

Students move locations/transition from their original seat (*i.e. Cato circumnavigates the group to stand in a new location; Alice and Gwen leave their seats to stand between Darcy and Cato; all the students leave seats to collaborate in open area*).

Students' bodies will come in between their peers and the center-point or materials under discussion (*i.e. Cato and Alice block Gwen by turning their backs to her; Fletcher holds his hand over his sketch; Elizabeth twists around a clipboard*).

Students' bodies will be placed in opposition to each other (*i.e., Ben turns his body directly towards Cato as he listens and responds to his ideas; Alice and Gwen stand directly across from each other; Alice and Gwen stand side by side with arms interlocked*).

The shape of the space limits some students' access to the center-point of the collaboration (*i.e. the placement of the desks in the group means Gwen is farther away than her peers from the center-point; the narrow space between the tables presents challenges for establishing a new center-point*).

Action/body	Students' movements are sharp, sudden, syncopated, or unpredictable (*i.e. Alice waves her hands sharply during articulation; Fletcher points and hits his hands during deliberation; Cato and Gwen stand suddenly*).

Students' movements are slow, smooth, rhythmic, and predictable (*i.e. Darcy transitions between standing/gesturing and leaning/writing; Gwen skims her paper with her pencil; Ben waves his arms smoothly and repeatedly*).

Students' movements are conspicuously still and frozen (*i.e. Gwen shifts her body away from her peers as they move towards her; Fletcher rhythmically folds post-it notes as his peers deliberate*).

Students move and manipulate their peers' bodies (*i.e. Alice uses Ben's hand to give Cato a high-five; Cato places his hand on Gwen's head*).

Gesture/ material	Students use gestures to draw attention to a particular person or material (*i.e. Fletcher hits his fingers against Alice's table; Elizabeth lifts her paper and gestures towards it*).
	Specific gestures are used to specifically communicate a key piece of information (*i.e. Elizabeth points her thumb directly at Darcy to cast a deciding vote; Darcy points and flexes her hand at Cato demanding his paper*).
	The movement of materials can shift the center-point (*i.e., the group sketch shifts directly between Elizabeth and Fletcher; Darcy keeps the treaty clipboard on the floor directly in front of her*).

REFERENCES

REFERENCES

Aldis, D., Muench, G., & Fasteneau, A. (2018, September). *The elements of dance: Graphic organizer*. The Elements of Dance. https://www.elementsofdance.org/begin-here.html

Alerby, E., Hagström, E., & Westman, S. (2014). The embodied classroom—A phenomenological discussion of the body and the room. *Journal of Pedagogy*, *5*(1), 11–23. https://doi.org/10.2478/jped-2014-0001

Almquist, J., & Quennerstedt, M. (2015). Is there (any)body in science education? *Interchange*, *46*(1), 439–453. https://doi.org/10.1007/s10780-015-9264-4

Andersson, J., & Garrison, J. (2016). Embodying meaning: Qualities, feelings, selective attention, and habits. *Quest*, *68*(2), 207–222.

Andersson, J., & Risberg, J. (2018). Embodying teaching: A body pedagogic study of a teacher's movement rythm in the "sloyd" classroom. *Interchange*, *49*(1), 179–204. https://doi.org/10.1007/s10780-018-9321-x

Apol, L., & Kambour, T. (1999). Telling stories through writing and dance: An intergenerational project. *Language Arts*, *77*(2), 106–117.

Ardis, A. (1992). Presence of mind, presence of body: Embodying positionality in the classroom. *Hypatia*, *7*(2), 167–176.

Barone, T., & Eisner, E. W. (2011). *Arts based research*. Sage.

Blumenfeld-Jones, D. (2008). Dance, choreography, and social science research. In J. G. Knowles & A. L. Cole (Eds.), *Handbooks of the Arts in Qualitative Research* (pp. 175–184). Sage Publications.

Buchholz, B. A. (2015). Drama as serious (and not so serious) business: Critical play, generative conflicts, and moving bodies in a 1:1 classroom. *Language Arts*, *93*(1), 7–24.

Buono, A., & Gonzalez, C. H. (2017). Bodily writing and performative inquiry: Inviting an arts-based research methodology into collaborative doctoral research vocabularies. *International Journal of Education & the Arts*, *18*(36), 1–20.

Cancienne, M. B., & Snowber, C. (2003). Writing rhythm: Movement as method. *Qualitative Inquiry*, *9*(2), 237–253.

Chinn, C. A., O'Donnell, A. M., & Jinks, T. S. (2000). The structure of discourse in collaborative learning. *The Journal of Experimental Education*, *69*(1), 77–97.

Connor, D. J., Newton, R. M., Pennisi, A. C., & Quarshie, A. A. (2004). Tales of body/space invasions in school. *Qualitative Inquiry*, *10*(4), 495–508. https://doi.org/10.1177/1077800403259707

Davenport, D. R., & Forbes, C. A. (1997). Writing movement/dancing words: A collaborative pedagogy. *Education*, *118*(2), 293–303.

Davidson, J. (2004). Embodied knowledge: Possibilities and constraints in arts education and curriculum. In L. Bresler (Ed.), *Knowing bodies, moving minds: Towards embodied teaching and learning* (pp. 197–212). Kluwer Academic Publishers.

DiCamilla, F. J., & Anton, M. (1997). Repetition in the collaborative discourse of L2 learners: A Vygotskian perspective. *Canadian Modern Language Review*, *53*(4), 609–633.

Duncum, P. (1999). The semiotics of children's bodies as found in popular media. *Arts and Learning Research Journal*, *16*(1), 78–81.

Dyson, A. H., & Genishi, C. (2005). *On the case* (Vol. 76). Teachers College Press.

Ellingson, L. L. (2017). *Embodiment in qualitative research*. Taylor & Francis.

Erevelles, N. (2000). Educating unruly bodies: Critical pedagogy, disability studies, and the politics of schooling. *Educational Theory, 50*(1), 25-47.

Franklin-Phipps, A. (2017). Entangled bodies: Black girls becoming-molecular. *Cultural Studies - Critical Methodologies*, *17*(5), 384–391. https://doi.org/10.1177/1532708616674993

Franks, A., & Jewitt, C. (2001). The meaning of action in learning and teaching. *British Educational Research Journal*, *27*(2), 201–218. https://doi.org/10.1080/01411920120037144

Gee, J. P. (1991). What is literacy? In *Rewriting literacy: Culture and the discourse of the other. Critical studies in education and culture series.* (pp. 3–11). Bergin & Garvey.

Goldin-Meadow, S. (1999). The role of gesture in communication and thinking. *Trends in Cognitive Science, 3*(11), 419-429.

Harden, J. (2012). Good sitting, looking and listening: The regulation of young children's emotions in the classroom. *Children's Geographies*, *10*(1), 83–93. https://doi.org/10.1080/14733285.2011.638178

Heath, S. B., & Street, B. V. (2008). *On ethnography: Approaches to language and literacy research. Language & literacy (NCRLL)*. Teachers College Press.

Kao, S. M., & O'Neill, C. (1998). *Words into worlds: Learning a second language through process drama*. Greenwood Publishing Group.

Leavy, P. (2015). *Method meets art: Arts-based research practice*. Guilford Publications.

Liddicoat, A. J. (2011). *An introduction to conversation analysis* (2nd ed.). Continuum International Publishing Group.

Mace, M.-A., & Ward, T. (2002). Modeling the creative process: A grounded theory analysis of creativity in the domain of art making. *Creativity Research Journal*, *14*(2), 179–192.

Markula, P., & Denison, J. (2000). See spot run: Movement as an object of textual analysis. *Qualitative Inquiry*, *6*(3), 406–431.

Mason, L., & Santi, M. (1998). Discussing the greenhouse effect: Children's collaborative discourse reasoning and conceptual change. *Environmental Education Research*, *4*(1), 67–85.

McLaren, P. (1999). *Schooling as a ritual performance: Toward a political economy of educational symbols and gestures*. Rowman & Littlefield.

Mulcahy, D. (2012). Affective assemblages: Body matters in the pedagogic practices of contemporary school classrooms. *Pedagogy, Culture, & Society, 20*(1), 9-27.

Niccolini, A. D. (2016). Terror(ism) in the classroom: Censorship, affect and uncivil bodies. *International Journal of Qualitative Studies in Education, 29*(7), 893-910.

Nussbaum, E. M. (2008). Collaborative discourse, argumentation, and learning: Preface and literature review. *Contemporary Educational Psychology*, *33*(3), 345–359.

Nussbaum, M. C. (2010). *Not for profit: Why democracy needs the humanities*. Princeton University Press.

Osborne, J. (2010). Arguing to learn in science: The role of collaborative, critical discourse. *Science*, *328*(5977), 463–466.

Perry, M., & Medina, C. (2011). Embodiment and performance in pedagogy research: Investigating the possibility of the body in curriculum experience. *Journal of Curriculum Experience, 27*(3), 62-75.

Preston-Dunlop, V. (2006). *Looking at dances: A choreological perspective on choreography*. Verve Publishing.

Resnick, L. B. (1991). Shared cognition: Thinking as social practice. In L. B. Resnick, J. M. Levine, & S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 1–20). American Psychological Association.

Rimm-Kaufman, S., & Merritt, E. (2019). Let's power our future. *Science and Children*, *57*(1), 52–60.

Rogoff, B., Baker-Sennett, J., Lacasa, P., & Goldsmith, D. (1995). Development through participation in sociocultural activity. In *New Directions for Child Development, No. 67* (pp. 45–65). Jossey-Bass.

Silverstein, L. B., & Layne, S. (2010). Defining arts integration. *Kennedy Center for the Performing Arts*, 1.

Sklar, D. (2000). Reprise: On dance ethnography. *Dance Research Journal*, *32*(1), 70–77.

Snowber, C. N. (2012). Dancing a curriculum of hope: Cultivating passion as an embodied inquiry. *Journal of Curriculum Theorizing*, *28*(2), 118–125.

Spatz, B. (2015). *What a body can do*. Routledge.

Spina, S. U. (1999). Student bodies as bodies of knowledge: Moving beyond Cartesian pedagogy. *Arts and Learning Research Journal*, *16*(1), 96–98.

Stahl, G. (2019). Critiquing the corporeal curriculum: Body pedagogies in 'no excuses' charter schools. *Journal of Youth Studies,* 1-17.

ten Have, P. (2007). *Doing conversation analysis* (2nd ed). Sage.

Van Boxtel, C., van der Linden, J., Roelofs, E., & Erkens, G. (2002). Collaborative concept mapping: Provoking and supporting meaningful discourse. *Theory into Practice*, *41*(1), 40–46.

Vass, E., Littleton, K., Miell, D., & Jones, A. (2008). The discourse of collaborative creative writing: Peer collaboration as a context for mutual inspiration. *Thinking Skills and Creativity*, *3*(3), 192–202.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.

Accessing Dance Performance

Given the affordances of technology in the twenty-first century, video from the dance performance, "I'm Here," can be viewed through the QR code in Figure 12. While video recordings of performance are not a perfect place holder for live performance (for example, "I'm Here" was originally choreographed to be viewed by an audience sitting in the round), it provides access to performance content for those unable to attend and to those interested in the work of the performance well after the dance has already taken place.

Figure 12.

QR code for "I'm Here: A Dance Performance"

Responding to Dance Performance

Responding to performance art can be a daunting task, whether the art is viewed in the live time or through recording. In Table 7 below are a number of resources and guiding questions for those interested in viewing and responding critically and thoughtfully to a work of performance art.

Table 7

Areas for reflection and guiding questions when responding to a dance performance

Areas for Reflection	Guiding questions
Dance as intentional	In what ways is the art rewarding my attention and what kind of reward does it offer? (Lavender, 2003)
	What decisions can I see the artist making and what do those decisions say to me? (Lavender, 2003)
Dance as structure	How do elements of movement build upon each other and juxtapose each other? (Preston-Dunlop, 2006)
	How do gestures build to moments, to scenes, to a complete piece? (Preston-Dunlop, 2006)
	How well does this structure carry meaning for me as an audience member? (Preston-Dunlop, 2006)
Dance as communication	What about the performance holds meaning for you as an audience member? (Lerman & Borstel, 2003)
	What was interesting, compelling, surprising, challenging (or other additional adjectives) for you as an audience member? (Lerman & Borstel, 2003)
Dance as process	What opinions do I have about this piece, and how can I rephrase them as a neutral question or as a wondering? (Lerman & Borstel, 2003)
	Example opinion: I'm confused about why there is only one dancer.
	Example wondering: I wonder why the choreographer decided to use only: one dancer instead of multiple dancers.
	Example neutral question: Can your share some of your thinking behind using one dancer for this piece?

REFERENCES

REFERENCES

Lavender, L. (2003). The critical appreciation of dances. In J. Chazin-Bennahum (Ed.), *The living dance: An anthology of essays on movement and culture* (pp. 224–252). Kendall/Hunt Publishing Company.

Lerman, L., & Borstel, J. (2003). *Liz Lerman's critical response process: A method for getting useful feedback on anything you make, from dance to dessert* (1st ed.). Dance Exchange, Inc.

Preston-Dunlop, V. (2006). *Looking at dances: A choreological perspective on choreography*. Verve Publishing.

A Body's Final Thoughts

Figure 13.

QR code for "A Body's Final Thoughts."

Bowed and bent, a schooled body
dedicates thought to the material.
Black and white curl in a code
as rigid fingers curl over keys.

Aching back and forgotten limbs
twist to squeeze the last
low hanging fruit
from the embattled tree.

A twist of fate stands
to shift perspective.
Squeeze again in a final push
to lift letters higher.

Yet:

Step away
chair table desk stand
paper pen keys curser screen.
Into
hands feet knees elbow neck
thighs ribs shoulders pelvis.

Layers and levels
of action announced.
A body being a body
to learn a body.

I look again
for the first time,
and the tree

Teems with life.