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Facilitating Embodied Instruction: Classroom Teachers' Experiences with Drama-Based Pedagogy

Peter B. Duffy

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FACILITATING EMBODIED INSTRUCTION: CLASSROOM TEACHERS'
EXPERIENCES WITH DRAMA-BASED PEDAGOGY

by

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DEDICATION

This dissertation is dedicated to my wife, Patti Walker. Without her support, proofreading, editing, talking about, and thinking through this dissertation with me, it never would have happened. The words *thank you* are trivial compared to my depth of gratitude for every evening you put our children to bed by yourself so I could stay in my office and work. You have supported me in not only through this, but all of our journeys together and I feel exceedingly blessed. Thank you from the bottom of my heart. To my children, Nolan and Evelyn - may this work in some small way contribute to your own love of education, wonder, creativity, compassion, and imagination.

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I would like to thank my mother and father for their unfailing and unflappable love and support. I would not be in education if not for their being my first and best teachers. I know this achievement would make my father proud.

ABSTRACT

There is much anecdotal evidence to suggest that drama-based pedagogies significantly contribute to improved teaching and learning. Furthermore, there is important research that demonstrates the impact on teachers when they learn about neuroscience. This research project developed six professional development sessions for six elementary school teachers to provide training on both drama-based instruction and research on embodiment. Combining these two fields presented a problem. Arts-based research is qualitative in nature where cognitive science research depends on post-positivistic assumptions of reliability and trust-worthiness. Missing from these standard measures of research (fMRI studies, STROOP Tests, reaction time tests), however, is the impact of embodiment research, for example, has on teaching and learning beyond the laboratory. Knowing a subject's response rate or reaction time within laboratory settings is a different piece of data than understanding how a subject (in this case a teacher within public schools) contextualizes and embodies content and transfers that content into embedded memory for later recall. This research project endeavors to study the changes within classrooms and teachers when they attend professional development sessions about how to implement embodied, drama-based pedagogies. Through interviews, field observations, and surveys, the researcher attempts to story the growing quantitative neuro-scientific research on what happens to teachers when they learn about neuroscience with qualitative research that captures the lived experiences of teachers to determine whether this professional development model impacted teacher performance. The study found that training in cognitive science and drama influenced the teachers' approach to their lesson planning in that they centered their instruction on emotion-centered practice and embodied instruction and therefore. They report having done so because they saw changes in their students' learning and behavior.

TABLE OF CONTENTS

DEDICATION	iii
ACKNOWLEDGEMENTS.....	iv
ABSTRACT	v
LIST OF TABLES	ix
CHAPTER 1: INTRODUCTION: FROM THERE TO HERE.....	1
1.1 STATEMENT OF THE PROBLEM: A FRACTURED WHOLE	4
1.2 NATURE OF THE STUDY	9
1.3 RESEARCH QUESTION AND PURPOSE OF THE STUDY	11
1.4 CONCEPTUAL FRAMEWORK.....	14
1.5 OPERATIONAL DEFINITIONS	19
1.6 LIMITATIONS	21
1.7 SIGNIFICANCE OF THE STUDY	22
CHAPTER 2: LITERATURE REVIEW	24
2.1 INTRODUCTION.....	26
2.2 FORGING LINKS: A CASE FOR COGNITION AND DRAMA-BASED INSTRUCTION...	28

2.3 LEARNING THROUGH ANALOGICAL INDUCTION	32
2.4 TEACHER PROFESSIONAL DEVELOPMENT	36
CHAPTER 3: LITERATURE REVIEW	37
3.1 POSITIONALITY CONSIDERED AND RECONSIDERED	37
3.2 RESEARCH DESIGN AND METHODOLOGY	42
3.3 STORYING QUANTITATIVE DATA THROUGH QUALITATIVE ANALYSIS.....	43
3.4 RETROSPECTIVE PROTOCOL	48
3.5 ROLE OF THE RESEARCHER IN DATA COLLECTION	50
3.6 QUESTIONS AND INTERVIEW PROCESS AND PROTOCOL	51
3.7 CONTEXT OF THE STUDY	52
3.8 MEASURES FOR ETHICAL PROTECTION.....	54
3.9 TRUSTWORTHINESS	56
CHAPTER 4: RESEARCH FINDINGS.....	58
4.1 PROFESSIONAL DEVELOPMENT SESSIONS.....	61
4.2 THE PARTICIPANTS.....	63
4.3 BONNIE.....	64
4.4 CHRIS	67
4.5 MARY.....	72
4.6 DEIRDRE.....	74
4.7 JUNE	78
4.8 STEPHANIE	81
4.9 CROSS-PARTICIPANT ANALYSIS	84
4.10 SHIFTS IN PLANNING.....	85

4.11 EMOTION-CENTERED PRACTICE	89
4.12 EMBODIED INSTRUCTION	94
4.13 STUDENT LEARNING	97
4.14 MANAGEMENT AND CONTROL	100
4.15 CONCERNS BASED ADOPTION MODEL	102
4.16 VIDEO ANALYSIS/RETROSPECTIVE PROTOCOL	109
CHAPTER 5: CONCLUSIONS	115
5.1 SUMMARY OF THE STUDY	115
5.2 DISCUSSION	117
5.3 IMPLICATIONS FOR PRACTICE	129
5.4 RECOMMENDATIONS FOR FURTHER STUDY	130
5.5 CONCLUSIONS	132
REFERENCES	135

LIST OF TABLES

Table 3.1 Concerns Based Adoption Model <i>Levels of Concern</i>	45
Table 4.1 Explanation of Professional Development Sessions.....	61
Table 4.2 The Participants	63
Table 4.3 Concerns Based Adoption Model Survey Questions.....	103
Table 4.4 Concerns Based Adoption Model – Shifts over in attitude/opinions.....	104
Table 4.5 Concerns Based Adoption Model - Participant Feedback	108

CHAPTER 1

INTRODUCTION

What a teacher has to appreciate is that the children taking part in drama do not set out with an intention to gain new insights, to break habits of conceptions and perceptions. It is in this respect that drama education differs fundamentally from traditional pedagogy. The participant's mental set in entering drama is not an 'intention to learn'. It is an intention to create or take part in or solve something.

(Bolton 1984, p. 154)

Education is concerned with individuals; drama is concerned with the individuality of individuals, with the uniqueness of each human essence.

(Way, 1967, p.3)

Introduction: From there to here

At twenty-two years old, I was a newly minted teacher who wanted to change the world through literature and cultural studies. But I was lucky if I could find the portable classroom where I was supposed to teach – let alone change the world. As a beginning teacher, I would have laughed at the notion that I would later dedicate my professional life to learning and teaching through theatre. Fresh out of college, theatre pedagogy was

the last thing on my mind. I acted in high school plays and participated in community theatre during summers in college, but it was a lark, not a serious vocational calling. I wanted to teach about the world and ideas, and teach them well. Theatre and teaching seemed to be distant islands bridged only by my isolated interest in each. It never occurred to me at the time that what I saw as discrete islands were, in fact, part of an expansive archipelago of deep learning, personal investment, and agency.

Well before I realized the power of theatre, I felt as if I were sinking under the pressures placed on a young educator. What weighed on me the most were the stories my students told me about their lives. Their realities quickly came to the foreground, and it was clear that planning cogent lessons, adhering to standards and following pacing guides were not enough. And it was not enough still to want to be a good teacher and to have a big heart. My students demanded more from me and from themselves. It was not until I (witnessed? discovered?) how theatre engages learners that I saw how teaching and learning could be an active celebration of self and content that connects experience with ideas. Theatre taught me that there were ways of working with students that moved beyond just filling them up with facts (Freire, 1996).

Listening to my students struggle to learn through the conventional methods I practiced with them made it clear that I had to teach differently. I was becoming more and more convinced that the traditional delivery methods of “*sit and git*” that I employed in my English and German classes had little immediate relevance to the lives of the students in my room. It was as if I watched them drift further and further away from me, while I stayed tethered to the front of my classroom armed only with my good will and a nub of chalk gripped firmly in my hand. I wanted the young people who walked through

my classroom door to be challenged by education. But I didn't know how to do that really. Too many students were leaving school in the same shape in which they arrived. Too many came to school uninspired, under-appreciated, un-noticed, under-challenged, undernourished both emotionally and physically, over-extended, and just outright bored.

Theatre became a way to push against the boredom and to inspire students to come to content rather than dragging content to them. If it were not for my then middle school principal, I never would have done anything with theatre. But I was asked to direct the middle school play. I agreed and immediately saw curricular connections. From there I started to immerse myself into theatre in education literature. After that, I began to employ a few activities from the renowned theatre artist, social critic and community organizer Augusto Boal's Games for Actors and Non-Actors in my classes. Immediately, I saw that students became engaged and active. I used a few basic techniques such as tableaux (shaping bodies into frozen images), and I experienced a willingness in my students to think and talk about ideas of power in ways that were new to them and to me. My initial life as a German and English middle-level teacher morphed into a Drama and English position. Over time, I developed a theatre program at my school where almost a quarter of the student body was involved in theatre in some aspect. I was so naïve at twenty-four, I had even wondered if anyone ever thought of using theatre as a teaching and learning tool! I was a bit like Christopher Columbus claiming to have discovered a "New World" without acknowledging that it had been inhabited by advanced civilizations for centuries. I did not realize at the time that there was a long and rigorous research tradition in theatre education.

The more involved I became in teaching content through theatre, the more I

wondered how and why drama based pedagogies impacted learning. What was it about theatre that made even my reluctant students seem more engaged and eager? Were these techniques ones that any teacher could do, or did one need specific theatre training? What was happening inside the minds of learners who participated in drama-based instruction?

STATEMENT OF THE PROBLEM – A FRACTURED WHOLE

To be in touch with our landscapes is to be conscious of our evolving experiences, to be aware of the ways in which we encounter our world.
(Greene,1978, p. 2)

Teacher education trains preservice educators to see the world in a particular way. Colleges of education across the county currently grapple with high-stakes testing, Common Core curricula, Science/Technology/Engineering/Mathematics (STEM) curricula as well as pressures from local and federal policies. These influences have the potential to construct how teachers encounter the children in their classrooms, their curricula, and the teaching and learning relationship itself. How does teacher education prepare educators to be conscious of, as Greene says, “our evolving experiences.” The lens of STEM, Common Core and College and Career Readiness constrains teachers and teaching. Any media source will demonstrate how this is true.

Type “common core standards” and “education” into a Google search, and one will receive over 51 million hits. High-stakes test scores have replaced Rousseauian idealized notions of the child as a seed to blossom within the garden of education, and have recast the child as a future entrepreneur. Messages like “STEM education is closely

linked with our nation's economic prosperity in the modern global economy¹” are replete on the webpages of educational foundations and organizations. Corporate philanthropists like Bill Gates and Sam Walton are working with private organizations like Jeb Bush's Foundation for Educational Excellence to encourage teachers to deliver specific curricula to its customers (students).

This corporate model of transactional accounting of information is not just poor teaching, it is not supported by brain science. In fact, Kurt Fischer, the Charles Bigelow Professor of Education and the Director of the Mind, Brain, and Education Program at Harvard University suggests that,

According to the conduit model, teachers in schools share these knowledge objects [facts] with students, and then the students have the objects. Or at least they are supposed to have them. If the students do not use the objects effectively (understanding the knowledge and manipulating it), then they are judged to be stupid or lazy, or sometimes the teacher is judged to have not transmitted the information effectively. Knowledge is available as information, and students are supposed to take it and use it. Of course, good teachers and students know that learning does not follow this model, but the conduit metaphor is so pervasive in human language and culture that it is hard to escape its influence. (p. 5, 2009)

Fisher suggests what Freire (2003), Greene (1978) and other good teachers around the world know: information without context will not result in useful recall or application of

¹ Found on the webpage for the STEM Coalition at <http://www.stemedcoalition.org/wp-content/uploads/2010/05/One-pager-on-STEM-Ed-Coalition.pdf>

the learned information to other domains. When meaning is cleaved from context, learning and retention suffer.

This matter should be settled in education. The noted American philosopher and educational visionary John Dewey (1938) warned against separating the linkages of form from sense. He was chagrined by how the concepts of *sense, feeling, desire, purpose, knowing, and volition* would fall into categories of a fractured knowing (247). University of Southern California professor of psychology, Dr. Mary Helen Immordino-Yang suggests that the fracturing of sense from learning object is more than just excluding context from a fact to be learned, but also from its whole emotional impact. She maintains, "I don't like to think of emotion and cognition as separate things. There's thinking. And thinking has an emotional aspect, and it has a cognitive aspect. You can analyze one aspect or the other... but real thinking is never divorced from emotion."² Attaching a learner's emotional life to one's learning is a relatively new concept in cognitive science. Though for educators, this is hardly a new idea. Again, Dewey in *Art as Experience* said, "There are no intrinsic psychological divisions between the intellectual and the sensory aspects; the emotional and the ideational; the imaginative and the practical phases of human nature" (p. 247). Learning must not be separated and divvied like so much wheat from chaff.

Kurt Fisher laments the same reality of learning cleaved from rich contexts and expands it with borrowing an idea from embodied cognition. "[...] people talk as if learning occurs in the brain, leaving out the ways that the body contributes to learning, as well as the roles that a person's environment plays in shaping learning and providing

² <http://www.learner.org/courses/neuroscience/visuals/visuals.html?dis=U&num=02>

information” (p. 5, 2009). Scientists like Fisher and Immordino-Yang (see also Koizumi, 2004; Phelps, 2004; Blakemore and Frith, 2005) suggest that learning facts in isolation without considering the learner’s emotional responses and physical engagements with the material is incomplete learning.

And yet, in the United States, more time is being spent parsing out Science, Technology, Engineering and Mathematics (STEM) curricula. As a result, less time is invested in embedding the curricula within a larger matrix of self and learning.

American educational philosopher Maxine Greene (1995) views the arts as an opportunity to contextualize learning into personal meaning and a means through which people can envision themselves anew within their own learning landscapes. Her work interrogates what happens to the teaching/learning relationship when educators are trained in aesthetics. She queries how engaging in the world through the arts provides opportunities for context building, creating a unity of learning and meaning making. After reading Greene (1995) I shared this basic question even more resolutely – can learning curriculum through the arts generally, and theatre specifically, create opportunity for repairing the fractures of artificially separated curricula? More specifically I wondered whether providing non-drama teachers with professional development in basic drama techniques and a few cursory theories from cognitive science could impact a teacher’s pedagogical choices. Would teachers report their students participating in curriculum differently? Would lessons be planned differently? Would learning not only look different, but would crucial issues like *learning transfer* (learning a skill in one domain and applying it spontaneously to another) and *retention* be improved if students learned through drama based instruction? Do the ‘as-if’ and ‘what-if’ conditions of

drama deepen cognitive experiences (See Anderson, 2004)? What specific evidence exists that supports drama as an embedded pedagogy in schools? As suggested above, due to recent research, these questions are becoming answerable.

Over the past twenty-five years, research literature has blossomed examining the positive impact arts engagements have on learning and transfer of academic skills within various learning contexts (Baldwin 2012, Efland 2002, Hetland, Winner, Veenema, & Sheridan, 2007). Some researchers urge caution against the wholesale acceptance of the arts forging causal relationships between the transfer of art-specific skills into content specific classes (see Burton 2000; Lillard, Lerner, Hopkins, Dore, Smith, & Palmquist, 2013; Melnick, Witmer, & Strickland, 2011; Winner and Cooper 2000; Winner and Hetland 2000). Even though literature urges caution against making assumptions about the impacts of arts education, the warnings concern issues such as research design, the current technical capacity to *know* what happens in the brain, and the aggregation of terms like “the arts” as opposed to investigating individual arts disciplines. The presence of these warnings does not diminish the impact of arts education on teaching and learning, but it does remind researchers of the importance of sound research design when capturing realistic measurements of how the arts contributes to learning.

Researchers and practitioners within the field of Drama in Education have often made the claim that combining drama exercises with the regular classroom curriculum produces significant increases in a student’s retention of the curriculum and to their enjoyment of learning (Anderson, 2012; Heathcote, 1995; O’Neill, 1995; Way, 1967). These claims, however, are not supported by any significant volume of research inquiries. Some studies (Fiske, 1999; Ruppert, 2006) suggest that students who engage in drama

education have better memories and score higher on the verbal components on Standardized Achievement Tests. Though these claims are made, a dearth of research makes this connection between drama experiences and improved learning and retention, as well as improved standardized test scores, circumstantial. And yet, despite a lack of a solid causal relationship between drama conventions in the classroom and improved learning, many in education and the arts believe and espouse these links as if they are a proven reality. The Secretary of Education for the United States, Arne Duncan, supported the importance of arts education in a 2012 speech on a national report entitled, “Arts Education in Public Elementary and Secondary Schools: 2009-10.” He maintained,

For a host of reasons, high-quality arts education is absolutely critical to providing all students with a world-class education. The study of the arts can significantly boost student achievement, reduce discipline problems, and increase the odds that students will go on to graduate from college³.

Even with such a full-throated endorsement of arts education, there is little reflection of this in practice as the report Duncan introduced suggested.

Nature of the Study

This qualitative investigation draws upon the traditions of action and arts-based research in order to determine whether learning about drama and cognition changes teacher practice in the classroom. Furthermore, this research is an effort to situate drama-based instruction within a growing field of embodied cognition. A basic maxim in

³ <https://www.ed.gov/news/speeches/prepared-remarks-us-secretary-education-arne-duncan-report-arts-education-public-eleme>

theatre is that drama is doing. The study of how that *doing* impacts and even accentuates learning is embodiment. Therefore it seems clear that more study needs to happen regarding how drama impacts learning.

To do this, six teachers will be worked with during six (6) one-hour professional development sessions. These sessions will concentrate on providing the participating teachers with professional development on cognition in addition to drama-based instruction. Dubnisky, Roehrig, and Varma (2013) found that providing teachers with professional development in neuroscience increased teachers' knowledge of these scientific principles as well as transformed their pedagogy. Additionally, they discovered that the teachers shared this knowledge with their students and that transformed their students' metacognitive awareness.

The goal is to determine whether teaching through drama provides teachers a sense that their instruction has become deeply embodied learning. Embodiment, as will be discussed at greater length in Chapter Four, is the study of how the body and the senses mediate the world and how that mediation is translated into learning and knowing (Glenberg, 2004). The body is the portal to all learning. It is crucial for teachers and researchers to understand how embodiment works so that student learning and motivation are maximized.

Through teacher interviews, classroom observations, and qualitative surveys, this study aims to contextualize the experience of six elementary school teachers who were trained in basic theatre techniques and cognitive science research. It is the goal of the

study to examine how the teachers viewed their instruction and their student's learning after the drama-based instruction workshops.

As a discipline, arts-based education research is still a recent line of inquiry; therefore heeding methodological critiques will deepen its rigor and acceptance as a discipline. Beyond these critiques, however, the overwhelming majority of research concerning cognition and the arts provides convincing evidence of arts education's impact on non-arts related student achievement (see Brown, 2001; Gullatt, 2007; Hough and Hough, 2012; Sofia, 2013). The evidence supports what theatre artists have always seemed to intuit; theatre used purposefully and skillfully yields exciting examples of deep student learning.

Research Question and Purpose of the Study

According to Agee (2009), the development and refinement of qualitative research questions should be present during every stage of the research and writing process. Openness to the data and the qualitative journey as a whole determine the quality of the research. Qualitative research questions need to demonstrate the reflexive nature of the research. The questions are in constant dialogue with the researcher. The researcher shapes the questions, the questions shape the research, and the research process, in turn, winnows and reforms the research questions. This reflective cycle is at the heart of the qualitative journey.

My own experience with the data and research process followed Agee's (2009) advice of developing and refining the research questions throughout the entire qualitative journey (p. 434). Research questions emerge from experiencing the data over time and

reflecting on the participant's experiences throughout the process. Before working with the teachers, my questions were:

- 1) What impact did the professional development sessions about cognition and drama-based instruction make on teachers classroom practice?
- 2) Do the six teachers in the study report any changes in their instruction and pedagogical practice since participating in the six sessions about embodied?
- 3) Do these six teachers report a difference in student learning due to their professional development?

However, after learning more about the teachers and discovering their needs and strengths different questions emerged out of the process. Over time, my questions subtly shifted to:

- 1) What impact did the professional development sessions about cognition and drama-based instruction make on teachers classroom practice?
- 2) How did their concerns, as captured by the Concerns Based Adoption Model (CBAM), inform the six 90-minutes professional development sessions?
- 3) How did teachers negotiate their classrooms during/after the six 90-minutes sessions?

The development of research questions over time reflects and adheres to Schön's (1983) notion of the researcher within a 'Technical Rationality' context or a researcher in a 'practice context' (p.68). The technical rationality is where researchers think in concrete terms concerning methods, protocols and outcomes. The technical rationality concerns itself with details and research procedures. The 'practice context' is what happens in the

lived-experience of the research process with the participants. There is little surprise in that the events of the research process will shape and transform the technical aspects of the process.

Sub questions include:

- 1) How do classroom teachers make choices about which drama techniques they choose? On what do they base their instructional decisions?
- 2) Do particular drama techniques have greater influences on learning?
- 3) Can qualitative research techniques make a claim to capture evidence of embodied/situated cognition?
- 4) What other sorts of embodied experience do the teachers already plan for in their lessons?
- 5) If improvements in student learning do not materialize, how do researchers determine whether it is the drama technique or its facilitation that is responsible?

These research questions are relevant to the problem of discovering whether basic instruction in drama and cognitive science changes a teacher's instruction and pedagogical practice. As will be discussed in chapter two, there is a gap in the literature connecting classroom teachers choosing drama based instructional strategies in order to contextualize and unify curricular content.

The purpose of this study is to move drama-based instruction beyond individual teacher success narratives to a more complicated framework that blends drama practices and current neuro-scientific research in order to contextualize content. The goal is to

track whether professional development in these areas impacts a teacher's practice in the classroom.

Conceptual Framework

This research is influenced by explorations into cognition called Embodiment. My review of the research of embodiment falls into two basic categories: 1) Embodiment is how our central nervous system translates our interactions with our physical environment into our perceptions of it, and 2) embodiment relates to how we physically make meaning and interact with our environment and how that interaction prepares us for action. This research project embraced the second aspect of embodiment research. At embodiment's core is the recognition that our brains are not the sole locus of all things cognitive. Andy Clark (1999), the noted cognitive psychologist, expressed it this way, "Cognition is not a phenomenon that can be successfully studied while marginalizing the roles of body, world and action" (p. 350). George Lakoff (1990) contended that our emotional responses are connected to our physical senses of self. Expressions like *steaming mad* or *feeling low* are connected to our actual physiological responses to anger or sadness. We do not respond in these ways because our language dictates our physiological responses; quite the opposite. We develop this language to match our physiology. Humans perceive and describe the world and themselves through physical interactions with it. While some researchers look at embodiment strictly through the lens of the cause and effect impulses of our nervous systems, others take a more complex approach.

I offer a lengthy quotation from Maxine Greene (1978) to orient the reader to the marriage of research in cognitive sciences, critical theory and aesthetics:

Critical philosophy today tries to grasp the ‘self-formative process of the active subject.’ The very term ‘critical’ refers to the human capacity for self-reflection as it does to reflective rationality. But it is extremely difficult to feel ourselves active subjects in today’s world; emancipatory activity seems continually thwarted in our everyday lives. The technocratic consciousness bears down upon us, along with what is called ‘functional rationality.’ We are caught up in product orientations, credentialing practices, and preoccupations with utility...Our sense of the rootedness of knowledge in experience diminishes, as does our comprehension of the ways in which persons bring meaning into being and constitute their shared realities.

Greene reminded us that people are natural meaning-makers through shared realities. Noted cognitive psychologists Sawyer and Greeno (2009) extend on this notion of shared realities by constructing an embodied theory of how learning transforms within the mind of the learner that is particularly useful to this research project. The authors intended that all learning exists within contexts called situated learning (348). Since situated learning is “distributed across people and artifacts, and the focus is on understanding activity and changes in activity systems in which knowledge is contributed and used in joint actions by the people and other resources that participate collaboratively” (348), drama is an ideal method to provoke these changes in thought and action in the classroom. Sawyer and Greeno (2009) speak of learning in terms of collaboration and action. These words, *collaboration* and *action* aptly described the potential of drama in classroom settings. The fascinating thing about the *collaboration* and *action* is that they transpire within a fictive frame co-created by students and teachers

called process drama. Within the bounds of the process drama, students agree on conventions of engagement (given circumstances) that result in rich cognitive activity pulled from manipulatives, emotions, prior knowledge, physical responses, and imagination.

The decisions that are made by the class (or, the way they improvise their way through the problem space from the beginning to the end) will speak to their understanding of the issues at hand and the dynamics in the room. It will also speak to the types of problem solvers in the class. Starko (2000) calls creative problem solvers *problem finders*. She contends that problem finding “entails sensitivity to needs or an awareness of possibilities in a given situation. It may demand focusing and clarifying a problem or analyzing to determine a broad issue underlying several seemingly disparate situations” (235). Starko’s assessment of *problem finding* could be used to describe students who are deeply engaged in improvising through a *problem space – awareness of possibilities in a given situation, focus, explanation, analysis, etc.* The heuristic nature of the problem space engenders a process that is simultaneously collaborative, generative and limiting.

It is that effort of the *problem finding* that captures the very essence of what theatre does best – it creates *problemness*. Starko explained that in order to contextualize an experience, students must confront *problemness* which is “not an innate characteristic of a stimulus waiting to be discovered but arises from an interaction of stimuli with the cognitive structures and processes of the observer” (237). The concept of *problemness* is connected to the in-role choices of the student. If our cognitive structures are forged by our experiences, it follows that the way we seek to represent and solve problems are as

well. *Problemness* arises when one's own experience provides perspective on how one views a novel situation.

As embodied or situated learning seems to be a key idea in understanding how learning works, this research project endeavored to determine whether providing professional development about drama and embodiment would produce a change in how non-drama teachers approach and execute their instruction. The challenges of an embodied approach are summarized well by William J. Clancey (2008) when he states, "we cannot locate meaning in the text, life in the cell, the person in the body, knowledge in the brain, a memory in a neuron. Rather, these are all active, dynamic processes, existing only in interactive behaviors of cultural, social, biological, and physical environments systems" (28). It seems as if the theatre is a perfect tool through which to research these dynamic processes.

Aesthetics holds one method of transforming information into embodied knowledge. I argue that if we make it, shape it, dance it, speak it, write it, sing it, compose it, design it, we own it. That is the very essence of embodiment research. If we weave the learned information into the story of our self, we have a greater chance of that information mattering to us. Postman (1996) stated, "Without narrative, life has no meaning. Without meaning, learning has no purpose. Without a purpose, schools are houses of detention, not attention" (p. 7). I hold that theatre makes a significant contribution to create meaning through the narrative of which Postman speaks. What is more, employing drama in the classroom provides opportunities for learners to physicalize the curriculum thereby enriching the meaning-making process towards a contextualized and embodied learning.

The making of meaning, the telling of stories, the enactment of plays, the singing of songs are not idle amusements. They are a creation of self. Through art making, Greene (2001) reminded us that we are creating a “sense of agency” (p. 182). Without a personal sense of agency, learning is not contextualized within the learner’s heart and mind and, therefore, becomes a list of facts, not information that transforms into personal knowledge.

Current cognitive and neuroscientific research supports Greene’s assertions. Researchers are finding significant connections between learning, transfer of information from one context to another, and aesthetic engagements. (Adam & Galinsky, 2012; Glenberg, 2004; Mussweiler, 2006; Sawyer & Greeno, 2009). Getting the body and imagination involved in learning yields significant and exciting research. This research project is an attempt to take the research that happens to people within school settings and find out how it lives aesthetically, and more specifically, dramatically within classroom contexts. It asks the questions: where does learning live in our bodies? Does theatre have the potential to access that learning more easily as it engages the body, imagination, and story? Do cognitive science and aesthetic education run in tandem? Will learning aesthetically make a difference in the performance of teachers?

In order to assess whether the professional development sessions I conducted with teachers influenced their pedagogical choices, I utilized the framework of Practice Development (PD) from McCormack and Titchen (2006). This framework, originally adapted from the field of nursing, aptly describes the continuous reflexive process practitioners employ which tracks how knowledge, skills and values reframes and changes teaching practice.

Operational Definitions

Aesthetic Education – Maxine Greene (2001) defined this as an intentional undertaking designed to nurture appreciative, reflective, cultural, participatory engagements with the arts by enabling learners to notice what is there to be noticed, and to lend works of art their lives in such a way that they can achieve them as variously meaningful (p. 6).

Analogical Reasoning - Students can often understand a novel situation by transferring knowledge from a well-understood situation (Pirolli & Anderson, 1985; Polya, 1945; Riesbeck & Schank, 1989). Ross (1987) found that giving learners analogical examples to illustrate a probability principle facilitated their later use of the probability formula to solve other problems. In sum, there is good evidence that analogy can serve as a powerful learning tool.

Critical Creativity – is a critical paradigm centering on participant action that is meaningful, thoughtful, and intentional. (McCormack and A. Titchen, 2006)

Embodiment – According to Margaret Wilson (2002) embodiment is cognition that takes place in the context of task-relevant inputs and outputs. That is, while a cognitive process is being carried out, perceptual information continues to come in that affects processing, and motor activity is executed that affects the environment in task-relevant ways.

Improvisation - Improvisation is a theatrical mode of scene creation that is spontaneous, non-scripted, and follows specific rules which accept the offer of

your scene partner, heighten the conflict, and add new information. Magerko, et.al. (2009) describe improvisation as “creation of an artifact and/or performance with aesthetic goals in real-time that is not completely prescribed in terms of functional and/or content constraints” (p. 117).

Learning Transfer - Learning transfer is the use of past learning when learning something new and the application of that learning to both similar and new situations. It is the very foundation of learning, thinking, and problem solving (Haskell, 2001).

Mantel of the Expert – Mantel of the expert is student-in-role drama technique used in classroom environments which requires pretend as if they are resident experts in the curricular topic being learned. This “approach places the child at the center of the learning. The teacher’s role is to create the conditions whereby a mantle of leadership, knowledge, competency and understanding grows around the child. This approach assumes a progressive view of learning, responsive to the needs of the child” (Aitken, 2013, p. 35).

Practical Activity – “a form of praxis in which practitioners learn how to pick out salient features of their environment, develop perspicacious responses to these features, and adjust and adapt themselves to the particularities of a given situation.” (McCormack Titchen, 2006).

Practice Development - Professional and practice development is “a continuous process despite being inextricably linked the two areas are distinct: the former is concerned with knowledge, skills and values and the latter with how these are

used to provide good quality patient-focused care.” (Mallett et al., 1997)

Student in Role – Student in role is an aspect of drama in education where a student takes on a character within a story or improvisation

Tableau – Tableau is a drama technique in which participants use their bodies to create a frozen image to represent a concrete scene or a more abstract notion like an emotion, a hope or a fear.

Limitations

Drama as an art form is ephemeral – it cannot be hung on a wall or written down on a page. It is a lived experience that lasts as long as the actor speaks a word. It is a moment to moment experience that is shared by actors and an audience. It cannot be replicated on video or written about in the same way as experiencing it live – in a shared intentional space of enactment and imagination. Once an actor completed speaking a word, the idea decays into the previous words and actions of the script. It is impossible to know, therefore, which exact moment of which exact scene will have the greatest impact on an audience member. The same can be said about cognitive research. Because researchers have yet to develop a means to track neuron to neuron and synapse to synapse firing, it is impossible to know with any certainty which neurons fire at what moment and how the concert of neurological activity creates pathways of meaning-making. Therefore the best that researchers of the arts or neural biology can do is guess. This is also the case with qualitative research where saturation does not necessarily mean post-positivistic proof. However, it is not the intent of this dissertation to categorically prove causality between drama based instruction and improved teaching. Its goal, however, is to story

the neuro-scientific research with specific and practical examples from teachers' practices that will contribute to larger discussions about the potentials for teaching and learning within schools.

Significance of the Study

Eliot Eisner (1998) reminds us that the importance of qualitative research lies not in its ability to establish the veracity of controlled variables within laboratory settings, rather, “[qualitative research’s] function is to highlight the complexity of such work and its dependence on the sensibilities and good judgment of the qualitative researcher” (170). As the literature review will demonstrate in Chapter Two, there is a gap in research; from a cognition perspective, there are recommendations to activate learning within the classroom, but no information on how. Drama research provides details that drama improves learning, but does not provide details on how drama impacts human cognition and learning. This hole in the research literature demonstrates the need to explore how drama in the classroom motivates learners, and deepens learning, impacts on teaching. There are even fewer studies, still, that track a classroom teachers’ experiences learning about the theory of embodiment, drama and how it impacts teaching. Has learning about drama and cognition changed teacher practice, and if so, how? These are the questions that are at the heart of this study and being able to provide insights into these questions will make a major contribution to the field.

Transition and Summary of Key Points

Chapter One explored the issues and questions present in the field of drama education and cognition relating how and why drama impacts student learning and

teacher practice. Key concepts from the field of cognitive neuroscience such as embodiment and learning transfer are foundational to understanding how drama positively impacts student learning. In order to narrow the scope of the drama work, specific techniques were reviewed in order to provide a lens through which to interpret the aesthetic engagements and meaning-making in the classroom.

Chapter Two will provide a review of the published research relating to drama engagements in the classroom and their impact on teaching and learning. The research will draw heavily from examples of embodiment and student-centered drama practices such as mantle of the expert.

CHAPTER 2

A BRIEF HISTORY OF COGNITIVE SCIENCE AS IT RELATES TO DRAMA PEDAGOGY

Literature Review

Drama in Education (DIE) is a series of dramatic techniques that encourages active, student-directed and improvisational learning. The central tenet values teachers and students co-creating a problem that must be solved through a marriage of imagination and prior knowledge. The participants must apply these ideas to novel, and/or fictionally, historically or aesthetically removed situations. DIE is an umbrella term that encompasses a variety of techniques, philosophies, and practices. At its core, however, is student learning through dramatic play. It transcends traditional classroom settings and has been employed in multiple contexts wherever young people and learning intersect. According to Dawson, Cawthonb and Baker, 2011, learning curricular content through drama activities “encourages teachers to incorporate strategies that facilitate higher-order thinking, articulate multiple perspectives, connect knowledge to the world outside the classroom, and provide social support to deepen student learning” (319).

To help navigate the work, practitioners have written about this intersection of learning and theatre using a variety of appellations: Drama for Schools, Drama in Education, Theatre For Education, Drama for learning, Theatre for Development, Drama for Understanding/Knowing and Applied Theatre are the most prevalent ones. Pick up

almost any Drama in Education book and you will find success narrative after success narrative celebrating the idea that theatre improves learning and teaching. In 1967 Brian Way, one of the founding voices in the field of drama in education wrote,

...Drama need never interfere with crowded curricula; it is a way of education in the fullest sense; it is a way of living and, as such, aids rather than interferes with other study and achievement. Children and young people will still continue to pass various tests and examinations even if time is given to drama; indeed there is some evidence (though not as yet scientifically presented) to suggest that where drama is encouraged those who are going to pass such tests or examinations anyway will pass them more easily, and others who are less likely to pass will in fact do so. (p. 9)

Researcher, scholar, theatre artist and intercultural performer Janinka Greenwood (2011) states that aesthetic learning through drama,

[...] Gives us experience, both embodied through our participation and empathetic through exploring another's world. It allows us to absorb a multiplicity of new stimuli, cognitive and visceral, that we can unpack and play with. It permits ambiguity, incompleteness, contradiction and complexity, and provides a means to express these without reducing them. (p. 51)

The range of interpretation about Drama in Education ranges from modernist to post-modernist thought. And yet, in spite of this theoretical span, the actual voices of the classroom teachers and young people served by these methodologies seem to be absent

from most, if not all evaluations of DIE's impact on teaching and learning. And the longer I am in this field, the louder their silence becomes. For example, a research EBSCO search utilizing the search terms "teacher voice" and "drama education" yielded only four articles that addressed teachers discussing their teaching and their students' learning through drama. There is no literature which considers professional development on embodiment or situated cognition, drama techniques and teacher pedagogy.

Introduction

The breadth of research concerning cognition and the arts is slowly growth. The depth of the literature, however, is still developing. Researchers and scholars outside of the cognitive sciences have taken to this area of scientific research with particular interest. Performance critic and English professor Evelyn Tribble (2005) has used cognitive ecology to contextualize the cultural literary and historical worlds of William Shakespeare. Theatre artists from around the world are using cognitive research into moral development as a way to create more specific pieces of theatre aimed at critically engaging student audiences in anti-bullying performances (see Blair, 2008). Entire special issues of American and British theatre journals have been dedicated to understanding how audience, actors and technicians cognitively engaged with a piece of performance text (see *Theatre Journal* 59:4). Theatre professors Bruce McConachie and F. Elizabeth Hart edited a groundbreaking book for Routledge Press called, *Performance and Cognition: Theatre Studies and the Cognitive Turn*. Noted drama in education specialist, Patrice Baldwin's (2012) book *With Drama in Mind*, recently enjoyed the release of a second edition. Baldwin's book draws cognitive links to imagination, play, and multisensory education and considers their implications on learning. Even as early as

1990, Richard Courtney penned *Drama and Intelligence: A Cognitive Theory*. This book argues that the arts generally, and drama specifically is not a “frill” but complex and a rich series of engagements where cognitive fictions serve as a deep and embodied means of learning.

Additionally, at both theatre and cognition conferences, links between drama and learning are more common. The primary organization for theatre research in the United States, The American Society of Theatre Research (ASTR), sponsors a cognition thread at its national conference and has done so for the past several years. The International Drama Theatre in Education Association (IDEA) 2013 conference in Paris also hosted a special interest group concerning cognition research and drama in education.

Presently, it is clear that there is an abiding curiosity about the relationship between drama and cognition. What artists and educators have intuited for centuries is now the stuff of nascent fMRI experiments, scientific inquiry, and creative research endeavors.

Embodiment

The theory of embodiment has about as many definitions as there are researchers investigating it. Definitions tend to fall into two basic categories: 1) Embodiment is how our central nervous system translates our interactions with our environment into our perception of it, and 2) embodiment relates to how we physically interact with our environment and how that interaction prepares us for action. At its core, however, is the recognition that our brains are not the sole locus of all things cognitive

Forging Links: A Case for Cognition and Drama-based Instruction

In their article on enclothed cognition, Adam and Galinsky (2012) cited multiple examples demonstrating how our understanding of the world is created through our physical encounters. Among these examples include a study indicating that assuming a physical posture of high status (sitting tall in a chair, one arm on the arm rest the other on the back of the chair, with legs crossed) makes one feel more powerful (Huang, Galinsky, Gruenfeld, & Guilory, 2011). Mussweiler demonstrated the speed at which one walks correlates to one's perceptions of senior citizens. Slow walking elicits unprovoked notions of the elderly (2006). There are hundreds of experiments that demonstrate similar results. The conclusions are all the same: our bodies influence our emotions, our recollection, and identity. These studies affirm what theatre artists innately know and provide language and frameworks which elucidate the connections between learning and theatre.

One of theatres strengths is its ability to create a complete and contextualized world. Designers and directors spend considerable resources of time and money constructing compelling contexts for stories. Similarly, Sawyer and Greeno (2009) found context to be essential to learning. They noted all learning as situated or, stated another way, all things to be known are contextualized. Learners construct and re-construct their understanding of situations, people, problems, and environments moment to moment. A child who has touched the bark of a white birch and a red pine tree understands them differently than someone who has only read about them. Physical interactions not only develop context, but embodied understandings of bark, tree, and nature.

Whether on stage or in a classroom, context matters. Marley et al. (2011) pushed the idea of personalizing context one step further. They researched how embodied experience influences reading recall. This study will resonate immediately with theatre artists. Their premise is elegantly simple. They wondered if first and third graders' recall of story details improved with physical manipulation of story-related objects. Marley et al. find that the recall of "students was greatly enhanced by the use of text-relevant manipulatives" (354). The research pulls from Glenberg's (2004) experiment which examines differences between children who manipulate toys that replicate farm life versus children who did not manipulate the farm toys. The students who handled the objects were better able to associate the written word for the objects than those who did not manipulate the objects. As students were trained to imagine moving objects when reading stories, the imagined manipulation yielded improved word recognition and reading fluency. This research speaks to the power of adding simple stories and props to educational contexts, and also to the importance of imagination in learning.

Similarly, researchers from Northwestern wondered if clothing could influence student performance. Adam and Galinsky (2012) administered the STROOP test (a basic test on attention and accuracy) to three randomly assigned groups of college students. The individuals in the first group were given a white lab coat to wear and were told it was a doctor's coat. Members of the second group were asked to wear the same white coat, but were told it was an artist's smock. The final group of individuals took the test with what they were told was a doctor's coat on their chair. The students who wore what they thought it was a doctor's lab coat outperformed the other STROOP test takers. The STROOP test measures attention and focus by analyzing test takers' reaction times.

Participants sit at a computer and the letters RED flash up on the screen but are written in a color other than red, in green, for example. The test takers must then press the letter G on the keyboard for green and not R for red. Adam and Galinsky (2012) found,

... [students] identifying with the doctor's lab coat increased the level of sustained attention, consistent with a typical priming effect. However, consistent with our enclothed cognition perspective, wearing the coat when it was described as a doctor's coat had an effect over and above simply being exposed to and identifying with it. (p. 5)

The white coat was not only a physical object to wear (embody), but had an associative symbolism that influenced the wearer's perception of self and his or her ability to attend, focus, and concentrate. Clearly, the projection of being a talented test-taker in addition to the object's abstract symbolism influenced perceptions of self and ability. This research underscores Dorothy Heathcote's (1985, 1995) notion of Mantle of the Expert. The embedded awareness of cognition through drama is articulated in the following description in Heathcote and Herbert's 1985 article:

The "mantle of the expert" system of teaching involves a reversal of the conventional teacher-student role relationship in which the students draw on the knowledge and expertise of the teacher. When the mantle of the expert is used in drama, the teacher assumes a fictional role which places the student in the position of being "the one who knows" or the expert in a particular branch of human knowledge.

Heathcote contextualizes the role she endowed upon the participants. They, in turn, perform as knowers and doers of things they may or may not know or have done. But in behaving as if the students embody the content, the experience of living within that fiction produce deeper learning. This is true because the students construct meaning (therefore embody it) throughout the dramatic experience. The young actors in the drama do not parrot back answers to questions, but weave facts about a curriculum, a society, a culture, etc. into a specific fictive context. They have to work their way through a problem, which, as is later described, is a way of engaging that the brain craves.

The research suggests that embodied or situated learning seems to be a key idea in understanding how learning works. The challenges of an embodied approach are summarized well by William J. Clancey (2008) when he stated,

“we cannot locate meaning in the text, life in the cell, the person in the body, knowledge in the brain, a memory in a neuron. Rather, these are all active, dynamic processes, existing only in interactive behaviors of cultural, social, biological, and physical environments systems” (p. 28).

The story-object manipulation and the enclothed cognition examples are prime indicators of how theatre becomes an *active, dynamic process* that creates opportunities for students to not just think about content, but embody it. What cognitive psychologists are calling enclothed cognition theatre artists call costuming. What Glenberg called story-object manipulation, theatre artists call props. What Adam and Galinsky called assuming a power position, theatre artists call physicalization of character or movement work. These research connections are central to justifying and supporting the excellent partnership

among cognitive science, theatre and pedagogy. But specific research that draws these connections are extremely limited.

Learning Through Analogical Induction

Theatre is, by nature, an extended metaphor for audience and performers alike. Theatre asks actors and audience to examine the parallels between the story portrayed on stage and the lives of those who experienced the piece. This reflection process is, by extension, a sort of analogical reasoning. An audience member might consider the specifics of a story presented and determine if there is an alignment between the story, the characters, the setting, etc., and the viewer's own experience. Kurtz, et al., (2008) called this sort of analogy the "standard approach to analogical reasoning" (p. 418). That is, there are equivalencies between the audience member's experience and what is presented on stage.

It is possible that through analogical reasoning, the viewer will understand the story because of his or her own experience, or, conversely, will understand his or her own life better because of the story revealed on stage. But as many in theatre know, this sort of translation from a theatrical experience to a resulting action inspired in an audience member by a play rarely happens. Why is it that a medium as connected to reflection, learning and development as theatre fails to engender consistent and lasting change in the audience members' and/or actors' lives? As Jan Cohen-Cruz stated in her introduction to *Radical Street Performance*, "I came to believe that change was brought on more by people making theatre than by watching it" (p. 5). When looked at from an embodied and analogical perspective, Cohen-Cruz could not be more correct. Working with young

people through applied theatre contexts within classrooms moves learning from the abstract to the practiced, from the page to lived-experience, from thought about to embodied.

Let us, then, consider conventional theatre as an example of the standard approach to analogical reasoning. There is an example offered, at a theatrical event (classroom or otherwise), an audience member observes the play and, with any luck, finds something of him/herself in the story. Kurtz, et al. (explained the standard approach to analogical reasoning “involves mapping information from a base – a well-understood domain that serves as the information sources – to a less familiar target.” They continued:

in the traditional framework, retrieval is typically required; examples are presented in isolation and it is assumed that learners will draw on appropriate prior examples when they are given a new target problem. On this account, analogical learning involves being reminded of prior problems. However, it has been shown that learners frequently fail to transfer relevant stored knowledge. (p. 418)

In other words, the viewer might fail to make any connection between what is performed and the viewer’s own life. I hear this argument in almost every play review I read in the Theatre Appreciation class I teach – *I just couldn’t relate to the play*. That is not to say that every play will speak to every viewer, but it does suggest a possible disconnect between the base knowledge (the viewer’s life) and the target (an analogous

situation/emotion beyond their experience). It is this disconnect that makes working through theatre in classrooms a particular challenge.

In considering the standard approach to analogical reasoning more specifically as an example of teaching through analogy, students may struggle to make lasting connections between base knowledge (what the learner already knew coming to the analogy) and the new target (what is yet to be learned). Recall is complicated by issues such as faulty base knowledge (which might distort the parallel from base to target) and the learner's level of experience and sophistication with the material. Kurtz, et al. maintained that "novice learners" might not be adept enough with the material to extrapolate meaningful connections from base to target (419).

To confront the inherent difficulties connected to teaching and learning through the standard approach to analogical reasoning, Kurtz, et al. proposed utilizing analogy via a method they describe as *mutual alignment*.

In mutual alignment the learner is simultaneously presented with two analogous situations that act symmetrically in the mapping process; both can serve as sources and recipients of information. Under these conditions, comparison between two partially understood situations can lead to noticing parallel structure and developing a deeper understanding of both situations. (419)

Essentially what this implies is that, in laboratory settings, learning increases if the participant is given two incomplete analogies which encourages the participant to try and find the underlying structure that unites the two analogies. The example that Kurtz, et. al.

used is that of an ice cube frozen around the end metal bar that is contained within a hot cup of coffee. This picture shows the ice cube melting. The other image is of a pancake cooking on a stove in a frying pan. When the participants are asked to describe what unites the two images (which is the idea of heat transfer), the experiment participants have a hard time discovering what the two incomplete images have to do with each other. When, however, they are guided through a process of mutual alignment (which is a directed process of associating the equivalencies of how each component in an image corresponds with a component of the analogous image), learning from the analogies increases dramatically. When the participants are brought through this process, their ability to identify the unifying scientific principle (heat transfer) is dramatically improved. Also, once brought through a process of mutual alignment, the participants are more able to identify that concept in other images.

When presented with two incomplete situations, the learner does not need to rely necessarily on base information (lived experiences) to make sense of the two given examples. This alleviates some of the inherent complications found with the standard approach to analogical reasoning. For example, a learner does not need to know anything about sports in order to look for similarities between baseball and rugby. The similarities simply could be surface details (both sports require some sort of ball, both require teams, both result in having a winning and a losing team) or more sophisticated structural details (both have organized rules that must be followed, both require specialized equipment for specific purposes, etc.).

It is this very act of comparison that yields significant learning benefits. The process of this evaluation is called analogical encoding – and this encoding organizes

random information contained within examples into structured parallels (through a process of mutual alignment) (Gentner, Holyoke, and Thagard). Through this process, learners not only understand what makes the juxtaposed examples similar, but dissimilar as well. As Kurtz, et al. discovered, being able to distinguish differences in the examples is essential for it demonstrates how well the learners understand and have mapped the similarities.

However, just offering juxtaposed examples is not enough to render the sort of analogical transfer desired by educators. Kurtz et al. insist that students need to have the comparison experience framed in order to encode the analogs. They found that “merely giving [learners] multiple source analogs without explicit instructions to compare was insufficient to support transfer” (420). In other words, by simply placing two related objects next to each other for comparison will not yield any demonstrative increase in concept transfer.

CHAPTER 3

METHODOLOGY

The plural of anecdote is data.

Attributed to Raymond Wolfinger

To live in the social world is to experience and reflect on it daily. But to understand it deeply from a research's perspective requires that we collect sufficient evidence to document the patterns, categories, and meanings that humans have created.

Saldaña (2011, p. 31)

Positionality: Considered and Re-Considered

When I first thought about the question of positionality at the beginning of my doctoral studies I wrote, “My position in my proposed research project is one of researcher and advocate for arts-based pedagogies.” Since I am simultaneously a doctoral student and a professor, I mistakenly looked at my work within Driftwood Elementary School (pseudonym), an urban elementary school in the southeastern United States -solely through the student prism. I did not fully consider at first how my role as a university professor would influence my work with the teachers and their responses to me. When I am in schools, I am mostly there in the capacity of an supervisor of student

teachers or as someone who offers professional development workshops. Eisner (1998) reminds researchers that, “in-service programs are typically provided by individuals who have something to say about curriculum, the teaching process, or classroom organization, but who have not actually observed the teaching of the teachers to whom they are speaking” (12). I clearly have something to say about activating the curriculum through drama-based instruction, but I have also had the added advantage of working with two of the teachers who participated in the study.

Roulston (2010) advised that it is, “a useful move for qualitative researchers to critically consider their subject positions in relations to their research topic and those involved in their studies” (p. 116). However, due to my five and a half year relationship I am comfortable at Driftwood Elementary. At Driftwood, the administrative assistants greet me by name when I enter the building and inquire about former students and my children. And yet, in considering working on my project there, I did not fully consider the impact my positionality would have. I considered it in terms of doctoral student, race, gender, economic status, and sexual orientation. I looked at conducting my research at Driftwood Elementary like an opportunity to spend time with colleagues; I neglected to fully consider how my position needed to be excavated and named. I thought since my research was for a class in which I am a student, I’d be able to be who I always am there: the quirky theatre guy. About a half an hour into my first interview with a first grade teacher, I realized that I had not done my positionality homework completely.

According to Merriam, Johnson-Bailey, and Lee:

It has commonly been assumed that being an insider means easy access, the

ability to ask more meaningful questions and read non-verbal cues, and most importantly, be able to project a more truthful, authentic understanding of the culture under study. On the other hand, insiders have been accused of being inherently biased, and too close to the culture to be curious enough to raise provocative questions. (p. 411)

I feel as though I live between Merriam, et al.'s delineations of "insider." It seems as though I have been granted a sort of "guest insider" status. When my student interns are in their classrooms, my role in there is to advise the interns and not to evaluate the teachers. I look to the classroom teacher as the expert on management, her students (all the teachers I've worked with at Driftwood are female), and lesson planning. Consequently, the classroom teacher might feel more comfortable with me as we become a team in order to help the teaching intern refine his/her practice.

That insider role was quickly altered when I started asking questions, however. Once the recorder was turned on, everything changed. That close, collegial relationship I enjoyed at Driftwood became formal, distant and measured. In that moment we shifted from talking about what my students were learning and how they were doing to what the teacher's students were learning and how they were learning it. My guest insider status was revoked and I was perceived as a professor, an outsider academic and not a graduate student collecting data. I was not prepared for that. Of course our conversation was polite, but, particularly at the start of the research process, it was also distanced.

Even though the teachers and I have had many conversations about our epistemic orientations, what we value about teaching and learning, how messy and imperfect

teaching is, etc., that knowledge did not sustain us through my shift from student teacher evaluator to researcher. The teachers at Driftwood knew me through those conversations, yet my performed status of professor/researcher trumped the student/learner status I entered our relationship with and the solidarity we enjoyed while critiquing a third party intern evaporated. They know that I believe students learn best when they are active, engaged, challenged, and co-create their world with caring and dedicated adults. The teachers in Driftwood exemplify this every day and they know how much I respect what teaching and learning looks like there. Yet, in spite of this, my status changed. They know that as a theatre artist, I have a clear bias toward aesthetic pedagogical engagements. Though I know the arts are not a cure-all that will engage and excite every child or work with every learning style, aesthetic pedagogies are entryways into an active, student-centered teaching and learning. The teachers I work with at Driftwood share this vision. That is why I am drawn to work there so often. Yet, the recorder changed that dynamic for me.

I wonder if my position as a male influenced that as well. I wonder if a woman in my role would have experienced that shift as starkly as I experienced it. My experience in schools bears out Marshall's findings that 57% of elementary school principals are men and, consequently, authority is deferred to white men in elementary schools (p. 3). It seems likely that gender plays a role in how free and comfortable the teachers feel to participate in our professional development workshops. I wondered, too, how being white influenced the conversation. There is an authority that goes along with being a white man in urban elementary schools. Brooks and Jean-Marie (2007) cite research that "have consistently found that racial dynamics influence cultural norms and beliefs of

students, school teachers, and educational administrators (e.g. Brown, 2005; Delpit, 1995; Fluehr-Lobban, 2006; Jackson, 1988; Tillman, 2002; Wynne, 1999)” (p. 757). It is impossible to know the extent that my gendered and racialized privilege impacted the experience of the teachers who participated in the study (Johnson & Bhatt, 2010). It is imperative, however, to acknowledge that it was present and influenced the experience.

Since my role was to ask teachers about their students’ learning and their own instructional practices, I should have anticipated the fluid nature of my position within the school. Because I have a long-standing relationship with these teachers, and because I, in Bonnie’s words, “stick around the school year to year,” I can imagine that also impacted my findings. The teachers shared difficult stories and challenging experiences with me about their teaching and their students’ learning. They might not have shared so openly with other researchers if they didn’t have this same investment in their school and students that I have.

Beyond my identities of professor, researcher and guest exist additional and, perhaps, more personal identities such as learner, student, and theatre artist. I carry my fraught experiences as a learner with me into my teaching and current research. I had to leave Catholic school after the third grade due to difficulties I had learning how to read. An inability to decode phonemes into words and, therefore, words into meaning and sense, hampered my literacy skills. It was nearly impossible to decipher words on the page because of the mental energy I expended on sounding out each individual phoneme. I produced sounds, not words. When I attended a public fourth grade classroom, I was immediately diagnosed with a ‘perceptual impairment’ and spent the next four years attending special education classes.

My experiences in special education cemented my later identity as a teacher. I strive to become a teacher who engages students multi-modally. It is always my goal to get learning into students' bodies beyond transmission through only the eyes or ears. Improving teaching and learning became central to my work and theatre became a means to influence how teachers teach and learners construct meaning. Although I have spent twenty years thinking about, practicing, and teaching about drama in education, I do not need it to work. I do, need, however, to improve teaching practice and the experience of learning for students. Due to the plethora of anecdotal evidence, I strongly suspect that drama contributes significantly to a child's experience in classrooms as active participants in their own learning.

My research would be just as valuable if it were to find that drama is not as effective a tool to personalize and internalize learning as I originally suspected. That means that I can focus my energies on another aspect of teaching and learning that might more effectively center the child as active meaning maker within the curriculum. From a personal perspective, I do not need drama to work, but I do need to be involved in working with teachers to create more active, emotionally engaged, safe, and engaging classrooms. If drama does not achieve that goal, that is very useful information to have.

Research Design and Methodology

Introduction

Researchers and theatre education practitioners have often made the claim that combining drama with regular classroom curricula produces significant increases to a student's retention and enjoyment of the curriculum (Anderson 2012, Edmiston, 2014,

Heathcote 1995, O'Neill 1995, Pammenter, 2013, Pieczura, 2013, Sallis, 2007, Way (1967). Researchers in embodied cognition (see Clark, 1999; Glenburg, 2003, 2004, and 2010; Immordino-Yang, 2013; Koizumi, 2004; Magerko, et al, 2009; Phelps, 2004; Sawyer and Greeno, 2009; Wilson, 2002) demonstrate that learning is connected to physical and sensorimotor representations of the world. Researchers in embodied cognition suggest that our bodies and brains are hard-wired to communicate with and augment each other's function in order to richly contextualize the world. This symbiotic relationship between brain and body is called *theory of mind* and it intends to demonstrate that thinking is not limited to the space between our ears. This study set out to establish whether professional development training in both drama and embodied cognition shifts how teachers view their approach to teaching and their opinion of their students' learning.

Storying Quantitative Data through Qualitative Analysis

According to Desimone (2009, P.182),

Naturalistic and descriptive studies using ethnographic or in-depth case-study methods often allow the examination of nearly all learning experiences that a teacher has during a particular study period (e.g., Denzin & Lincoln, 2002; Merriam, 1988; Miles & Huberman, 1994; Spindler, 2000; Yin & Campbell, 2003). In contrast, studies that ask questions about trends, associations, or impacts require us to make a priori decisions that identify the teacher learning experiences on which we wish to collect data. How might we sensibly identify discrete learning experiences for such studies?

Noted American cognitive psychologist Mary Helen Immordino-Yang researches how embodiment and, more specifically, the situatedness of emotions within embodied contexts impacts learning. Most recently she has investigated cultural differences within representations of empathic responses (2013). She has made a case that more ethnographic research is required in order to explore embodied differences among people and groups. She states, “Current work is investigating how more in-depth, ethnographic interviews about individuals’ experiences, personality, and history may contribute to explaining these patterns [of cultural difference], and how these acculturated patterns may develop in adolescence” (45). Immordino-Yang is one of the few researchers in the field of cognition who looks to qualitative research methodologies in order to augment, or story, quantitative findings.

My research attempts to follow Immordino-Yang’s call to use qualitative and quantitative methodologies – in the case of this dissertation are interviews, field observations, and qualitative surveys – within cognitive research. This research project seeks to determine whether a teacher’s learning about cognition and drama would influence her (all research participants are female) approaches to lesson planning and classroom instruction. More specifically, a case study approach was adopted to determine how these six teachers implemented drama based pedagogies and embodiment into their instructional practices. Secondly, the research project attempted to determine whether the teachers noticed any appreciable difference in student engagement within instruction since the professional development workshops.

Drawing upon the research of Cawthon et al 2009 and Dawson et al 2011, it became clear that I must include into my research a view toward professional development models. In their research on the effectiveness of Drama-Based Instruction on a large southern Texas school district, they employ a modified version of the Concerns-Based Adoption Model (CBAM) instrument. This instrument tracks changes in teachers' opinions and concerns over the course of professional development experiences (Hord, Rutherford, Huling-Austin, & Hall, 1987; Loucks-Horsley & Stiegelbauer, 1991). The CBAM focuses on seven levels of concern that follows a teacher's sense of skill development from uninterested consumer of an idea to an engaged practitioner who makes changes to the new model because they see how it can be adapted and improved upon for their own circumstances and purposes. The table below explains the seven levels of concern according to Hord, Rutherford, Huling-Austin, and Hall, 1987.

Table 3.1 – Concerns Based Adoption Model *Levels of Concern*

Awareness	I am not concerned about it.
Informational	I would like to know more about it.
Personal	How will using it affect me?
Management	I seem to be spending all my time getting materials ready.
Consequence	How is my use affecting learners? How can I refine it to have more impact?
Collaboration	How can I relate what I am doing to what others are doing?
Refocusing	I have some ideas about something that would work even better.

From *Taking Charge of Change* by Hord, Rutherford, Huling-Austin, Hall, 1987.

Loucks-Horsley, 1996, extends the thinking of Hord, et al by articulating the underlying assumptions of the CBAM as follows: Their analysis focuses on change on the personal and individual level. This, after all, is the sort of change that is needed for professional development workshops to take hold. Loucks-Horsley suggested that,

Change is a process, not an event, and it takes time to institute change;

- *Individuals must be the focus if change is to be facilitated and institutions will not change until their members change;*
- *The change process is an extremely personal experience and how it is perceived by the individual will strongly influence the outcome;*
- *Individuals progress through various stages regarding their emotions and capabilities relating to the innovation*
- *The availability of a client-centered diagnostic/prescriptive model can enhance the individual's facilitation during staff development; and*
- *People responsible for the change process must work in an adaptive and systematic way where progress needs to be monitored constantly.*

While the CBAM is mostly a quantitative instrument to tabulate and document an individual's change over time, I modified it so that it became an open-ended survey document (See Table 4.5) to capture teachers' experiences and concerns. I administered the open-ended CBAM questions during the pre-professional development workshop and post-professional development workshop stage of the research, I was able to apprehend and represent the nuanced voices of the teachers' experiences and their reflections on

how the workshops did or did not impact their pedagogical choices. The storying of workshops contextualized their experiences within the workshops beyond number scales and percentages.

First I listened to and then read through the interviews and interview transcripts several times until I felt like I was familiar with the data. Next, in order to more richly mine the interview data, I employed the seven levels of concern as a layer of coding analysis. The first coding I did was In Vivo coding. According to Saldaña, In Vivo coding is a method used to capture “folk or indigenous terms [that] are participant-generated words from member of a particular culture, subculture, or microculture. Folk terms indicate the existence of a group’s cultural categories” (2009, p. 74). I wanted to capture the strong sense of the participants’ voices and use their experience as the foundation of my analysis. Since I was the one who provided the professional development workshops, I was concerned that if my initial coding of the data was through pre-determined categories, I might confirm my assumptions about the importance of drama-based pedagogies. It was important to me to hear what the teachers said first and then see what themes and categories emerged from the data.

I looked to Saldaña’s (2009) examples of protocol coding to help ground this process. Saldaña stated, “Protocol Coding is the collection and, in particular, the coding of qualitative data according to a pre-established, recommended, standardized, or prescribed system” (p. 130). Using the seven levels of concern was one lens of interpretation that helped to tell the story of the degree to which the teachers changed during our time together. This modified CBAM approach was merely one of several cycles of coding throughout the data analysis process.

Retrospective Protocol

Baumer and Magerko (2010) describe a process they employed to study whether a concept in cognition they study called shared mental representations were present within a group of actors engaging in improvisation activities. To do this, they utilized a technique they called a retrospective protocol. Here, participants were asked to watch videos of them performing in a improvisation and had the ability to stop the video at any time to discuss what they remembered thinking about a particular moment in the improvisation and why it worked or did not work.

It occurred to me that I could employ this retrospective protocol as well. Where Baumer and Magerko brought in research participants individually, the professional development participants and I watched the videos together and they could ask to stop the videos of their teaching at any time to discuss what they saw happening or what they remembered happening as the teacher in that moment.

Video Analysis

I analyzed videos of the teachers working through drama with their students. The teachers started to spontaneously videotape their work with the students and were eager to share the videos with their peers. Video taping their work became the preferred method of sharing their examples of drama-based instructional strategies with me as a few voiced concerns that my presence in the room might impact the drama work they could do with their students or they felt too uncomfortable as if being judged when implementing a new series of strategies.

The videos became rich sources of data that could be individually analyzed or turned into video sources for the retrospective protocol. The videos also became useful tools during interviews and later teacher reflection.

The CBAM analysis, the coding, the retrospective protocol and the video analysis were an attempt to capture the experience of the teachers and, it is hoped, how that experience was translated into thoughts, feelings and actions. As Merriam (2001, p. 6) quotes Sherman and Webb (1987, p. 7), qualitative research “implies a direct concern with experience as it is ‘lived’ or ‘felt’ or ‘undergone’.” This speaks to the heart of my research project. It was not enough to know that drama-based instruction made a standard deviation worth of difference to the teachers with whom I worked. I wanted to know what the experience of learning about cognition and drama practices was like for them and whether our co-constructed professional development process changed their practice.

In *The Enlightened Eye*, Eisner discusses how qualitative research can move toward generalizability. He notes that generalization is “usually thought of as focusing upon the future; that is, we use what we learn from some state of affairs to think about other future states of affairs to which the generalization is relevant” (205). That is the reason for research after all – to look into past experiences to better shape future outcomes.

Role of the Researcher in Data Collection

Roulston (2010) raises an important consideration about the unavoidable presence of the researcher within the interview process: “Whether acknowledged or not, the researcher selves are implicated in every aspect of a research project – from the formulation and design of a study, to the interview interaction, and analysis and representation of interview data” (p. 127). My position as a stranger in the classroom, though not to the teachers, makes me even more sensitive to the kinds of questions I ask and how I will get answers from the children – especially the quiet or shy ones. Consequently, it was essential to find windows of rapport-building with the children.

Also, as acknowledged in Chapter 1, my long-standing relationship with the students and teachers at Driftwood Elementary seems to have provided a complicated insider/outsider status. The teachers valued the teaching artist aspect of my work within the school and providing an aesthetic orientation to the curriculum, yet they may have also become skeptical of my outsider researcher identity. Though they never voiced such skepticism, I must acknowledge its possibility. I think the cite for this collision of identities was most obvious during interviews. During the interviews, teachers shared personal stories that I wondered whether they would have shared if an ethnographer was there without a similar investment in their school. I doubt that I would have had similar experiences if I went to a different school where I did not have the same long-standing relationships.

The research questions developed throughout the process in order to story cognitive and drama education research. The researcher’s goal is to find if the

participants maintain a difference in their teaching and learning due to drama based instruction and whether these findings can begin to fill the gaps in the research literature.

Questions and Interview Process and Protocol

I moved between closed and open questions (Roulston, 2010, p. 12-13) when working with the teachers. It seems as if I could build rapport more easily if I asked a few closed questions (with yes or no answers) and used those as an opportunity to elaborate more fully. For example, I might ask questions I already knew the answer to like, “Do you like teaching third grade? Did you always want to be a kindergarten teacher? Were you put up to participating in this research project by a friend at Driftwood? Do you feel like drama-based instruction is a useful series of tools to keep in your teacher toolbox? Do you feel like these strategies will positively impact your students? Legard, Keegan and Ward (2003) calls these sorts of questions ground mapping questions (p. 148). Their ground mapping questions are usually larger in scope which encourage a interviewee to raise other topics or ideas that might be more fully explored during the course of the interview.

REASONS FOR DRAMA IN THE CLASSROOM

What is your opinion of teaching a curriculum through drama?

What do you see as the benefits/drawbacks as to working in this way?

What do you feel like you need to know/be able to do in order to work in this way?

Is this sort of pedagogy one that interests you? Why/why not?

SENSE OF SELF AS LEARNER

To begin with, how would you describe yourself as a learner?

When you're being taught a new idea or new skill, how does that make you feel in class?

EMBODIED LEARNING

How do you know that you've learned something well?

What does it feel like when you've learned something well?

When are you most excited learning? What does that feel like? Where does that excitement live?

Context of the Study

Driftwood Elementary School, according to their own data, is 78% African American, 53 % female, and has just under 300 students. It is a school, like many in the area, that is in transition. In Driftwood's case, it is close to downtown and many young, white professional families are moving in, buying older homes, rehabbing them, and establishing roots. Just ten years ago, the school was almost 90% African American, and now it is 78%. This is change that is happening fast.

The problems and issues that face this school are far greater than simply students having an embodied sense of learning and their teachers using drama to engage their students. Gripping poverty, low reading and math scores, student homelessness, and

abuse and neglect that, according to the administrative assistants, “happen way too often.” Thankfully, however, that is not the only reality at Driftwood Elementary. Just as poverty, racism, neglect, and low test scores exist, so too do inspiring examples of scholarship, inquiry, promise, and stability. There is also a staff dedicated to their success, who love them, who follow through on promises, and make community for them. They have a grandparent program, family hot meals once a month, student concerts, talent shows, awards assemblies, after-school tutoring, and after-school enrichment programs. It is not a school that is standing still.

This is a faculty who still loves to be surprised by its students. Last year when working on a third grade social studies curriculum through drama, the teacher warned me about how difficult this group of students was for her. Because I am a certified teacher, she was able to leave me alone in the room as she was called to the office. When she returned fifteen minutes later, her most difficult student was not only working as my videographer, but became deeply invested in shot selection (where the camera should be so to maximize the impact of the shot) and acting choices. The student clearly cared. It was just a matter of matching the institutional process of schooling with the things that helped identify who he was as a third-grader.

So in a place of varying expectations for students and teachers, in a community that’s changing rapidly, in a school where some teachers impact lives where others impact, well, it’s hard to say what; there is still a dedicated group of teachers who volunteer their time to learn about drama strategies to use in classrooms to improve their instruction and meet their students where they are. There are still teachers who invite me into their classrooms to ask their students potentially challenging questions about how

they learn, and possibly, how their teacher teaches. So all of these things are true. And because they are all true, it makes the work at Driftwood all the more important.

Measures for Ethical Protection

There are not any possible risks to the participants. Conducting research with adults who signed up for the professional development sessions is within the safeguards of the IRB process. The research is conducted in a public school, but all of the research activities are structured for after-school time when most students have left the building. Due to the nature of this particular research project, I can unequivocally state that every effort has been made to anticipate all possible risk factors and every step has been taken to ameliorate them. Pseudonyms will be used to protect the teacher's identity. All other identifying information pertaining to location, school, grade level, etc, will be changed as well to protect confidentiality.

Criteria for Selecting Participants

The participants were selected due to their relationship with the school that is my research site. I made initial contact with the teachers first through the principal of Driftwood Elementary. After having secured permission to contact the teachers, I sent out a mass email to all twenty-eight full-time faculty. I received positive responses from seven teachers, six of whom ended up participating in the study.

Data Collection/Coding and analysis

DBI is about activating the static and personalizing the removed. In workshops I discuss DBI as a method to turn third-person information into first-person experience.

The process of coding employed in this research process must reflect the active and

dynamic nature of drama. For assistance, in keeping with the dynamism of drama, I chose In Vivo coding (to capture dialogue), process coding, (naming the gerund, of a verb to easily identify the action/activity contained within the interview), coding for emotion, and open coding (descriptions of the main parts of the data), (Saldaña, 2009).

Through the coding, I looked for examples of self-reflexive and/or meta-cognitive understanding of how the teachers represented how and what they taught and why they taught it that way.

Process Coding reveals the action of the interview. As Saldaña (2009, p. 77) reminds researchers, process coding is most useful for projects that are looking for “action/interaction” relationships and smaller, more narrow projects. The list of these gerunds, *feeling challenging* [sic], *getting nervous*, *shaking leg*, *keeping it inside*, *smiling when right* is a powerful list to keep track of. The possibilities from here could be very theatrical and/or poetic. What happens to the sense of the coding when it is moved from reading it horizontally to vertically?

Feeling challenging

getting nervous... getting

nervous

shaking leg

keeping it inside

smiling when right

Staying in touch with the action associated with the data enlivened the coding process and became a handhold within the data. It was important to me to find ways to capture embodied responses to the interview data. A qualitative research project centered

on embodied cognition should, in my opinion, find a way to capture the participant's embodied experiences within the data. Process coding was useful toward that end.

Saldaña (2009, p. 74) explains that In Vivo's etymology is connected to the phrase, "in that which is alive." The coding uses the participants' actual language and sets it apart so that the researcher sees patterns in participant language. For theatre artists, the verbatim aspect is very useful to keep the sense of voice and ownership (i.e. character) about the piece. Though this dissertation is not performance based, capturing the theatrical within the data oriented the interpretation toward the touchstones of drama, specifically concepts such as voice, action, and conflict. Prendergast, (2010 p. 82) discusses the allure of this type of research for theatre practitioners: "The use of performative writing strategies, such as narrative and poetry, by those of us who live, teach and research in theatre offers a welcome resonance between method and topic." It was my intention to find and represent the resonance between data collection method (interview, survey, video) and the data itself. Consequently, the coding process highlighted the active nature of the learning.

Trustworthiness

The researcher is the primary aggregator of data and instrument of its interpretation. Because of this responsibility it is essential that, before a researcher can make any moves toward generalizability, the researcher collect sufficient data from individual teachers and students so that there can be interpretation across the interviews as well as within each individual interview. Member checking will be crucial so that the cycles of analysis will be accurate and not tend toward researcher bias. Of course, if rapport is not developed,

the best analysis will not accurately reflect the data since only partial data will be provided.

How and When Data Analysis will be Analyzed

My interviews will be conducted with six teachers ranging if grade levels from pre-kindergarten to fifth grade. The methodologies used in this qualitative project will be fairly standard though I will investigate with one promising experimental method later in the project. The bulk of my data comes from interviews, reflective note-taking and classroom observations. The study's research focus was to collect stories and qualitative snapshots to determine whether/how teachers perceptions of their planning and instruction changes after learning about embodied cognition and drama-based instruction. In order to capture the personal and unique experiences I hoped to get, I decided on a semi-structured interview approach (Roulston, 2010, p. 15). I suspect it might be useful to have anchored questions that would consistently ascertain whether teachers could describe learning and teaching as an embodied experience. Within the interview, however, I wanted latitude to follow whatever additional direction the teacher wanted to follow.

The teacher interviews will not require as much setup. It was easier to ask them direct questions as we already had rapport established from my years of working at Driftwood. I member checked the teacher interviews at the start of the process and we had lengthy discussion about why I am conducting the research and what my goals for the project were. I wanted them to know that saying drama did not work within their planning was as useful to me as saying it worked well. I recorded all conversations for

accuracy. I conducted informal one-on-one interviews and group interviews with the teachers.

I recorded notes every day after my interviews and observations. I noted what stood out to me, the questions I still had, the things that surprised me, the funny moments in the classroom, and insights I had into the process. My last two days at Driftwood, I started to record improvised monologues into my phone based on what the teachers were talking to me about.

CHAPTER 4

Research Findings

The strength of qualitative research is that it provides a situated context of human experience which scaffolds the questions *who, what, where, when, how* and *why*.

Erickson (1986, p. 124) posed the following questions as two central tenants of qualitative research: “What is happening here specifically? and What do these happenings mean to the people engaged in them?” These questions are at the heart of all qualitative methodologies.

Qualitative interviews were a central data collection method for this research project. Fontana and Frey (2008) unpacked a tension that exists between positivistic and post-modern approaches to qualitative interviews. They complicated the qualitative interview by reminding researchers that interviews are set within particular contexts and historicism, therefore, objectivity is compromised due to the interviewee’s embeddedness within their specific context and own performance of self.

With that understanding, interviews are still valuable to unearth the social and situated environment. While they may not be the most objective form, nothing in research (qualitative or quantitative) is completely objective. Interview data are important for developing a coherent systems heuristic. Fontana and Frey captured this struggle well: “We try to piece together the kaleidoscope of shapes and colors into a

coherent story – something that has some meaning and, in the common understanding that we achieve, brings us all closer together” (2008, p. 146). The interpretation of these interviews in combination with the other research study data is my attempt to piece together a mosaic of meaning from the fragmented and incomplete pieces of relevant data. Dewey expressed the idea of capturing the data within lived experience this way,

Experience in the degree in which it *is* experienced is heightened vitality. Instead of signifying being shut up within one’s own private feelings and sensations, it signifies active and alert commerce with the world; at its height it signifies complete interpenetration of self and the world of objects and events.

(1934, p. 18)

Chapter IV attempts to untangle the teacher’s *commerce with the world* and, by so doing, interpenetrate the meaning of the three research questions:

- 1) What impact did the professional development sessions about cognition and drama-based instruction make on teachers classroom practice?
- 2) How did their concerns, as captured by the Concerns Based Adoption Model (CBAM), inform the six 90-minutes professional development sessions?
- 3) How did teachers negotiate their classrooms during/after the six 90-minutes sessions?

A basic maxim in theatre is that drama is doing. This study interrogates how that *doing* impacted teacher practice and student learning as reported by their teachers. The data was organized around these three questions and the themes that emerged are discussed below.

The chapter is divided into four sections: Participants, Across Case Analysis, and Concerns Based Adoption Model, and Retrospective Protocol.

The Professional Development Session

Between the end of January and the end of March 2014, I conducted 6 professional development sessions that linked ideas from theatre education to cognitive science. To develop these sessions, I followed Tommerdahl's (2010) contention that the neurosciences have a role to play in education, but emphasizes the distance and the complex relationships that exist between the brain sciences and proven teaching methods ready for the classroom. It is highly doubtful that any single given study in neurology will have a direct application to the classroom but, on a more hopeful note, it is almost certain that aggregations of findings from several studies, mediated through higher levels culminating in the behavioral and educational levels will indeed provide new teaching methodologies. (p. 98)

The sessions were not developed to be single points about cognition aimed at changing teaching practice. They, in stead, adhered to Clement and Lovat's (2012) ascertain that the mechanisms of the brain (firings of neurons, what the basil ganglia does) are of little relevance. What interests Clement and Lovat, as it does me, are the things that science teaches us about the construction of mind more than the mechanisms of the brain.

Consequently, the sessions paired a cognition concept like embodiment with a drama concept like improvisation. The following chart demonstrates the thrust of each session and offers analytic memos to give insights into what I was learning from the sessions.

Table 4.1 Explanation of Professional Development Sessions

	Dramatic Content	Cognition Content
Session 1	Theatre is doing Zip, Zap, Zop Body and voice as an instrument	Embodiment – reviewed the work of Arthur Glenberg as well as Adams and Galinski
Session 2	Creating Conflict (clarity of the conflict) Donkey, Cross the line Role work – Looked at Saun Tan’s the Arrival Key Idea – have the lesson center on what the conflict is	Emotions and learning -
Session 3	Modifying games story Teacher shared she played Zip, Zap, Zop and changed it for teach order of STAMP, INTOLERABLE, TEA Feeling like we need a three hour session	Social Neuroscience – role of emotion in learning
Session 4	Process Drama Had a breakthrough with the group. In my memo notes, I wrote, “they really came to understand that conflict is the emotional driver of the dramatic elsewhere.” Without conflict there is no driving emotion to get you through it.	Mary Helen Immordino-Yang videos – discuss the ideas of narrative and story and the brain Emotion is half of thinking. Emotions are not separate from cognition, the whole of it is called thinking.
Session 5	Focused on in-Role work “Sessions are turning more and more into creative problem solving than it is direct instruction. The PD is much more of a guided process than it is coming prepared with something like “we’re learning these three things today.” The teachers are really trying to figure out how to use drama. “There seems to be a belief that drama makes a difference. They see it. They see their students being more engaged more excited when they’re using drama. But they don’t necessarily understand how and why it is useful or how it can help them keep students better behaved. There are a lot of classroom management questions that are coming up.” There was a teacher who said, “I am surprised my students were listening during the drama work because my	Analogy

	<p>students don't know how to listen." Doing the drama is a way to chip a way at what we expect of the kids at school. The expectation is not that kids will behave better because of the drama, but that they are investing. That's the thing I need to highlight.</p> <p>Stayed for a long time today. The session ran 20 minutes over because they wanted it to stay.</p> <p>Talked about using a picture is a sign and how to draw extensions off of that.</p>
Session 6	<p>Putting it all together</p> <p>Retrospective protocol</p>

The Participants

The six participants in this study were all women who self-identified as white and were teachers at the same school within a medium sized-city in the Southeastern part of the United States (see Table 4.2). The most veteran of the teachers had over twenty-five year's experience. The least experienced teacher was in her third year of teaching. They all participated voluntarily and did not receive any compensation for their involvement in the study. This next section describes each participant individually so that they can be placed within the context of the study.

Table 4.1 Explanation of Professional Development Sessions

Teacher's Name	Grade Level	Montessori Classroom Teacher	Years of Experience
Bonnie	3-5 Year Old Kindergarten	YES	25
Deidre	4 th /5 th Grade	YES	21
Chris	3-5 Year Old Kindergarten	YES	17
June	3-5 Year Old Kindergarten	NO	10
Mary	3 rd Grade	NO	7
Stephanie	3 rd Grade	NO	3

Bonnie

Though Bonnie has been teaching for over twenty-five years, she brims with the enthusiasm of a newly minted teacher. She is a Montessori kindergarten teacher which means that she teaches three to five year-old children in a multi-age environment. Her classroom is a bright and welcoming place with a variety of materials for children to touch and explore readily available to them. In addition to the common trappings of a Montessori classroom – the internationally themed carpet, counting beads, stackable wooden bowls, mats for individual instruction – there are many other personal touches that make this room feel like a safe learning environment for children. An often-played guitar hangs on the wall, near a child-sized mannequin that dons various shirts and dresses from around the world. A large aquarium houses their class turtle, Simon. Books line two classroom walls and plants festoon the shelves. It is an uncluttered, happy and bright place filled with the steady hum of busy children.

Bonnie, when asked to describe herself and her various identities said,

I am the mother of three boys and the grandmother of three - with one on the way.

I am a teacher of 25 plus years, um, and I am over 55 and, I am Italian American.

I identify very strongly with that. My grandparents came over on Ellis Island and so I identify strongly with that. I am Catholic, Roman Catholic. I am a practicing Roman Catholic. I am divorced.

When asked how she describes herself as a learner she said:

I am an auditory learner as well as kinesthetic. If I have done it, or like if someone gives me directions on how to get somewhere... if I read the directions,

I am less likely to remember it than if I heard it. I can kind of replay that tape in

my head, like if they tell me over the phone you're going to turn here, turn here, turn here. But if I've driven there myself, then I remember. So, if I do, I remember. I think that's true with children, too. [They remember better] if they physically do it.

In several conversations, the importance of her heritage and the heritage of her students came up. She expressed that one of the reasons why she cares so deeply about her kindergarten lesson on Underground Railroad is that she wants to help her students connect with their past. She told a story about how a co-teacher made an indelible impression upon her and that partnership guides much of the work she does in her urban school district.

For instance, you know, I can't appreciate what my grandparents did. To think about them leaving their home – my grandfather left Italy, on a boat without my grandmother and three children and they didn't see each other again for seven years. And the three children during the plague, the flu came through Europe, the three children died. And my grandmother wrote and said “either you send for me, because the children are gone.” So what my grandparents struggled with and what I have now compared to what they had... I mean they came over and worked in the coalmines. That's my family history. But the African American children they have a totally different history. I want them to grow up appreciating what they have right now. White children should appreciate what the Europeans did for them. As an educator, when first came to [this school district] I had a very strong African American partner teacher. She was the other kindergarten teacher. Up to that point, I had very little contact with African Americans and I had a very

narrow view. It wasn't a negative view, but it was a very narrow view. And she helped me grow. I feel a responsibility to do that.

It is clear that she takes her interpretation of that responsibility seriously. On two separate occasions I entered her classroom to find her in conversation with an African American peer about culturally responsive pedagogy (Ladson-Billings, 1994; Delpit, 1995; and Gay, 2010). It is clear that she is deeply connected to the story of her grandparents and finds resonance with the story of African slaves in the United States. (If issues of culturally responsive pedagogy were a part of this dissertation, it would be interesting to unpack with her what those connections mean and what assumptions are made to forge those connections. But that is a study for another time.) Bonnie shared with me that it is the relationship she had with her former co-teacher that moves her to forge those links between her students and their pasts.

Considering her strong link with her family's past and her predisposition toward kinesthetic learning, it is little wonder that she finds drama-based instruction to be a particularly effective pedagogical tool to unravel issues surrounding slavery and heritage.

When asked why she participated in the study, she said she wanted to learn more about drama in the classroom because of a memorable experience she had with it as a child. If she remembered that experience and content so well all these years later, then there must be something to it and she wanted to learn what that was.

The teacher's goal, ultimately, is to get kids to think and to get the information into the kids in a memorable way –not just memorize it for the test. And, I think drama makes it memorable whereas just sit and get – I am going to write this on the board and I want you to write this down and memorize it for the

test – but if they’ve learned this information in a dramatic way, they’ll remember it... forever! I know that um, when I was in first grade we did a play with Washington and the Red Coats. I remember that – I don’t ever remember being taught about Washington and the Red Coats in school. That’s the only time I remember being taught it was in the first grade. And it was because we did a play about Washington and the Red Coats. So what I am saying is, what I learned in that little bit of drama is more than what I can remember ever being taught just in a regular instruction situation.

Bonnie does not see herself as a special teacher, though her peers clearly do. She acknowledges that she works hard, but she will quickly downplay her co-teachers appreciation of her leadership and mastery. When I told her that all of the other participants in the study had extremely positive things to say about her teaching and leadership in the school, she said, ‘I didn’t know about all that,’ and then quickly moved on to talk about what she missed during the previous session.

Chris

Chris is a seventeen-year veteran in the classroom. Her large classroom looks like it is in a constant state of transition from one student activity to the next. As in Bonnie’s class, in order to accommodate the Montessori Kindergarten, Chris was given a double room. In one section are shelves piled with books, rugs and pillows. In the middle of the room are spaces divided by more bookshelves. Students tend to congregate in this area to work on their lessons. Students sit on the floor with their mats and work independently. The room is abuzz with an energetic whirr that one only hears in focused early elementary classrooms. The energy in the room is calm, but there is always the sense that

it could erupt at any moment for any reason. When I enter her room for the first interview on one particularly chilly February day, children scurry about throwing on coats and looking for hats. Students run out the classroom's back door and find themselves immediately on the playground. For the next half an hour, children burst in and out of the room looking for Chris' or her classroom aide's attention. Calmly and deliberately she addresses each child who explodes into her room and returns to her interview with me. It is clear that she is called to do this work.

She was trained and worked for the first two years of her professional career as a banker. During that time she quickly discovered that she had other professional aspirations. She returned to school and received a master's degree in early childhood education and then became Montessori certified. She has taught Kindergarten Montessori for the past ten years. She has taught all primary grade levels with the exception of third grade. She is a teacher who clearly loves what she does and loves children. One interview session was during her students' recess time. The classroom door leads right out to the recess area and students move freely in and out of the room. One little boy ran up to Chris, climbed onto her lap and said that he was feeling sad. Without missing a beat she said, "Ms. Tammy (the classroom aide) has a magic potion for that. Go ask her to help you whip up a batch and you'll be good as new." The boy leapt off of her lap with boundless enthusiasm and tore off to find the aide. We did not see him again until after recess. Watching the boy run out the door she turned to me and said,

I don't think I could every leave the classroom, because if I couldn't laugh the way I do... Nope. Seriously, where else can you experiment like you can here?

‘Here, let me try this new brain technique and see if that work?’ It’s like a living lab. You can’t do that anywhere else, except right here.

Chris credits her time as a special education teacher for her interest in teaching and learning. Special education, she believes, made her a more curious and responsive teacher to her students’ individual needs.

Well, I guess I did when I taught Special Ed for three years; LD [learning disabled] first through third grades. You think I am strange now, I was really strange then. Very strange then. And then the Lord just put a lot of strange people in my path and so, through Special Ed, I learned lots and lots about sensory integration and Sensory Integration dysfunction. Things in that kind of realm. Those three years were probably the most learning as far as rapid learning, lots of new information, lots of new techniques, lots of ‘Oh my goodnesses!’ That was my three years with that. So I am that weird teacher who will try anything.

She continued after being interrupted by an exuberant child.

Seriously, where else can you experiment like you can here? ‘Here, let me try this new brain technique and see if that work?’ It’s like a living lab. You can’t do that anywhere else, except right here.

When I inquired about the various ways in which she identifies herself (member checking), she became rather uncomfortable. She called herself mixed-race, but, from her appearance, that description did not seem to fit. Due to her lack of comfort in discussing the issue, I did not press.

Mixed-racial, I am of two nationalities. There you go. Check box one? That's a very hard... I don't like to describe myself. That's not something that I am comfortable doing to be honest with you. I am a... I am just an average, middle class, maybe lower-middle class... I do have a husband who makes more than I do so maybe I am still middle class... I don't know, it's all good. That's a hard questions! Middle age teacher, 17 year. Mixed race. She can't figure out what she is! But you know, I don't know. Please don't... Can we skip that question? That's not a good question.

That was the only moment where I saw her flustered. Her demeanor is upbeat and positive and presents a teacher full of humor, compassion and talent. Her reputation is so strong in this regard that the other teachers in the research group described her as an innovative, dedicated teacher. They have been portrayed her as "awesome" and "kind". She has also been described as the "driving force" behind the arts integration work at Driftwood Elementary.

She confessed that,

But, I think that, you know, honestly, my whole focus is Driftwood Elementary – and this is a very selfish reason, sorry. But when the [former art teacher] was here, Driftwood was considered a high caliber arts integrated school. I mean people would come here to see our arts integration lessons. The art teacher retired and I was supposed to fill her shoes which I can't because she is more fabulous. She just has a wealth of knowledge that I'll never ever, ever have. But I want Driftwood to be that school again. That's kind of like my charge. That's what I

Chris volunteered her theory of teaching. She said her theory is simple: it's about loving a child.

Chris: to me it's the same thing as how, that TEDX video we watched [during one of our professional development sessions] where I was talking to my husband about this, where she was saying it's an internal emotional embodiment – the connection between the body and mind – well, I have another theory. But this is my theory. Well my theory is I think you cannot necessarily simulate but you can emulate it, but if a child knows that they are loved for who they are, I mean truly loved for who they are, I think that, um, if a child feels that, then their heightened [sense of stressors] is down because they are in a safer, calmer place where they're going to receive it... Their receptive intake is going to be better because they are in that place. So they're connected, they are already emotionally connected. That's what I truly believe.

Peter: Are you talking about the attainment needs? Food, water, shelter, love...?

Chris: But it's more than that. It's more than that. Kids pick up on sincerity.

And if they know you're doing it to placate them they're just gonna kind of still be like a shell. But, what you talked about – the vulnerability, okay, if they are not vulnerable, if they are not putting up a wall with you, then stuff is getting in a whole lot easier than a battle. If a wall is built it's not getting in. You're having to chisel. And if they're already in a safe place and if they know you truly care and love them, they're more willing to do anything.

It is that sense of passion that speaks to who Chris is as a teacher. Even after seventeen years in the classroom, she speaks of teaching and learning with reverence and affection.

Mary

Mary has been a teacher for 7 years – all at Driftwood where she teaches in a regular (non-Montessori) third grade classroom. She described herself as an average ‘teacher type’. “I am a 29-year-old white female. I guess middle class, because I teach... so that makes no money. I have two children, I am married. I own my own home. I’ve lived in [this city] all my life.”

She is expeditious by nature and does everything quickly. She speaks quickly and moves quickly. She even describes herself as a “quick learner.” “Because I am not one of those teachers who wanted to be a teacher because I always struggled. I wanted to be a teacher because learning was always easy for me.” In my field notes I wondered whether she “multitasks everywhere in her life?” Even during our interview together, she was working on an application for a district grant that was due later that day.

She describes herself as a learner this way,

I am very aural, I can just like, listen to you and I don’t normally have to write a lot of stuff down. If I need to commit it to memory, then I can write it again and again and it’s there, it’s stuck forever. But I am not someone who needed who needed the arts to learn. Do you know what I mean?

In describing her connection to the arts and arts-based learning, she said, “I feel like it’s a meaningful part of learning and not something that I am good at.” She said that her art comes out through interior design. That is clear when one surveys her classroom.

It is neat and orderly. The theme of the school's mascot ties the whole room together in impressive color coordination. Chairs are neatly stacked on desks, and, amazingly, there are no clear remnants of the presence of third graders – no paper on the floor, no books clinging limply from bookshelves. The room is neat and orderly. The examples of student work that hang on the bulletin board are backed with bright sheets construction paper. Symmetrical, evenly spaced letters spell out *Word Wall*. She takes great pride in her classroom and it is easy to see why.

The room is alive with light and color. There are luscious green plants on the windowsill. The shelves are lined with baskets of books organized by topic and genre - Non-fiction historical, science-animals, reading fun! The desks are arranged in groups of three and four and this makes the classroom feel open with room for the children to move about and gather their materials.

Even though there is an aesthetic eye on display in this room, Mary insists that she is not artistically inclined. She said, I am “definitely not gifted in creation of art and drama and dance have always been my two that I feel the least comfortable with.” Her resolute statement clashed with what she admitted in the workshops that she was looking for through the professional development sessions. “I was just hoping the students would be doing more. As far as they'd be active, they'd be more engaged. They wouldn't just be reading this information and answering questions about it, or filling out a graphic organizer.” As other teachers in the sessions confided in me, she was encouraged to participate in the workshops. Her participation in the sessions might be explained in this gap between what she wants for her students and how she, herself feels as an

artist/teacher. It made me think of an idea in Maxine Greene's 2007 essay *Imagination and the Healing Arts*.

It is often said that imagination is the capacity to look at things as if they could be otherwise; and, surely, if we ourselves might come to a point of being yet otherwise than we have become, our altered perspective might well enable us to break with a fixed and one-dimensional view and look at things as if they too could be otherwise. (p. 2)

Mary sees that her classroom and her instruction could be otherwise. She has glimpses of the types of activities she imagines for her students but admits, "I don't know how to do that yet." She calls herself a "Type A planner person" who needs to be able to plan in advance, rehearse and "enter into the work with confidence. If I don't enter with confidence they [her students] won't either."

Deidre

"I am Deidre, 42. I've been teaching for seventeen years. What else do you need to know?" Deidre is a focused, experienced and dedicated teacher. She is a dynamic blend of stern and loving. That combination might serve her well as a grade 4/5 Montessori teacher at Driftwood Elementary. When asked about her identity markers, she seemed either confused or annoyed by the question. "I am white, Caucasian, American. Mixed European." When I discussed the idea of member checking with her, she simply repeated, "Caucasian, American. Mixed European."

My first encounter with Deidre dates back several years but it was not with her, actually. My first experience with Deidre was through two of her students. As the Head of a Master of Arts in Teaching program in theatre education, I spend a fair amount of

time each week in public schools. I was at Driftwood several years back visiting a preservice teacher working in the school when, out of the corner of my eye, I noticed a child crying talking with another child. I had to walk in that direction as the classroom I was looking for was right next to Deidre's room. The closer I got, I noticed that the students were unsupervised and were passing a beanbag back and forth taking turns talking. I was close enough to hear the students talking through a disagreement using the beanbag like a talking stick (a device used that only the person holding the stick is allowed to speak and, therefore, cannot be interrupted). I was dumbstruck that two ten year old children could stand alone in the hall, successfully pass a bean bag back and forth, speak in *I statements*, and positively resolve their conflict. That was my first introduction to this impressive educator. Before I knew Deidre, I thought that was an isolated event with two exceptional children. That was not the case, however. They were two of many of her students I have observed work through disagreements and hurt feelings over the years. Their ability to negotiate the nettlesome issues of childhood was not accidental nor random. It was practiced and valued. She believes that children are capable and treats them with respect and admiration.

When I asked her why she participated in the study, she gave reasons that spoke to her dedication to her children's ability to make meaning as well as to her frank pragmatism.

"I am always looking for anything that will help them learn what they need to learn. I am looking for a way to make my job easier. You know? But ultimately, it is to help them. You know? I know they love getting up and doing stuff. I know they are bored when they sit there and listen to me so... and I don't know

how to do the drama in the classroom other than to you know, write a script and act it all out. We do that kind of stuff. I'd love to learn how to do that. Not that I haven't, but I am getting there. They absolutely love it. And it makes it kinesthetic for some of them, you know? They love it and so they're going to be engaged and I don't have to fight them for that.

She related an incident from her classroom to me in which she and her students were discussing what kind of summative evaluation they would be interested in creating. She suggested a poster project where each poster linked to others in the room. She imagined streamers connecting the posters and they would serve as an excellent visual reminder of how each of the ideas was connected. The students, however, requested that they be allowed to create a drama.

So then ultimately we came up with instead of each group making a poster, each group is going to act out a scene. And they pretty much came up with that. And I think they're fully capable of just doing that on their own. I don't think they need anything from me.

A theme in Montessori education is independence. Whether working out problems in the hall or creating scenes about an issue independently, Deidre supports and encourages independence and resourcefulness. That same independence and resourcefulness is evident in her teaching. Though she insists that her class has not really done any drama work, I have seen significant video evidence that they have. During the nearly three months we all worked together, her students created dramas around the great stock market crash and the establishment of the Declaration of Independence.

In the video she made of her students working through drama, they make white wigs to wear and, without any prompting, modulated their voice to capture what they imagined the framers of the Declaration might have sounded like. It was an exciting theatrical and pedagogical choice to hear a mix of British and more “American” dialects represented on the video. Deidre informed me that the students did that spontaneously.

She makes connections to her student’s impulses to use drama work in class through drama with her experiences as a student.

I am a Montessori teacher and so, I would have been a much better educated person had I gone to a Montessori school because the manipulative aspect of it would have been good for me. Not necessarily the moving kinesthetic part, but the understanding of the concepts is much more clearly shown. I mean, things just weren’t taught that way when we were in school. And I have to read, I guess, to understand whatever. Like if I’m reading something for a lesson plan or whatever.

It is clear that Deidre intends to develop more embodied classroom experiences. She recognized the value, though admits that it’s hard to remember to plan drama lessons.

For me, I forget. I was so proud of myself today because I was sketching out what we were going to do next week and I wrote, DRAMA, DRAMA, DRAMA, DRAMA, so I could remember to actually plan it that way. It hasn’t quite made it into my mind to do it as often. But it has helped. Yes, I’ve shifted more toward that. I think um, I think we all have.

June

June is in her mid forties and has taught at Driftwood as their non-Montessori pre-kindergarten teacher since 2004. Before that, she worked for eleven years at a private nursery school. She is a quiet, unassuming presence in the room who often remained silent during our professional development session. When she did ask questions, it was often to check if she was understanding something correctly or doing “it right.” Of the six study participants, she is the one who spoke most often about issues surrounding her comfort level and ability with the work. She made several comments like, “the drama thing has not been me,” or “I am not all that comfortable with it yet,” or, “I am out of my element.” When discussing one activity we did during a session she said,

I guess sometimes I can feel myself, even when I was doing that one where you had us – and you could probably tell – the one we were doing on the boat and saying what we packed in our bag. I mean I didn’t feel as comfortable doing that. I guess it’s just because I was out of my element. You know it’s like a performance but not one that I’m used to because I am used to not having to speak and using your imagination more.

Her shy demeanor contradicted other comments she made. For example, when asked about what identities she possess, she listed, “educator, and, um, active and lots of energy, dancer, Christian, Mom.” I was surprised by the marker ‘lots of energy’. By no means did she come across as lethargic, but I was curious where she felt at ease to display that energy. Her five-year old daughter attended Driftwood and, consequently would often attend our sessions. Their bond was unmistakable and I could imagine them

playing with abandon and energy in the comfort of her own home. That side of her, however, I did not encounter at Driftwood.

When she discussed her life as a dance teacher, I could see what I understood as self-doubt lift.

I used to own a dance studio. We were the Southern Connected Cloggers of Smithville. But I have been dancing since I was two, so I used to teach tap, ballet and jazz in the studio, but then I took over the dance studio – me and a partner. In clogging, we competed. I did that for sixteen years. Then we kind of gave it up, not long after I had my five-year-old daughter. That was another time consuming thing. Now I just teach after school at the school dance program here called the dancing cubs which is just jazz. So I do that two days a week. And my daughter is taking dance since I don't have a studio anymore. She takes dance. That's why on Wednesdays we have to scoot out of here because she takes dance. She's on the dance team and is the dance captain. So pretty much, I've dance all my life. It's exciting.

In her interviews with me, that was the second longest response that she provided for any question. Her longest response described her reasons why drama was difficult for three and four year olds and her justification as to why she did not use any embodied strategies we explored in our professional development sessions. To be clear, I gave no instructions that the teachers must embrace these activities or utilize them within their classes. It seems quite possible that since the professional development workshops were connected with a doctoral dissertation, there might have been a presumption that the

participants were expected to implement our work together in their classrooms. Another possibility is that she felt pressure from her colleagues to try a few of the activities.

Like I said, in this other teacher's Kindergarten class, I could see them try some of the drama things we've done. I've said, I should try to do this too – I should incorporate it in my plan. Especially with her because our students are the same age. You know when the third grade teachers were talking, obviously their students have the skills they were suggesting to do which is great I thought because all of those social studies concepts that they have to learn making it more meaningful for those kids to remember, I am sure.

When asked what she hoped to get out of the professional development workshops, she discussed how she thinks children are predisposed to learning through the arts. She thought because it was 'fun' and the students could 'move around a lot,' they would retain the information more. "I think it's something I want to try. I think I just need to keep really thinking about how I can create some lessons with it."

While she was not able to discuss why the movement or activity improves learning, she was clear that those elements help learning and retention. "[...] my daughter, remembers things with motions and songs. She definitely is learning all of the concepts. So I definitely think it's perfect for this age." Because of her experience in dance and seeing her daughter's inclination to learn through arts-based instruction, June is seeking ways to connect with her own students on this level. "I definitely want to keep trying it in here. I just need to really brainstorm how." She would often distance herself from trying to incorporate drama into her classroom. Even at the end of our time

together, she said to me, “maybe you can come back next year and you can work with my children again.”

Stephanie

Stephanie is in her third year of teaching. She describes herself this way,

Um, I’ve self-diagnosed myself as ADD. I have a horrible time focusing. So, it’s hard for me to get upset with my students who have the same issues. I am wife and mother who loves to read, cook, sing, and travel. My biggest influence would have to be my mother. As an art educator for 34 years, she taught me from very young to appreciate all of the arts and its HUGE impact on not just my education, but my life in general. I feel like this was a huge factor in my choice to change careers [from business], go back to school, and become an educator myself. I would also have to say that my love for performing and being the center of attention was probably another reason I wanted to be a teacher. I am a stage hog.

Stephanie sounds like any other new teacher. Her concerns are with the management, order and control of the classroom. “I am not great at classroom management. I’ll go ahead and tell you that. It’s like my weakest point of being a teacher.” In addition to still feeling insecure about her teaching, Stephanie admits that teaching in an urban district is a challenge for her. “It’s made me more open to them because this is not the environment I grew up in this is not the environment I went to school in.” According to district data, almost 78% of its students qualify for free and reduced lunch and nearly a quarter of all students are below the national average for math and reading skills. She is deeply

concerned about these issues, but as someone who has been teaching for only three years, she's not sure where to start.

This is only my third year teaching so I know I still have a long way to go. And with the experience I had as a student teacher was at the Center for Inquiry so it was like, the polar opposite to my real life experiences now. It's hard. It's hard to kind of understand these kids that have such tough, tough stuff going on. So, I mean, and you don't want to bring it up too much because I feel like this place should be their safe zone. This should be the place where they feel the most comfortable - and at home. But then again, you want them to be vulnerable to new experiences. So it's a fine line. I mean, it's hard.

It is clear that Stephanie, like so many teachers, keep their students in the center of their thinking. She wants her students to thrive in her room and to develop a sense of themselves. "They don't have to be these hard-knocks, they can be emotional, they can have emotion..." She is eager for her classroom to be a fun engaging place. "I mean they know that I am goofy and I don't care. And I laugh! I mean I love to laugh. I don't like to be upset with them or angry." What is also clear is that she does not yet have a critical understanding of her students and their situations.

A lot of these kids are silly, but when their silliness gets pointed out, then they don't want to be silly anymore. It's sort of, they have to keep this role of being hard or tough, or... you know? And [they are just] in third grade too and it kills me!

When I asked her if the professional development sessions in drama and cognition might help her meet her students' needs better, she responded,

I have a very hyperactive group this year, several kids are medicated for that. To me, I know that physical activity and drama and things like that really help those kids, but at the same time, they have to understand where the line is. You know, umm, I think with this age group there is well, they are very.... the line is blurred a lot of the times.

Stephanie's world, voice and body all communicate a complicated relationship with her students. She sees that as simultaneously unable to concentrate and eager learners. She sees them as disrespectful and callous and emotional. This sense of conflict At the same time, however, Stephanie shows a deep regret that she has not yet gotten to know her students as well as she wants to.

I am still getting to know them. I feel like this year has just been... has flown by and you know, I am just now getting a hold of their personalities and knowing 'oh, they would have done great if we had done this or that, you-know'... It's just a constant learning process – trying to figure all of that out.

It seems likely that Stephanie would be able to relate well to Cohn and Kottcamp's (1993) notion that the march toward teacher accountability transforms classrooms into contested sites where teaching the whole child collides with testing the child.

From the teachers' perspective, the thrust of accountability-driven mandates is to squeeze the juice, the life, the soul out of teaching even for the "little ones" and render it dry, routine, repetitious, and boring. Teachers believe they need discretion, and they believe that classrooms need life, creativity, and fun, for both students and themselves. (Cohn and Kottcamp, 1993, p. 141)

Stephanie’s interview demonstrates how conflicted she feels about student readiness and delivering a curriculum that inspires them and in which students can find themselves and their futures.

I will say me personally, um, I’ve tried to put more emotion into my lesson planning. I’ve tried to think . ‘okay, how can I turn that so that it strikes a chord with them so they remember it?’ Especially with like, social studies or science or whatever. I am all about real life experiences. Because if these kids don’t – if they can’t connect it to anything, they are not going to learn it.

Cross-Participant Analysis

Sharan Merriam (2001) calls cross-case analysis “a qualitative, inductive, multicase study that seeks to build abstractions across cases” (p. 195). She then quotes Yin (1994, p. 112) to describe that a researcher’s goal is “to build a general explanation that fits each of the individual cases, even though the cases will vary in their details.” Miles and Huberman (1994) instruct that cross-case analysis must be rooted in context and should not be the mere noticing of commonalities. Therefore, after the individual interview data was coded separately, the data was coded across participants to see what emerged from the data. This approach was organized around the three major research questions of this study.

With just the interview data alone, my initial work yielded well over two hundred codes. Of course, many codes that arrested my attention early in the process did not emerge into themes. Phrases like, “Even group work is still just work” and “too much curriculum and not enough time”, though interesting, fell outside of the categories created

for this particular analysis of the data. The themes that emerged from the cross-case analyses were as follows: a) shifts in planning b) emotions-centered practice c) embodied instruction d) management and control and e) student learning.

Shifts in Planning

All of the participants in this study revealed that they signed up for this so that they could improve either the quality of their own instruction or to make the experience for their students more engaging, interactive and fun. As Lee et al (2013) pointed out, “Teachers, in general, may have a common belief in the instructional strategies that best engage students but they have a diverse ability and/or confidence to enact and follow through on those beliefs in the classroom” (p. 98). So perhaps it should be no surprise that there were shifts found in how teachers approached and planned for their instruction. But, as Linnenbrink & Pintrich (2003) posited, teachers who evaluate their instruction as effective do not demonstrate a strong desire to change their practice. However, for a few of the teachers, the degree of these shifts in just six weeks was unexpected. Through the workshops with the teachers at Driftwood Elementary, I found a parallel experience with Dawson, et al’s drama-based professional development work in rural Texas. Their experience led them to conclude,

Instead of thinking of drama-based instruction as the ‘motivator’ and themselves as the ‘teacher’, teachers began to understand how to teach through the drama, engaging students in higher-order thinking and reflection throughout a lesson. (2011, p. 328)

Bonnie commented at the beginning of the professional development process, “It can be as little as a scenario starter with the thing in the can [a technique called coffee can theatre] that you passed around. It can be as small as that.” Four weeks into the training she said she used drama because, “I am trying to give them a connection between what happened in real life and what happened to their real life.” That change of opinion for teachers that drama-based instruction was merely fun and games used to get them into the lesson was common. Mary put it this way,

I saw that it [teaching a lesson through drama] wasn't that bad and I didn't lose too much control and that the kids did respond positively to it. So I am on the lookout for an opportunity where I feel like it would fit. Where it would work and be meaningful for the instruction. And something that's not too big so I don't feel like I can't do it.

Two of the more veteran teachers in the study commented on both June's and Stephanie's progress. Deidre said that she was “happy to see a few of them [other study participants] taking to it.” Chris was more effusive in her assessment of the impact on Stephanie's progress. “I was shocked at the benefits moving that quickly. I didn't think it would be this year. I thought that it would be like a dabble here and a dabble there. But I was shocked that it was this year.”

Bonnie shared a concern when she wondered, “ Will I be able to transfer what I have learned from “ideas to try” to “common practices to utilize.” Questions as to whether teachers would be able to embed the concepts from six professional development sessions into their common practice were common. All participants, however, said that they were making an effort to incorporate more of the ideas into their work. Mary said,

That's a, that's a little bit harder to... I can't think of like specific examples. But I have just been more mindful of um, their need to connect that learning to something else. To something that's going to help them recall it. Whether it's a song or a chant or a body movement, and so, you know, all along throughout the learning when I am writing lesson plans I try to think of, you know, key words or key phrases or whatever that we would then need to include in an embodiment exercise.

As Lee et al (2013) demonstrate, shifts in practice might occur due to more experience working within forms and techniques that a teacher already values. For example, if a teacher has a bias toward active learning, implementing drama-based instruction might not represent that much of a change in practice. What was clear from the data, however, was that shifts in approaches to teaching were not only borne from a sort of teacher confirmation bias, but also from student and peer influences.

Three teachers, during three separate interviews used the term "shocked" to describe how well drama-based instruction worked. "I was really shocked that that [a student response about a trade embargo] came out of that [the drama-based lesson plan the teacher implemented] actually." Chris admitted during her interview, "I was shocked. That's what I was saying. I was shocked that it actually worked." Mary mentioned that she joined the professional development sessions because she watched another teacher use drama-based instruction and tried it in her class. "So I did an activity like that with my kids and it was so meaningful. I was shocked. So I was like, well, if that's where you got this from, then it must be a worthwhile use of my time, so sign me up."

It was not simply that the participants used the term, ‘shocked,’ to describe their surprise about drama’s impact, but it was the degree of their surprise. For example, when Chris admitted that she was shocked, she leaned in, put her hands up to her head and to make a gesture as if her ‘mind was blown.’ In reviewing my notes after Mary’s interview, I noted that she looked me dead in the eye and said shocked slowly and clearly to make sure the true nature of her surprise was revealed. Each of these instances of being shocked resonated to something deeper that the teachers wanted to communicate. The participants seemed to suggest that their assumptions about drama’s effectiveness were not simply questioned, but upended.

Mary said,

[The PD] definitely has changed the way that I teach and my acceptance of them [the students] getting up out of their seats. You know, the whole thing has made me a lot more able to go back and forth between settings. You know, work at your desks, work in small groups, go to the carpet, back to our desks, up at our desks, at our desks but in our space but standing up and doing movements – or whatever. So, um, I feel like that’s been a big growth for me.

Mary’s sentiment of growth in understanding of and interest in drama-based pedagogy was found across participants. June said, “I want to learn how to do this because I see it working in other classrooms.” Stephanie said, “I feel like I can trust myself to use this more. It’s like, I am up for this.” Chris said, “I can see it working with my students.” Deidre talked about how she sees her students get excited about learning in a “new way.” Each of these teachers was firm in how it impacted their instruction.

The surprising result, however, was not simply that all participants came to understand that DBI impacted their teaching, but that drama helped them see their students differently and, therefore, changed how they interacted with and planned for them. Mary said that she witnessed aspects of her students that she did not see through her conventional instruction and because she saw students who were not usually motivated learners committed and engaged through the drama lesson, she was able to change her narrative about those students. That was a powerful theme through this study.

The power of the drama-based instruction was coupled scaffolded with the information about embodiment. The next section explains how the combination of the drama instruction coupled with an awareness of embodied practices made an important difference to not only the strategies of their teaching, but how they centered their instruction.

Emotion-Centered Practice

Drama is the exploration of the human condition through conflict. Without centering a lesson on some sort of conflict or problem, there is not much drama in the lesson. Without a conflict, it is a challenge to create an emotional hook for student learning. The interview data revealed how important the ideas of conflict and emotion became to the study participants.

I introduced the concept of conflict during the second session. In this session we created frozen images (tableaux) using bodies and no voice. We created a museum dedicated to the memory of a cricket who left his home. He ran away after being bullied by a frog and the little cricket wanted to learn how to become a beautiful butterfly. I told

part of the story to the teachers, and they had to pick one part of it that spoke to them and they then needed to create a frozen representation of that idea with their body. “Imagine someone took a photograph of that moment you’re representing or of that idea. What would that picture look like? That’s what you have to create with your body. That’s what’s going to be in this museum.”

They thought for a moment and I counted to ten. Each teacher used that ten-count to slowly move from their normal selves into a frozen image of representing one aspect of the story. I then tapped each one on the shoulder and they were allowed to say one thing that the image/character might say in their image. They said, things like, “come back,” “I’m sorry,” “he’s just a frog, what does he know?”

Then, one by one, they each had a chance to play the cricket and walk through the museum while the others maintained their pose. When the last participant had a chance to walk through the museum, Mary said, “I think I’m going to cry.” The teachers all shared a moment of appreciation for what it meant to center a lesson on the conflict and the emotion of the story/content area. Teachers shared feeling “alone” and “cold” during the exercise. I then asked whether they want to try and find the cricket now to which Bonnie quipped, “for the love of God, can we just go find him?”

This experience we shared during one of our sessions inspired all of the participants to try similar activities in their classes. One teacher, June, asked me, however, to come to her class to facilitate a drama lesson. She was interested in having her students work in this way, she just “did not feel comfortable leading one yet.”

I put her students in the role of seeds who had to teach a hapless and incompetent farmer how to nurture and nourish them so they could grow. After the lesson she said she

was “surprised they said they were lonely under the ground. I didn’t think they’d feel that way as just seeds.” She shared that

“it was cool they could feel that with the fact that we were learning about what seeds need. So that was good. That’s basically, when you do create the drama, they have to have the conflict and they are trying to figure out a problem that they need to solve. That’s how you get them to care about it!

June was excited and, I felt, a bit intimidated by this way of working with children. She understood that by creating a need you could uncover content. Because of her dance background she said, “You know it’s like a performance but not one that I’m used to because I am used to not having to speak and using your imagination more.” In spite of her concerns about whether she could facilitate a class in this manner, she said that she wanted to try this so much that she was going to create some lessons for this “stuff” over the summer.

Deidre, a 4th/5th grade Montessori teacher, placed pillows, clip boards, shiny new pencils and snacks in one area of the classroom labeled “Girls Only.” The boys, of course, were outraged that the girls were provided with a comfortable place to work while they were forced to use small pencil nubs and stand at their desks to work. Deidre handed them all the same worksheet, but she only explained it to the girls. This of course created havoc in the classroom and the boys refused to work. The teacher then pressed the boys and said that she supplied them with pencils, worksheets and a place to work as well. This is how the teacher began her lesson on separate but equal within the struggle for civil rights. She said to me the next week, “I don’t think they’ll forget that feeling.”

These examples demonstrate how the centering emotion in a lesson not only makes it relevant, but personal. The teachers in the study found this idea to be central to their use of drama in the classroom. In reflecting on a recent lesson she taught, Chris described the significance of emotions on learning this way.

But I still think they get the emotion part of it. And that is what was key because they had a connection. I think you have to have an emotional connection in order to... or an emotional experience, not even a connection, it's an experience in which to make a connection. And so I think they got that. They can understand that part of the story I want them to understand.

Deidre, mirrored that impression by saying, "I feel like I have to have them *feel*. I try to give them the experience in some way possible." When asked if that was a new way of thinking, Deidre said, most definitely. Bonnie echoed Deidre's sentiment when she offered, "if they feel it, they'll remember it more."

Mary described her class session this way as an epiphany for her. "Now that I get it, I think it [the conflict] is an essential connection piece between the student and the concept trying to be taught. To become what you are learning about and then provide an emotional link makes the learning stronger." Though Mary said she "struggled to think of some ideas on her own," she wanted to figure out how to do this more.

Stephanie's experience with emotion-centered practice came not from a drama, but an impromptu decision she made while teaching. She was reading EB White's *Charlotte's Web* to her students and she just read the section where Charlotte dies. She described it this way.

You know, I made them immediately go write. I was like, ‘okay, whatever you’re feeling right now, put it on paper. Like, whatever it is. I doesn’t matter what it is, it might not even be complete sentences, I don’t care.’ Just go write. Just go do something, you know? Because I wanted them to keep that feeling and put it on paper and then they’ll always remember it.

Stephanie continued,

I just think that they are getting better at interpreting things and knowing what we mean when we say *reflect*. Or knowing what we mean when we say, *how does that make you feel?* Or, *do you think that they appreciated that?* Like getting them in the mindset of the people we’re talking about whether it’s in this book or social studies or whatever. But, at that moment, I was like, ‘oh no, no, no, this is something. We have to capture this.’ Because they are only going to feel that one time. They are only going to find out that Charlotte dies one time. And that’s just special. And I got some of their best writing out of it.

Each teacher had a rich and meaningful experience creating or experiencing a lesson around a conflict and therefore, an emotion. Bonnie said, “they will remember the feeling that they had. I am trying to give them a connection between what happened in real life and what happened to their real life.” The emotional aspect of learning is where that process that Bonnie spoke of begins.

Embodied Instruction

A third theme to emerge from the data was the influence of embodied instruction. By this teachers meant opportunities to use their bodies and physically participate in the learning. The inclusion of the full self into learning – the body and the mind – is of increasing interest to cognitive psychologists. Alibali And Nathan (2012), for example, argue that “scholars of embodied cognition have begun to view gestures as an indicator of embodied mental representation” (2013, p.249). So using one’s body not only means that people are actively engaged, but are creating mental representations for future access and recall.

Mary, a third grade teacher in a non-Montessori classroom admitted to struggling with her class this year. She said she has completely embraced the importance of students getting up and doing.

I have totally bought into the idea of embodiment. And so have my kids.

Most of them, but it’s the ones who don’t participate in anything. So um, you know, it’s to the point where they do things naturally in their seats. I mean before I even present the idea. Because I mean, we do this like literally every day now.

Bonnie related how she seeks out small ways to help students physicalize learning.

I believe strongly that purposeful physical activity is strongly related to cognition and retrieval of information. For instance... my students may not readily remember which hand we use for the morning pledge, but when I say, “It is your right hand. Your right hand is the hand you use when we hold on to the railing to go up to the media center.” All of my students can remember that action and come up with the correct hand. These are just simple samples but anything we can do to

help the students transfer information from short-term memory to permanent memory is beneficial.

One of the most compelling examples of a teacher's commitment to the idea of embodied instruction came from Mary, one of the third grade teachers. She described a decision she made in the moment while teaching a lesson on molecules in solids and gases.

[My third-grade students] were looking at me like, 'molecules, what are you talking about?' It was very spur of the moment. But my kids were very excited to become molecules of different states of matter the other day. They were super excited. They moved close together, far apart. When we were solids and we were all just bumping into each other, they thought that was a blast. And then we got to be gases and we were all loosey-goosey moving around the room and nobody was together, they thought that was a big ol' time.

Mary's sharing of that experience supports what a teacher said of her work. In a separate interview Chris, a more senior teacher, was talking about the impact the PD has had on the group. When she discussed Mary she shared,

I think it's making a big difference in the way she teaches and just how maybe her days go. You know what I mean? I think because she's doing these things, her kids are having more fun, and maybe they are learning more so then she's feeling more reinforced and better about it all. I really feel like it [the professional development] is a great thing for them.

The teachers reported improved engagement and interest from their students when they get them physically involved in the lesson. In the coding words like, *fun*, *active*, and *learning* were spoken frequently by the study participants. In my field notes from

February 5, 2014, I wrote that “the teachers are not just buying into the PD ideas, but they are investing in them.” I described how one teacher integrated her classroom curriculum into a game we learned during one of our first sessions. Through this game, students were up on their feet and had to create physical representations of the Stamp Act the Intolerable Act and the Tea Tax. Because of their embodiment of the curriculum, they all physicalized and learned the correct order of these events. The teacher later shared that all of her students remember the order the next week – the whole class got that question right on their quiz.

Chris shared that she is “a huge believer that you learn through your senses. Your senses are not just five, they are all over. And however you can get [the learning] in, you get it in. No, I am a huge believer in that now.” She told how she used a techniques called narrative pantomime (a strategy where students use their bodies to mime as precisely as possible what the narrator is explaining is happening in the story) to get the students to mimic the germination of a seed. She explained about the tap root and the stretching of the stem toward the sun, and the students were doing exactly what she described.

And though June did not have a first hand account of trying an embodied activity in her class, she had the experiences of her daughter who attends Chris’ class. June said, But I like the motions. And that’s the way it is with Chris’ class with my daughter and she’ll come home and she’s created a song and she totally remembers it because of the song or the motions of what it needs. So that’s the way they remember. I think that was a good thing, because, yeah, I bet they’re

going to remember that. I mean they got into the beat and the playing, but yeah, they remember that.

Even though June did not feel comfortable (at least not at the time of this writing) to try to lead this sort of teaching, she did see its value. Seeing the value was a subtle but important shift. Stephanie mirrored that shift when she said, “I think we really have gained an appreciation of getting them up and involved. We are trying more to be kind of open-minded to be more willing to talk that way and use things that we’ve learned.” And, as Mary said, the shift is “easier when you see a change in your students.”

My field notes also indicated much more animation and excitement when the teachers discussed the embodied instructional activities they tried. Process codes included *wide-eyed*, *bouncing*, *demonstrating*, and even *dancing*. The other interesting aspect about the material from this theme is that, to a teacher, the interview data that dealt with issues of embodiment were the longest transcribed passages.

Student Learning

The advocacy challenge in arts-based education generally and DBI specifically is that the evidence of student learning is largely descriptive. The late, renowned American arts-educator and researcher, Eliot Eisner reminded teachers that “[Creative] work, in whatever form the student elects to use, is a proxy for student’s thinking *in that context* (author emphasis)” (2002, p.186). This idea of arts as proxy for student thinking is at the heart of the dilemma for arts-based researchers. Aesthetic education does not deliver a discrete number, percentage, or result. As with many art forms, drama-based instruction is context driven. In other words, trying to quantify learning within a creative context

and to affix meaning to it is not only a challenge, but perhaps, inappropriate. When students are in role and are trying to decide whether to take the 160 acres being offered to them to settle the western parts of the United States, the answer to stay or go is immaterial. What matters, however, is the thought process the child went through to arrive at their answer. Stephanie put it this way, “even if they don’t remember each little thing that we did or all of the facts, they will remember the feeling.” When I asked Deidre whether were learning benefits to DBI she said, “I am sure there is. I don’t have the evidence, but I think they know what those things are instead of me just saying, this is what the UN is, this is what they do... you know. I think they have a good understanding because they enacted it.”

A teacher’s sense of whether a child understands or is connected to the material is not a grade in the grade book, but it is valid and valuable information all the same. Chris, for example, described her student’s learning through a drama lesson on farming this way,

The learning is definitely there. They are writing now and they get it. It’s like boom, boom, boom, they are translating literally everything we’ve done into their own non-fiction piece now. So the learning is definitely there. And grant it, I know it’s a lot of prior knowledge, but I think they truly, truly *see* it.

Andersen (2004) says, “In drama in education, the process is the end in itself. The learning emerges out of the choices and decisions made during the development or improvisation” (p. 282) Bonnie echoes this sentiment when she said in her interview with me that, “Just participating is a valuable experience.”

Several participants spoke about what students were doing to demonstrate their learning. Deirdre spoke about a lesson she did with her fourth and fifth graders about the Continental Congress. The students made white wigs out of paper to wear as they debated the various points. But the students not only wore the wigs, but, without prompting, the students also changed their postures and voices. Many students spoke with British accents and, when I asked about it a week or so later, the student I asked did not remember changing his voices while in role. Bonnie spoke to how it inspires and contextualizes learning this way,

It gets them learning. It gives them another tool to enhance, support what they're trying to do in the classroom. So it will, in the big picture, you know, everything is the test at the end – The PASS test or whatever, if they've done some of these - especially Geography or social studies or literature in a dramatic situation, I think they will be more assured that the kids are going to understand and get the information that they want for when they are tested or when they have to rely... to bring that back to their memory, when they have to tell somebody about it.

The teacher's ideas about what and how the children learned and the value of that learning supports other researchers' findings. Dubinsky, Roehrig, and Varma (2013) found that if teachers learned more about neuroscience and how it impacted student learning, they would be more likely to change their teaching to include, "strategies and implement more active, student-centered lessons" (p. 324). Many of these strategies that Dubinsky et al recommend, however, are the very ones that are most difficult to assess – either qualitatively or quantitatively.

Management and Control

This data did not quite rise to the level of these, but became patterns that told two interesting stories. Each story dealt with a concern about how using drama-based instruction might cause the student to “get wound up.” But where the teachers placed the onus of responsibility for any potential chaos coming from a drama infused lesson was different. The first story suggested that the more experienced teachers did not see the management and control of the students during drama-based instruction to be an issue. Their concern regarding management was that they did not understand the principles or procedures of drama-based instruction well enough and it would be their lack of preparation or knowledge that would cause the lesson to fall apart.

Less experienced teachers, however, saw management and control to be a significant impediment that prevented them from trying many techniques. Another interesting detail emerged surrounding the word *control*. The three teachers with the least classroom experience used it at much more often – a rate of almost 2:1.

The experienced teachers made comments like, “if you can handle lunch duty, you can certainly do DBI.” The seasoned teachers’ comments were in accord with what Deidre said.

That’s a concern for me. Not that I won’t be able to control them or even if they get chaotic. That’s fine. But, the fear for me is we’re sitting there and I am trying to get them to do this thing and I haven’t done enough to where they can do it. You know what I mean? If the kids aren’t engaged, no matter what you’re doing, it can dissolve into talking and not just paying attention. So I feel like the better

prepared I am, the less that would be an issue. It's fine if they are all up making noise all together.

June, a more seasoned teacher, said after watching me lead her Kindergarten class in a drama lesson,

I felt better seeing you do it today. I think that has kind of opened my eyes to say, 'oh, I can do this!' I just didn't really know what it looks like. Even though we've done it [in our professional development sessions] as teachers it's not quite the same. It's different than really sitting down and thinking about incorporating it into the curriculum. That's my big-time ultimate thing. But I don't have any concerns that this point. It's just about trying to establish it now.

The less seasoned teachers, however, saw things differently. They asked many questions that could fit into the category of, 'What do I do with the kid who...'. During one such discussion, Stephanie shared,

I think with this age group is well, they are very.... the line is blurred a lot of the times. And so, the difficulty comes with giving up that control and letting them get out of hand to a certain point. I want them to have the experiences, I really do because I am all for it. But it's been hard for me to let them take it too far.

Because then it takes me twice as long to get them back to where I want them to be so we can continue learning.

Classroom management is an important concern for new teachers. It is clear that if students are not in an environment that promotes and encourages participation and engagement, students will have a difficult time learning. It is interesting to see how the

drama-based instruction professional development began to move teachers in their thinking about classroom management and control.

Mary, after telling how she used embodied instruction to teach about molecules had a bit of a breakthrough. I asked her if she would have gotten the students up and moving around the room like solids and gases the year before.

Mary: Probably not.

Stephanie: But her class last year too was twice as big and...

Mary: But, maybe my class last year would have been more manageable if I had given them an opportunity to move in a constructive way like that. And I wouldn't have thought to do that because I was so busy controlling them because they were so terrible. But maybe they were so terrible because I was so busy controlling them. Chicken or the egg situation. You know?

Chris: (feigning tears) Oh, you guys are going to make me cry!

Mary: This professional development work has totally changed like how I feel about thinking and what my default things are. Like my default thing isn't, you know, write about it, or, you know, do a worksheet about it. My default is put it in your body. You know? So. It definitely never would have crossed my mind if it weren't for this.

Concerns Based Adoption Model

As discussed previously, the Concerns Based Adoption Model (CBAM) is a series of program assessment protocols developed to measure the impact of professional development caused change among individuals within an organization. The protocols

range from 40 question Likert scale instruments to qualitative interviews. As Hall & Hord (2006) suggest, organizational change does not occur until the individuals within an organization see the need, purpose and the logic for implementing any change. Saunders (2012, p. 186) cited Bennett & Rolheiser (2001) in describing the nature of professional development in education. Saunders stated,

- change is a process, not an event
- change is a personal experience and evokes emotional and behavioral responses based on individual thoughts and feelings
- change takes time.

Not only is change an individual process, but the rate of change among individuals is also variable. Even within a group who agree to embrace an innovation, the rate of internalizing that change is participant dependent.

The goal of the CBAM implementation was to discover whether the drama and cognition workshops caused the practice and perspective changes within research participants. Because we were a small group who met regularly, our sessions were informal and dialogical. Teachers shared personal stories of drama-based instruction and collectively brainstormed lesson planning ideas. Due to the nature of the group and our sessions, it could have been possible that the teachers' change was a result of the group functioning like a critical friends or a reflective practice group. Though the implementation of the CBAM was not a major thrust of the research project, I included a modified version of the interviews as an attempt to ascertain whether the participating teachers attributed their individual shifts to the drama and cognition workshops. The interviews center on the seven categories of knowledge, acquiring information, sharing,

assessing, planning, status reporting and performing (Saunders 2012, P. 191). I based my questions on Dawson et al's 2011 adaptation of the CBAM and addressed these seven categories.

I utilized the qualitative nature of the CBAM interview and the format provided by Dawson et al's (2011) survey to create a thirteen question (see Table. 4.3) survey that teachers answered at the beginning and the end of the process.

Table 4.3 CBAM Survey Questions

1. How would you describe your comfort using drama-based instruction (DBI) today?
2. How would you describe your comfort with the concept of embodied cognition?
3. Please describe how concerned you are about students' attitudes toward DBI.
4. What concerns do you have about implementing DBI in your classroom?
5. What concerns do you have about providing embodied instruction?
6. Please describe how concerned you are about making revisions to DBI in order to address my students' needs.
7. Please describe any concerns you might have about evaluating DBI's impact on students.
8. Are you concerned that you might not be able to adequately or fairly assess the performative nature of DBI? Why/why not?
9. Please describe what other information you might need regarding time and energy commitments required by DBI.
10. Please describe whether/how this statement is true for you: <i>Currently, other priorities prevent me from focusing my attention on DBI.</i>
11. Please describe whether/how this statement is true for you: <i>I would like to know how DBI is better than what we have now/have had before.</i>
12. What general or specific concerns to you have about DBI or embodied instruction?
13. Please describe how comfortable you feel regarding your growth in issues of neuroscience or embodied cognition.

The questions provided an opportunity to capture a baseline of the participants' opinions and concerns about drama-based instruction and embodied instruction. Table 4.3 demonstrates the journey the participants took through this PD work.

Table 4.4 Concerns Based Adoption Model – Shifts over in attitude/opinions

Level	Types of Use	Explanation of Use	Pre-Professional Development Teacher Reflection at Driftwood Elementary	Post-Professional Development Teacher Reflection at Driftwood Elementary
6	Renewal	Re-evaluates use and considers making or makes modifications to use or explores new fields or development to increase impact on students		
5	Integration	Comines efforts with colleagues to increase impact of the innovation on their students		
4B	Refinement	Varies use of innovation to meet specific student or organizational needs and to increase the impact on students		<ul style="list-style-type: none"> •I have already modified some DBI games to suit the needs of my students. I also have to remember to keep things interesting and relevant to their curriculum. My students lose interest very quickly, but my hope is that through DBI they will be able to maintain their interest for a longer period of time. •I have loved taking these games and ideas and adjusting them to fit this group of students and certain segments of content. I love it!
4A	Routine	Use has stabilized; little preparation is required for use and no consideration is given to changing the innovation		<ul style="list-style-type: none"> •I have become a big believer that these strategies are meaningful and useful in my classroom and will continue to use them both to build community as well as to make content fun/interesting/engaging /easy to remember.

3	Mechanical	Focus on short-term use with little or no reflection and is preoccupied with following a stepped approach to mastery		I wouldn't say DBI is my focus because the curriculum content always is, but I have definitely heightened my awareness of its positive affect and increased my use of it.
2	Preparation	Preparing for use	I have been involved in the performing arts for most of my life, so my comfort level as far as performing (drama) was very high, but my level of comfort in incorporating drama into my instruction was moderate. I was eager to strengthen my level of confidence with using drama in my classroom.	
1	Orientation	Acquiring or has recently acquired information about the innovation	I feel better with DBI as I learn more techniques to easily implement drama into my curriculum. I only have 20 minutes to prepare for the lesson and don't have time to research, plan and prepare a DBI lesson	
0	Non User	Little or not knowledge or involvement with the innovation	It's cumbersome. You have to have props, stage directions, etc. Not comfortable. I feel DBI means acting silly thereby losing control of my class or I give my class permission to act silly. I don't know how to keep instruction meaningful.	

Source: Loucks, Newlove & Hall, 1975 as cited in Saunders (2012)

The open-ended survey data represents a shift for these teachers from reticence to adoption. The pre-workshops data revealed words like *cumpersome*, *burden*, *extra work*,

and *out of control*. All of the initial data was consistent with either the Non-User or the Orientation category. One teacher who had previous experience in the performing arts said, “I was eager to strengthen my level of confidence with using drama in my classroom.” This was the only comment on the pre-service data that showed genuine excitement or commitment to the idea of drama before we began our work together. The other comment that was most optimistic about DBI and the cognition work was, “On a scale of 1-10, I would rate my comfort with DBI as a 4.” She added, “This concept is not a term that I have heard prior to my involvement in this program.”

Deidre, when asked about her comfort using DBI after the workshops said she felt much stronger – the idea of embodiment being part of DBI was new. My students and I have really grabbed hold of that idea and applied it in lots of different contexts to really support our learning. I am beginning to feel better about “in role” activities, but would like more development in that area.

The sense of “beginning to feel better” and “I have become a big believer that these strategies are meaningful” was consistent throughout the surveys. One survey response demonstrated this theme of comfort and improvement when she said, “I think I have grown a lot as a professional and definitely believe that embodiment helps students become more engaged and retain information better than more traditional methods.”

Table 4.5 Concerns Based Adoption Model - Participant Feedback

Seven Categories of CBAM	Participant Survey Feedback
Knowledge	Heightened my awareness of its positive affect and increased my use of it
Acquiring Information	Loved taking these games and ideas and adjusting them to fit this group of students and certain segments of content
Sharing	Considering I am new to DBI and my students are too, I feel we can learn and grow together.
Assessing	I may not be able to thoroughly evaluate DBI this year because I am still green, but I feel in years to come with more development, DBI will be a successful part of my curriculum.
Planning	I have actual exercises and instructional ideas that can be very easily incorporated into my instruction.
Status Reporting	I see DBI working very easily into Social Studies and Language Arts, and even Science but while I'm sure there is a way to do it with math I will have a harder time coming up with ideas for that subject. Another reason I possibly would not use DBI is because there are so many "things" we are supposed to do in lessons, technology etc... I honestly just forget. DBI is a very effective way to teach. It engages students in the material and puts them literally into the subject matter.
Performing	My students always remember and or understand better when involved in the curriculum in any active way.

Comments such as these are convincing. The survey and interview data suggest that the drama and embodied cognition PD sessions had the largest impact on their shifts in practice and focus. The teachers did not demonstrate any concern that would prevent them from using DBI or other embodied approaches. No teacher believed the sessions were fruitless and all data demonstrated that teachers were open to changing their practice at least within certain subjects. There were other changes that the data suggested such as changes in disposition toward students, but there was not sufficient evidence to suggest that as an emergent theme from the data. That will be discussed further in Chapter Five.

Video Analysis/Retrospective Protocol

Baumer and Magerko (2009) are interested in discovering how actors construct narrative within the seemingly unstructured and fleeting moments of improvisational theatre. In that theatrical form, story is constructed from nothing and whole, coherent narratives are created in front of audiences. In order to ascertain how these shared cognitive domains are generated and represented among and between actors, Baumer and Magerko implemented an analysis technique called the Retrospective Protocol to discover what “procedural and semantic knowledge that was being employed while they [the actors being studied] were on stage” (p. 146). The researchers played a video of the improvisation and asked the actors who performed in it to watch it and relate any recollections they had of particular insights into their performances or techniques.

This method’s intent was to glean insights into which drama-based instructional methodologies and concepts of embodiment were retained and used in context by the study participants. Five of the six teachers watched Bonnie’s (one of the research participant’s) video of a lesson she taught centered on DBI techniques. Bonnie was not there as she was attending to a family situation.

The lesson that Bonnie created was based on a lesson plan that she and I brainstormed together the previous year. She modified that original idea significantly and, in so doing, removed a few of the aesthetically and emotionally distancing safeguards I prefer to have in place when using drama-based instruction. There is some debate as to the nature of necessary safeguards (O’Toole, 1992; Boal, 1995; Rohd, 1998, Wagner, 1999). Even so, I make sure I share my bias with teachers and graduate students toward using aesthetic and emotionally distancing techniques when engaged in drama.

Bonnie wanted to see the difference between not telling the children that a scenario in class was real and telling them that it was part of their lesson. The previous year she informed her students that they were going to create a play about some of the children in class who were going to be taken to another Kindergarten class by another teacher. Their job was to find their friends; but, they could not get caught by the principal because he wanted the children to move classes. The children were prepared that it was a fiction, yet, even when the other teacher came to “take” the children, they were so invested they needed to be reminded it was ‘all pretend’. The students then followed clues written on stars scattered around the school to discover where their friends were taken to. The principal was involved in this lesson and walked around the building and, if he discovered the class lurking throughout the school looking for their five stolen classmates, he sent them back to their room to start all over again. This simulation was a way to get four and five year olds to think about the major concepts of slavery and the Underground Railroad. When they successfully found their classmates, they had a party with the teacher who “took the children” and the principal. This year, however, Bonnie did not tell the children that it was a fictional story and did not communicate in advance with the parents of the children who were going to be “taken”. I saw that as a major error, but Bonnie made that decision last minute and did not communicate change that to me. I was surprised by this decision as we discussed the importance of aesthetic and emotional distancing throughout the process. It is clear to me now that I need to be even more explicit in my thinking regarding this issue.

The research participants and I watched the video after school on the same day of the lesson. The first half of the retrospective protocol dealt with the teachers trying to

figure out how they felt about Bonnie's decisions. They were surprised by her tact and were not accustomed to questioning her decisions. Bonnie is a revered and beloved teacher in the building. One teacher put it this way,

I think it's quality instruction. The question I had is, 'is it okay to make kids cry like that?' I would have been too scared to do it. I am not saying it's wrong, I'm just saying...But if Bonnie thinks it's okay, I'm going with Bonnie.

When I asked Bonnie about it later, she said she knew the parents well and had worked with most of these children for two years and trusted they could deal with and learn from the lesson. She admitted, however, that she was surprised when a few of the children became visually upset. One five-year old boy was so upset about his friends leaving the classroom that he started to cry. When that happened, a less experienced teacher said, "I can't believe he's crying. He can act out and is so bad. I'm seeing him in a totally new light because of this."

That comment, "I'm seeing him in a totally new light" moved the conversation from a place of superficial critique to deeper analysis. The teachers stopped trying to satisfy my query about examining the event through cognitive and dramatic lenses, and instead dealt with what was in front of them. In this regard, I side with Joe Norris' notion that, "the single, disruptive instance that creates a moment of aporia can often be just as illuminating" (2006 p. 59). The study participants saw something in a school like they have never seen before and were trying to set it within an academic, emotional, and ethical framework. The following excerpt shows the teachers' struggle to align these challenging and colliding ideas.

Mary: I see their response and I think... I am a parent in that class [Mary's daughter attends in that class]. I think that it was authentic. And I think that is something they needed to learn.

Deidre: Would they have been able to get it any other way?

Mary: I don't think they'd really been able to get it. To get... I mean, the emotional toll of it all without a simulation like this. I mean they could learn what happened and who led it. I mean they could learn facts about it, but I don't think they'd really get it. And it would be cool to do in older grades and complicate it a little bit more. To have the principal catch someone who is not where they are supposed to be and what happens to that person?

Stephanie: I think too, though, at this age, I think it's important that both of their teachers were with them the entire time. That's their safety person. They were upset, but they didn't feel unsafe. Bonnie and the aide were still there. She was still leading them still guiding them.

The study participants were engaging in this protocol on two levels and yet it was clear they were more concerned with one aspect than the other. The first level dealt with a critique of the educational validity for the children and secondarily, they examined the experience through drama and cognition lenses. In this brief excerpt, their discussion included drama terms such as *simulation* and *complicate* and embodied cognition ideas such as *emotional toll* and *authentic experience*. Though faint in this particular discussion, resonances of the professional development work echoed within this focus group.

The coding of the retrospective protocol yielded rich data concerning the teacher's assessment of the lesson's educational value and some data about the cognitive and dramatic structures within the lesson. I believe it was due to the surprising nature of this particular lesson and not a lack of educator insight. The conversation wended its way from uncertainty about the lesson toward an appreciation of it. The teachers asked excellent questions of each other about how does one assess this experience, did it go too far, and would they do this lesson themselves? Baumer and Magerko (2009) describe how the researcher in the room with the actors continuously prodded the participants with protocol questions in order to generate data about how they constructed their narrative. In this instance, though I did ask that they try to center their comments on the embodied and drama-based material we reviewed within our professional development sessions, their conversation about what they witnessed was more pressing than my protocol. Also, it provided an opportunity to briefly discuss emotional and aesthetic distancing again. Because it was our next to last meeting together, there was not an opportunity to try this data collection method again.

Toward the end of the session, the teachers reflected on the value of having work like Bonnie's lesson in the school and what examples like that did for the ethos of the institution.

Stephanie: But even just to have it in the vault, you know? To pull out whenever you have that group that you think 'this is really going to influence them.' It's always nice to... And then too, to influence another teacher to do a similar activity, um, in her room, that wasn't exactly like this, but still was an in-role activity where she was trying to play off of the same content.

She continues,

So, you know, and I think just having that kind of lesson in the school influences other teachers to do it. Having this on video now to actually show the faculty members would definitely you know, those people we were talking about earlier who have a hard time breaking away from the norm, you know? Doing stuff that you might be scared to do or make you vulnerable – there's that buzz word we're using. You know, having it, and showing it and saying, look, it can be done.

Mary: And it can be a healthy way to make kids vulnerable too. You know what I mean?

While the data collecting experience was not what I expected with my design of the Retrospective Protocol, there were enough examples of the teacher discussing concepts like *teacher in role*, and *from an embodied perspective*, that demonstrated the depth of and access to these terms within the teacher's thinking. The retrospective protocol is a promising technique for me in my work with teachers and drama-based instruction. The teachers also thought it was a useful way for them to collectively unpack the professional development content in a group setting. One teacher said that the video was a good way to “think out loud together.”

In Chapter Four I discussed the results of the data analysis. Through individual interviews, a cross-participant data interpreted, a modified CBAM protocol and, lastly, through a Retrospective Protocol, the impact of the teacher's experience learning about drama-based instruction and embodied cognition was revealed and contextualized.

In Chapter Five I will draw out broader themes and implications for this study and offer directions for future research.

CHAPTER 5

CONCLUSIONS

The search for certainty, comparison and conclusiveness tends to drive out alternative ways of seeing. (Simons, cited in Norris, p. 41)

Chapter Five summarizes the research and conclusions from the qualitative study I led with six participants in six-ninety minute professional development sessions on cognitive science and drama-based instruction (DBI). Three central questions unified the research process:

- 1) What impact did the professional development sessions on cognition and drama-based instruction make on the teachers?
- 2) Do the six teachers in the study report any difference in their instruction and pedagogical practice since participating in the six sessions about embodied cognition and drama?
- 3) Do these six teachers report a difference in student learning due to their professional development?

Summary of the Study

Research demonstrates that when teachers learn about cognition, their lessons tend to contain more interactive and physical activities while simultaneously becoming

more sensitive to the needs of their students (Dubinsky, 2013). However, the type of scientific information and its delivery make a significant difference to a teacher's change due to cognitive science professional development (Tommerdahl, 2010). Clement & Lovat (2012) suggest that, "Neuroscientific knowledge must be offered in a form accessible to teachers; be perceived by teachers to address an identifiable practical issue; and, include reflective practice on the part of teachers that is aided by a supportive professional community" (p. 551). By the same token, Lee et al. (2012) demonstrate that teachers learning about drama-based instruction also do best when they are learning in groups of teachers. Lee et al.'s research mirrors Tommerdahl (2010) that in order for the professional development to gain purchase on a teacher's impact in student learning, the in-service material delivered must be of high quality and relevant.

There is clearly a parallel in this research. Each endeavors to improve teacher practice. Each endeavors to maximize student learning. Each endeavors to transform the 'what is' of classrooms to the 'what can be.' The cognition research, though, does not offer specific techniques or methods to activate learning nor does it offer suggestions on how to center the curriculum on emotional/social cognitive development. Drama-based instruction does not provide evidence to teachers describing *how* drama increases learning. It merely offers evidence *that* it does. This project was an attempt to provide a framework based in cognitive science (specifically in embodiment, analogy, and social neuroscience in education) and drama-based instruction. The goal was to story the cognitive research and to offer neuroscientific empiricism to drama.

I led the six participating teachers in six ninety-minute professional development sessions covering embodiment (Anderson, 2003; Glenberg & Kaschak, 2003; Glenberg

2010), Social Neuroscience (Fischer, 2009; Immordino-Yang & Damasio 2011) Improvisation and theatre games (Spolin, 1999; Boal, 2002; Neelands & Goode, 2006) Creative Drama/Story Drama (Saldaña 1995) and process drama (O'Neill 1995; Howell & Heap 2013). Through a series of 9 total interviews, 12 total surveys interviews (one pre and one post per participant), and ethnographic field notes, I gathered then interpreted the data from these experiences. I used In Vivo codes, descriptive coding, and process coding to interpret their interview, video and Concerns Based Adoption Model surveys (see chapters 3 & 4).

My deep concern about teaching and learning and my combined research interests in drama-based instruction and cognition/neuroscience inspired this study. Almost a century later, I found myself asking the same question John Dewey asked in 1916. His question is still as relevant today. Dewey wondered,

Why is it, in spite of the fact that teaching by pouring in, learning by passive absorption, are universally condemned, that they are still so entrenched in practice? That teaching is not an affair of telling and being told, but an active and constructive process is a principle almost as generally violated in practice as conceded in theory. (p.44)

This research project was one attempt (of many necessary attempts) to answer his question. What follows are the results of that inquiry and interpretation.

Discussion

Four themes and one important pattern emerged from the interview transcripts, survey data, field notes and ethnographic observations. They were a) shifts in planning

b) emotion-centered practice c) embodied instruction d) student learning e) management and control.

Shifts in planning

As Dawson et al (2011) stated, “To make sustainable changes in instruction, teachers need to experience what happens when they are allowed to learn in a collaborative, dialogic professional development environment” (p. 315). From my observational perspective, it seemed clear that all participants reflected Dawson et al’s notion that a collaborative, dialogic professional development environment invites sustainable teacher change.

German composer Richard Wagner was the first to create an entire vision for a theatrical production. He called this idea a total work of art or, Gesamtkunstwerk. Due to his vision, theatre is almost exclusively a collaborative art. It is a process that combines the respective expertise of a playwright, a director, a set designer, a lighting designer, a sound designer, a costume designer, actors, a stage manager, construction crews, running crews (people who change the sets in between scenes) dressers (people backstage who help actors in and out of costumes and makeup when necessary), properties artisans, board operators, spot light operators, and many other behind the scenes crew. And, at its core, it is dialogic. Drama is a sharing of stories and is a conversation between ideas and an audience. Just as a theatrical event has the potential to change a person’s perspective or deeply help belief, training in drama-based instruction has the potential to change teachers. During the professional development sessions, teachers dialogued about and listen to the stories of their peer’s practice and how their experiences learning about drama and cognition changed them. It is hard to imagine a

teacher hearing Mary said about trying a lesson centered on embodiment and not be moved and intrigued. She said,

I think that I was probably as wobbly about the embodiment thing until I was kind of forced into trying to use it [the other third grade teacher wanted to try it]. And then I saw that it wasn't that bad and I didn't lose too much control and that the kids did respond positively to it.

That is a compelling bit of testimony. And when teacher testimony is woven together into a safety net of validating experiences, other teachers can begin to feel that they have the support they need to try something new. What's more, it is not just an attempt to try, but to try and, perhaps, fail.

Fullan (2001) (as cited by Saunders, 2012, p. 307) described three dimensions of change that interact directly with a teachers' pedagogy. They are:

- (1) possible use of new or revised materials—this can include curriculum materials and instructional resources
- (2) use of new teaching approaches, strategies or methodologies
- (3) possible change in beliefs— challenging existing assumptions or theories that underlay programs or policies.

Examples of the study participants' comments fitting into Fullan's matrix are replete throughout the study. I inserted Fullan's three criterion within Chris' response to a comment I made about the professional development sessions transforming into a reflective practice group.

It is, but it's more than a reflective practice group because you're giving us stuff to do [*possible use of new or revised materials*] to make you think of another way to do something [*use of new teaching approaches*]... to make you, um, see a lesson in different light [*possible change in beliefs*]. 'How can you?' versus 'Do this.' Does that make sense? And it's... I can say that you get more out of it this way. You get more out of it.

Mary's previous comments can be analysed through that lens as well.

I think that I was probably as wobbly about the embodiment thing [*possible use of new or revised materials*] until I was kind of forced into trying to use it [*use of new teaching approaches*]. And then I saw that it wasn't that bad and I didn't lose too much control and that the kids did respond positively to it [*possible change in beliefs*].

Stephanie was discussing how the professional development sessions impacted her and the other third grade teacher. She was discussing how the workshop ideas intersected with their individual strengths as teachers.

And she [Mary] is too, but at the same time her [planning strength] is more academia, mine [planning strength] is more arts-based. So us together we've really tried to fuse them [*possible use of new or revised materials*] and see our strengths and weaknesses and help each other with that.

I will say me personally, um, I've tried to put more emotion into my lesson planning. I've tried to think, 'okay, how can I turn that so that it strikes a chord with them so they remember it?' [*use of new teaching approaches*]. Especially with like, social studies or science or whatever. I am all about real life

experiences. Because if these kids don't – if they can't connect it to anything, they are not going to learn it [*possible change in beliefs*].

The pre professional development data suggests that most of the teachers not only had concerns, but were completely unfamiliar with many of the terms relating to the PD content. Bonnie said, " I am such a linear person that being dramatic is quite out of my comfort zone." Another teacher, Stephanie, suggested, "Now that I get what it means, I think it's an essential connection piece between the student and the concept trying to be taught. To become what you are learning about and then providing an emotional link makes the learning stronger."

These shifts in planning were evident in their CBAM data as well as in their other interview data. The teachers all discussed how they developed from teachers who did not know what to expect or how to incorporate the drama and embodiment topics we covered to teachers who were at least curious to try them out in their room. June, the most reluctant teacher said, "I am slightly concerned due to the fact that my current students sometimes have difficulty with self-control. I feel that with patience and practice they would hopefully grow an appreciation toward DBI and see its benefits towards their learning. Experiential learning can last a lifetime."

Strauss and Corbin (1998) note that saturation is a "matter of degree" (p.136). Some researchers, they contend, move on to other coding before the data is adequately mined for richer interpretations. Strauss and Corbin recommend that coding is complete when it no longer yields new insights. While I hope I did not close the coding on the theme *Shifts in Perspectives* too soon, saturation came very early to this theme. In coding the interview data, comments would come up often that represented a shift in thinking –

either in subtle or more profound ways. I include a few instances here for context. Mary mentioned that she was more “mindful” of her students’ needs due to the sessions. On March 5, 2014 I walked into Driftwood to conduct an interview with Stephanie. I entered her room finding her and Mary planning a lesson together (they plan and teach together as they both teach third grade) using a “writing in role” technique we discussed three weeks prior. I asked if they would have ever thought of using that last year. Stephanie laughed and said, “probably not.” Chris mentioned how thinking through group games and planning lessons focusing on the conflict has influenced her planning. “I have changed in that thought process,” she said. June, the most reserved during the sessions offered, “But yeah, I think it [DBI] will be helpful to incorporate some things into my lesson plans.” Deidre shared, “I’ve shifted more toward [DBI]” and Bonnie emphatically stated, “Yes! It has influenced my lesson planning...particularly in Social Studies and Language Arts.”

Outside of their survey data, there were many examples from the professional development sessions and from watching videos of the teachers employing DBI in their classroom where it was clear that a shift was happening. I remember vividly being in the middle of a professional development session and I saw a quizzical look on Stephanie’s face. I asked her if there was anything wrong. She looked up and laughed and said, “ain’t nothing wrong, just feeling my wheels turning!”

These shifts are consistent with the findings of Tommerdahl, 2010; Dawson, 2011; Lee, 2012; and Dubinsky, 2013. Professional development that created dialogical spaces for the teachers to process and challenge the material offered during the sessions while providing tasks and activities those teachers could implement easily and

immediately had the greatest impact and created the greatest change within individual teachers. What is exciting is that five participants (Chris, June, Deidre, Stephanie and Mary) indicated that the dialogical space extended beyond the professional development sessions and they talked about the session work at times outside of the PD time. These sessions were not the only opportunity for dialogic and supportive conversations to happen for these teachers. But without the workshops, it seems clear those conversations would not have happened.

Shifts in Teacher Planning is a significant finding because it clearly answered one of the study's research questions and, more importantly, demonstrates the future potential of these workshops. These professional development sessions provided teachers with the content, encouragement and support required to guide teachers through their own process of discovery of how they practice their art and craft of teaching and how they can transform it.

Emotion-centered practice

[...] no longer can we think of learning as separate from or disrupted by emotion, and no longer can we focus solely at the level of the individual student in analyzing effective strategies for classroom instruction. Students and teachers socially interact and learn from one another in ways that cannot be done justice by examining only the "cold" cognitive aspects of academic skills. Like other forms of learning and interacting, building academic knowledge involves integrating emotion and cognition in social contexts. Immodino-Yang and Faeth (2009, p. 67)

It seems logical that in a classroom where drama-based instruction is employed, the emotional dimensions of the students' lives should also be present. Immodino-Yang

and Faeth's (2009) notion bears repeating that, "building academic knowledge involves integrating emotion and cognition in social contexts" (p. 67). But from where can the emotional aspect of learning come? One place where the emotional lives of learners is present is through drama. This is true because drama is a performed conflict. Someone wants something from someone else. As soon as two people share a stage, there is the strong potential for a collision of wills and desires. That is the essence of drama – and that is what makes drama so compelling.

But why does that matter in a classroom? It matters because those engaged within a fictive frame are struggling to achieve a goal. The character cares about that goal. A student might not care about the development of the Articles of Confederation, for example, but if they get to pretend to be one of its framers, the child now has a point of view and a position to fight for. The child is participating in a conflict, understanding the encountering and, it is hoped, understanding the perspectives of others, and working within those constraints to achieve their goals.

A poignant example from work I did at a different school. I was working in a third grade classroom and I was leading a drama lesson on why people joined the militia to combat against the British. I was in role as a reporter and I asked one ten-year-old girl why she joined. She told me because a Red Coat shot her grandmother due to her refusal to pay the tea tax. Once she witnessed that tragic event, she was committed to the cause of freedom from British tyranny. That child was deeply connected to that story that she made up on the spot. She did not come to class prepared to tell that story, she did not write it out in advance. She did not, as Gavin Bolton says, *come to class with an intention to learn*. She was experiencing a deep emotion contained within a fictional

encounter. She was moved by the conflict of the situation and created a personal context through which all those in that class could enrich their own understanding.

Cecily O’Neill, the renowned Irish theatre educator, describes the dramatic experience framed in a conflict this way.

The primary purpose of process drama is to establish an imagined world, a ‘dramatic elsewhere’ created by the participants as they discover, articulate and sustain fictional roles and situations. As it unfolds, the process will contain powerful elements of composition and contemplation, but improvised encounters will remain at the heart of the event as the source of its dramatic power. (1995, p. xvi).

The problem or conflict emerges from dramatic elsewheres and in that process, the drama unfolds before the children and this transforms powerful emotional forces into moments that encourage students to invest and engage in their learning. The data is clear. When teachers harnessed a conflict and point it toward curricular ends, they reported impacts on their learning. Focusing on the conflict changes not only how you plan, but who you as a teacher and your students are in the classroom. Deidre registered surprise that even doing very simple in-role work with her students,

They had to do an assignment that has to be turned in but they were engaged. And for that one, all they had to do was sit there and talk and they were very engaged – which they are not normally that engaged. And even though we were just sitting there and talking, everybody was. So they were paying attention.

Drama-based instruction is more than just a way for a teacher to manipulate children to do what she or he wants. It is a way to put the child as an active participant in the middle of the lesson. As a result of considering the conflict and the emotional journey of the class, the teacher creates an environment where children must participate, listen to peers, achieve a goal (individually as the character), and solve a conflict (for the whole group).

Embodied Instruction

Although there is as yet no unified theory of embodiment (Barsalou, 2008), scholars of embodied cognition generally agree that mental processes are mediated by body-based systems, including body shape, movement, and scale; motor systems, including the neural systems engaged in action planning; and the systems involved in sensation and perception (Dreyfus, 1996; Glenberg, 2010). (Alibali And Nathan, 2012, p. 248)

Embodied instruction connotes that students will have opportunities within the lesson to engage their full bodies and voices. From an embodied perspective, this full-body engagement indicates that the child's brain will also be fully activated and deep and embedded learning will be taking place.

As Bonnie reminded us, a child might not know which hand is their right hand, but if the teachers reminds the children that they use their right hand to grab onto the railing to go to the medial center, now children have an embodied sense of which hand is the right hand. Children can see themselves and imagine grasping the railing. The noted North American Cognitive psychologist, Arthur Glenberg showed the impact of a child imagining processes, images and ideas as a sort of mental manipulation (Glenberg et al,

2003; Glenberg et al., 2004). “We have demonstrated how an embodied approach to language comprehension can be applied to enhancing early reading performance. The hypothesis offers an approach to language comprehension that suggests a powerful faded technique and imagined manipulation” (p. 435). Though Glenberg speaks specifically of the literacy focus of his research, others can find a generalizable principal within his ideas (van Meter, 2001).

As has been addressed elsewhere within this document, drama-based instruction is an excellent vehicle to facilitate students learning within planned and sequenced lessons that are active and engaging. It is the very opposite of what many may envision when they think of typical classrooms in the United States. Bonnie captured the spirit of embodied instruction when she said, “I believe strongly that purposeful physical activity is strongly related to cognition and retrieval of information.” That endorsement rings particularly loudly against the silence of Bonnie’s initial enthusiasm for DBI.

The saturation level of *Embodied Instruction* within the data reveals how significant of an idea it was to the participants. When teachers considered planning with embodiment in mind, their lesson provided opportunities for students to engage and intersect with the curriculum differently. Students did not only learn about the subject, they inhabited it.

Student Learning

Student learning is, after all, the end goal of any teaching/learning intervention. Perhaps one of the most important themes to emerge from the data is the role the professional development sessions had on student learning. As Stephanie said, “I think

the kids may be noticing a shift too with us – just being more... you know... it's kind of more inquiry based learning”

The struggle within aesthetic engagements is the challenge related to assessing student outcomes. Edminston (2014) captures the potential of the emergent qualities that exist within DBI.

An assessment task may be closing down or opening up my understanding of young people and/or their understanding of themselves as learners. When I recognize that authoring views about students is a messy process without certainty, this allows me to see my understandings of young people as always in process. I may identify patterns of their meaning-making while also remaining open to new possibilities, always affected by my interpretation of what has, or has not happened, each day. (P. 266)

The study participants were certain that DBI impacted their students' learning, but, as Deidre admitted, it was hard to quantify exactly how. Each teacher witnessed changes in their students' learning and engagement, however. A few teachers even saw impacts on student writing as a result of working through DBI.

A highly regarded study by Hendrix, Eick, and Shannon (2012) found that creative drama techniques made significant impacts on science learning and also made minor impacts on appreciation of science. Though the authors used a series of statistical sampling techniques (Mixed NOVA and survey data), a clear cause for causality was more difficult to prove. Even with such a highly controlled and quantitatively driven design, causality was a challenge to establish. But the teachers involved in this study were clear that their students were learning more complexly and richly as a result of DBI

and instruction centering on embodiment.

Moreover, it was clear from my observations of the teachers in their classroom and also during our shared professional development sessions that it was not only the students who were engaged in deep learning. The teachers were sharing and learning along side of their students. The co-creation of meaning and shared risk-taking and responsibility for learning and instruction during teaching process was clearly evident.

Implications for Practice

The implications from this study for policy-makers and school administrators are clear. Providing sound and meaningful professional development that encourages teachers to learn with and from each other over extended periods of time makes a difference in what teachers teach, how they teach, what the academic and emotional impact is on their students, and the how they perceive their students. The research within this document indicates that quality professional development impacts teacher performance and student learning. Professional development that combines drama-based pedagogy and information of cognition transformed classrooms. This sort of professional development should be adopted in more schools to see if its impact is as significant as thought.

A second implication is the transformation that the professional development had on the relationships between teachers and students. Research participants Chris, Stephanie and June all echoed Mary's comment that she saw a student in a "whole new light" once she saw him engage in the drama. It was not only five of the participants who mentioned this phenomenon, it was also found by Dawson, 2011 and Dubinsky, 2013.

The separate workshops in drama and cognition yielded similar results, teachers saw their students differently as a result of their work together. After this research project, that does not come as a surprise to me since engaged aesthetically and with a cognitively with students is essentially putting two buckets into the same well. Meaning making, it would seem, is an aesthetic process in addition to being a strictly cognitive one and so, perhaps, it makes sense that workshops in these areas yield similar results.

A third implication is that drama-based instruction is a valid and valuable resource through which to train teachers. It is a pedagogy that engages the imagination, activates the body, motivates learners and transforms instructional practice. It is a pedagogy based on inclusion and inquiry (all students participate and the questions that they bring to the dramatic experience are essential). It is a pedagogy based on activation and elaboration. It is a pedagogy based on problem posing, problem solving and problem finding. It is a pedagogy that engages a child's emotional, physical and thinking self and places the student in the center of the learning. It has the potential to be one of many tools that a teacher can wisely and judiciously employ that will make learning personal, relevant, and embodied.

Recommendations for Further Research

There are three major questions that have come out of this study. The first is "Does DBI in combination with cognitive science professional development sessions encourage a shift in a teacher's dispositions toward and attitudes of students?" Dubinsky (2013) indicated that it very well could.

Teachers felt their knowledge of brain maturation increased their ability to be patient and encouraging with students' impulsivity, indecisiveness, and other life

stresses. They understood better how stress in students' backgrounds could influence their biological starting points for learning and performing in school. Teachers expressed more personal motivation to try to reach students. (p. 324)

This idea was corroborated by Chris when she said, after a moment of reflection on the drama work she did on a previous day,

Chris: Well my theory is I think you cannot necessarily simulate but you can emulate it, but if a child knows that they are loved for who they are. I mean truly loved for who they are. I think that, um, if a child feels that, then their heightened [sense of stressors] is down because they are in a safer, calmer place where they're going to receive it... their receptive intake is going to be better because they are in that place. So they're connected, they are already emotionally connected. That's what I truly believe.

Peter: Are you talking about the attainment needs? Food, water, shelter, love...?

Chris: But it's more than that. It's more than that. Kids pick up on sincerity. And if they know you're doing it to placate them they're just gonna kind of still be like a shell. But, what you talked about – the vulnerability, okay, if they are not vulnerable, if they are not putting up a wall with you, then stuff is getting in a whole lot easier than a battle. If a wall is built it's not getting in. You're having to chisel. And if they're already in a safe place and if they know you truly care and love them, they're more willing to do anything.

Chris was getting at the very idea that Dubinsky et al were discussing. That if we can see our children differently, we can teach them differently. There were several examples of

the research participants gaining new insights into their students due to the drama work.

The most prominent example came when Mary admitted,

maybe my class last year would have been more manageable if I had given them an opportunity to move in a constructive way like that. And I wouldn't have thought to do that because I was so busy controlling them because they were so terrible. But maybe they were so terrible because I was so busy controlling them. Chicken or the egg situation. You know?

There wasn't enough data to be able to make a claim of validity that drama inspires this sort of work reflection and action from teachers. But there was enough evidence in this data and in other documents to suggest that it is a line of inquiry worth pursuing.

Where do teacher lay blame where the lesson falls apart?

Are there measurable ways of gathering the impacts that DBI make?

Conclusion

[Drama] builds up their confidence that they [students] can be a participant. It gives them the feeling that 'I am valued'. - Bonnie

Given that teachers are among the best cognitive enhancers on the planet (as are parents and siblings)—rewiring students' brains on a daily basis to acquire literacy, numeracy, and reasoning skills (Butterworth et al., 2011; Dehaene et al., 2010)—we argue that teachers benefit from additionally understanding the neuroscience of learning and memory. (Dubinsky 2013, p. 320)

Drama offers powerful techniques that make content matter to learners. DBI is

not the only tool for creating positive changes in the learning/teaching relationships in schools, but it is one effective tool. Through DBI, students create fictional versions of themselves where they become active participants in the curriculum, and, therefore develop an important relationship between themselves and the content.

What is more, when teachers use DBI, they not only find embodied ways for their students to experience the curriculum, but they engage their imaginations, intuitions, and emotions as well. Linking drama-based practices with cognitive neuroscience provides teachers with compelling evidence as to why these methodologies should be implemented by classroom teachers. This study bears out what Dubinsky (2013) maintained,

Knowledge of the biological basis of learning and memory and the inherent plasticity of this intricate system gave teachers a more positive attitude towards each student's ability to change and learn. They communicated that this was a powerful explanation that their students needed to understand as well. Teachers felt empowered that they could provide students with an explanation for why practice and application were necessary to consolidate learning. (P. 324)

Teachers deserve the ability to be artful crafters and interpreters of curriculum. Students deserve to be in classrooms where their minds, bodies, emotions and imaginations are all piqued and called forth. This is one reality of schools. Providing rich, extended, meaningful, scaffolded and appropriate training in both drama-based instruction and cognition can transform teaching and learning. The inclusion of drama with an awareness of brain science has impacted the study participants in important and significant ways. It has transformed their lesson planning, it has changed their instruction, it deepened student engagement, it improved the classroom environment, and

it influenced how teachers related to their students.

REFERENCES

- Adam, H., & Galinsky, A.D. (2012). Enclothed cognition. *Journal of Experimental Social Psychology*, 48 (4), 918-925.
- Agee, J. (2009). Developing qualitative research questions: a reflective process. *International Journal of Qualitative Studies in Education*, 22 (4), 431-447.
- Aitken, V. (2013). Dorothy Heathcote's mantle of the expert approach to teaching and learning: a brief introduction. In D. Fraser, V. Aitken & B. Whyte (Eds.), *Connecting Curriculum, Linking Learning* (34-56). Wellington, New Zealand: NZCER Press.
- Alibali, M.W., & Nathan, M.J. (2012). Embodiment in mathematics teaching and learning: Evidence from learners' and teachers' gestures. *Journal of the Learning Sciences*, 21 (2), 247-286.
- Andersen, C. (2004). Learning in As-If Worlds. *Theory Into Practice*, 43(4), 281-286.
- Anderson, M. (2012). *Master Class in Drama Education*. New York: Continuum.
- Anderson, M.L. (2003). Embodied Cognition: A field guide. *Artificial Intelligence*, (149), 91-130.
- Baldwin, P. (2012). *With Drama in Mind: Real learning in imagined worlds*. New York: Bloomsbury Publishing.
- Baumer, A., & Magerko, B. (2009). Narrative development in improvisational theatre. Interactive Storytelling. In I. A. Iurgel, N. Zagalo, & P. Petta, (Eds.). *Proceedings from Second Joint International Conference on Interactive Digital Storytelling* (140-151). Berlin: Springer.
- Baumer, A. & Magerko, B. (2010). An Analysis of Narrative Moves in Improvisational Theatre. Interactive Storytelling: *Lecture Notes in Computer Science*, 64 (32), 165-175.
- Bennett, B. & Rolheiser, C. (2001). *Beyond Monet: The artful science of instructional integration*. Toronto, ON: Bookation.

- Blackmore, S. & Firth, U. (2005) *The learning brain: Lessons for education*. Hoboken, NJ: Wiley-Blackwell.
- Boal, A. (1992). *Games for Actors and Non-actors*. New York: Routledge.
- Boal, A. 1995. *The Rainbow Of Desire*. New York: Routledge.
- Bolton, G. (1999). *Acting In Classroom Drama: A Critical Analysis*. Portsmouth: Heinemann.
- Bowell, P. & Heap, B. (2012). *Planning process drama: enriching teaching and learning*. New York: Routledge.
- Brooks J. S., G Jean-Marie, G. (2007). Black leadership, white leadership: race and race relations in an urban high school. *Journal of Educational Administration*, 45(6), 756 -768.
- Brown, L., & Reid, D. A. (2006). Embodied cognition: somatic markers, purposes and emotional orientations. *Educational Studies In Mathematics*, 63(2), 179-192. doi:10.1007/s10649-006-9027-3
- Brown, Neil C. M. 2001. The meaning of transfer in the practices of arts education. *Studies in Art Education*, 43(1), 83-102.
- Burton J. M., Horowitz, R. & Abeles. H. (2000). Learning in and through the arts: The question of transfer. *Studies in Art Education*, 41(3), 228-257.
- Cawthon, S.W. & Dawson, K. (2009). Drama for Schools: Impact of a Drama-Based Professional Development Program on Teacher Self-Efficacy and Authentic Instruction. *Youth Theatre Journal*, 23(2), 144-161.
- Clark, A. (1999). An embodied cognitive science. *Trends in Cognitive Sciences*. 3(9), 345-351.
- Clancey, W.J. (2009). Scientific Antecedents of Situated Cognition. in P. Robbins and M. Aydede (Eds.), *The Cambridge Handbook of Situated Cognition* (29-32). New York: Cambridge University Press.
- Cohn, M.M. & Kottkamp, R.B. (1993). *Teachers: The Missing Voice in Education*. Albany, NY: State University of New York Press.
- Cohen-Cruz, J. (1998). *Radical street performance: An international anthology*. London: Routledge.
- Dawson, K., Cawthon, S.W., & Baker, S. (2011) Drama for Schools: teacher change in an applied theatre professional development model. *Research in Drama Education: The Journal of Applied Theatre and Performance*. 16 (3), 313-335.

- Delpit, L. (2006). *Other people's children: Cultural conflict in the classroom*. New York: New Press.
- Dewey, J. (1933). *How we think*. Lexington, MA: D.C. Heath and Company
- Dewey, J. (1938/1998). *Experience and education: The 60th Anniversary Edition*. West Lafayette, IN: Delta Kappa Pi.
- Dewey, J. (1980). Democracy and education. In J.S. Boydston (Ed.) *John Dewey: The Middle works, 1899-1924: Vol. 9. 1916 (p.1-370)*. Carbondate: Southern Illinois University Press. (Original work published in 1916).
- Dubinsky, J. (2013). Infusing neuroscience into teacher professional development. *Educational Researcher*, 42(6), 317-329.
- Dreyfus, H. L. (1996). The current relevance of Merleau-Ponty's phenomenology of embodiment. *Electronic Journal of Analytic Philosophy*, 4(3).
- Edmiston, B. (2013) *Transforming Teaching and Learning with Active and Dramatic Approaches: Engaging Students Across the Curriculum*. New York: Routledge.
- Efland, A. 2002. *Art and cognition: Integrating the visual arts in the curriculum*. New York: Teachers College Press.
- Eisner, E. W. (1998). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. Upper Saddle River, N.J: Merrill.
- Eisner, Elliot. 2002. *The arts and the creation of mind*. New Haven, CT: Yale University Press.
- Erickson, F. (1986). Qualitative methods in research on teaching. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (pp. 119-161). New York, NY: Macmillan Publishing.
- Fischer, K. W. (2009). Mind, brain, and education: Building a scientific groundwork for learning and teaching. *Mind, Brain, and Education*, 3, 2-15.
- E. Fiske (Ed.), *Champions of Change: The Impact of the Arts on Learning*. Washington DC: Arts Education Partnership and President's Committee on the Arts and Humanities.
- Fontana, A., & Frey, J. H. (2008). The interview: from neutral stance to political involvement. In N.K. Denzin and Y.S. Lincoln (Eds.) *Collecting and interpreting qualitative data*. (115 – 160). Thousand Oaks, CA: Sage Publishing.

- Freire, P. (1995). *Pedagogy of the Oppressed*. New York: Continuum.
- Freire, Paolo. (1996). The Banking Concept of Education. In David Bartholomae and Anthony Petrosky (eds.) *Ways of Reading*. (212-227). Boston: Bedford Books.
- Fullan, M. (2001). *The new meaning of educational change*. New York: Teacher's College, Columbia University.
- Gay, G. (2010). *Culturally responsive teaching: Theory, research, and practice*. New York: Teachers College Press.
- Gentner, D., Holyoak, K. J., & Kokinov, B. N. (2001). *The analogical mind*. Cambridge, MA: MIT Press.
- George, A. A., Hau, G. E., & Stiegelbauer, S. M. (2006). *Measuring implementation in schools: The stages of concern questionnaire*. Austin, TX: SEDL
- Glenberg, A. M., T. Gutierrez, J. R. Levin, S. Japuntich, and M. P. Kaschak. (2004). Activity and Imagined Activity Can Enhance Young Children's Reading Comprehension. *Journal of Educational Psychology*. 96 (3), 424-436.
- Glenberg, A. M. (2010). Embodiment as a unifying perspective for psychology. *Wiley Interdisciplinary Reviews: Cognitive Science*, 1(4), 586-596.
- Glenberg, A. M., & Kaschak, M. P. (2003). The body's contribution to language. In B. Ross (Ed.), *The Psychology of Learning and Motivation*, V43 (93-126). New York: Academic Press.
- Greene, M. (1978). *Landscapes of Learning*. New York: Teachers College Press.
- Greene, M. (1995). *Releasing the Imagination: Essays on Education, the Arts and Social change*. San Francisco, CA: Jossey-Bass Inc.
- Greene, M. (2001). *Variations on a Blue Guitar: The Lincoln Center Institute Lectures on Aesthetic Education*. New York: Teachers College Press.
- Greene, Maxine. (2007) *Imagination and the Healing Arts*.
<http://www.maxinegreene.org/articles.php>
- Greenwood, J. (2011). *Aesthetic Learning, and Learning Through the Aesthetic*. In S. Schonmann (Ed.) *Key Concepts in Theatre/Drama Education*. Rotterdam: Sense Publishers.
- Gullatt, D. (2007). Research links the Arts with Student Academic Gain. *The Educational Forum*, 70(3), 211-220.

- Haskell, R. (2001). *Transfer of learning*. San Diego, Calif.: Academic Press.
- Hau, G. E., & Hord, S. M. (2006). *Implementing change: Patterns, principles and potholes*. New York, NY: Pearson Education.
- Heathcote, D. (1991). *Collected Writings On Education And Drama*. Northwestern University Press, Evanston, Ill.
- Heathcote, D. and Herbert, P. (1985). A Drama of Learning: Mantle of the Expert. *Theory into Practice: Educating through Drama*. 24(3): 173-180.
- Heathcote, D. (1995). *Mantel of the Expert: Dorothy Heathcote's Mantle of the Expert Approach to Education (Dimensions of Drama)*. Portsmouth, NH: Heinemann.
- Hendrix, R., Eick, C., & Shannon, D. (2012). The Integration of Creative Drama in an Inquiry-Based Elementary Program: The Effect on Student Attitude and Conceptual Learning. *Journal Of Science Teacher Education*, 23(7), 823-846. doi:10.1007/s10972-012-9292-1
- Hetland, L., Winner, E., Veenema, S., & Sheridan, K. (August, 2007). *Studio Thinking: The real benefits of visual arts education*. Teachers College Press. Second edition to appear in 2013.
- Holyoak, K. J., & Thagard, P. (1995). *Mental leaps: Analogy in creative thought*. Cambridge, MA: MIT Press.
- Hord, S.M. Rutherford, W.L., Huling-Austin L., and Hall, G.E. (1987) *Taking Charge of Change*. Alexandria, VA: ASCD.
- Hough, H. and Hough, S. (2012) The Play Was Always the Thing: Drama's Effect on Brain Function. *Psychology* 3(6), 454-456
- Huang, L., Galinsky, A. D., Gruenfeld, D.H., & Guillory, L. E. (2011). Powerful postures versus powerful roles: Which is the proximate correlate of thought and behavior? *Psychological Science*, 22, 95–102.
- Immordino-Yang, M. H. & Faeth, M. (2009). The role of emotion and skilled intuition in learning. (pp.66-81) In D. A. Sousa (Ed.), *Mind, Brain, and Education*. Bloomington, IN: Solution Tree Press.
- Immordino-Yang, M H & Damasio, A. (2011) We Feel, Therefore We Learn: The Relevance of Affective and Social Neuroscience to Education. *LEARNING Landscapes*, 5 (1), pp. 114-130
- Immordino-Yang, M. H. (2013). Studying the Effects of Culture by Integrating Neuroscientific With Ethnographic Approaches. *Psychological Inquiry: An International Journal for the Advancement of Psychological Theory*, 24(1), 42-46.

- Johnson, J.R. & Archana J. Bhatt, A.J. (2010). Gendered and Racialized Identities and Alliances in the Classroom: Formations in/of Resistive Space. *Communication Education*. 53 (3/4), 230-244.
- Kaschak, M. P., Glenberg, A. M. (2004). This construction needs learned. *Journal of Experimental Psychology: General*. 133, 450-467.
- Koizumi, H. (2004). The concept of 'developing the brain': A new natural science for learning and education. *Brain & Development*. 26, 434 – 441.
- Ladson-Billings, G. *The Dreamkeepers: Successful Teachers of African American Children*. San Francisco, CA: Jossey-Bass.
- Lakoff, George. *Women, Fire, and Dangerous Things*. Chicago: University of Chicago Press. 1990.
- Lee, B., Cawthon, S. Dawson, K. (2013) Elementary and secondary teacher self-efficacy for teaching and pedagogical conceptual change in a drama-based professional development program. *Teaching and Teacher Education*. 30, 84-98.
- Legard, R., Keegan, J., & Ward, K. (2003). In-depth interviews. In J. Ritchie & J. Lewis (Eds.), *Qualitative research practice: A guide for social science students and researchers* (pp. 139-169). London: Sage.
- Lillard AS, Lerner MD, Hopkins EJ, Dore RA, Smith ED, Palmquist CM. (2013). The impact of pretend play on children's development: a review of the evidence. *Psych Bulletin*, 139(1), 1-34.
- Linnenbrink, E. A., & Pintrich, P. R. (2003). The role of self-efficacy beliefs in student engagement and learning in the classroom. *Reading and Writing Quarterly*, 19(2), 119-137.
- Loucks-Horsley, S. and Stiegelbauer, S. 1991. "Using Knowledge of Change to Guide Staff Development," in A. Lieberman and L. Miller (Eds.) *Staff Development for Education in the 90s: New Demands, New Realities, New Perspectives*. (15-36) New York: Teachers College Press.
- Loucks, S. F, Newlove, B., & Hau, G. E. (1975). *Levels of use of the innovation: A manual for trainers, interviewers, and raters*. Austin, TX: Research and Development Center for Teacher Education, University of Texas.
- McConachie, B. and Hart, F.E. (2006). *Performance and Cognition: Theatre Studies and the Cognitive Turn*. London and New York: Routledge Press.
- Magerko, B., Manzoul, W., Riedl, M., Baumer, A., Fuller, D., Luther, K. and Pearce, C. (2009). Proceedings of the seventh ACM conference on Creativity and cognition. *An empirical study of cognition and theatrical improvisation*. 117-126.

- Mallett J, Cathmoir D, Hughes P, Whitby E. (1997). Forging new roles . . . professional and practice development. *Nursing Times*; 93: 38–39.
- Marshall, C. (2004). Social Justice Challenges To Educational Administration: Introduction To A Special Issue. *Educational Administration Quarterly*, 40(1), 3-13.
- Marshall, J. (2014). Transdisciplinarity and Art Integration: Toward a New Understanding of Art-Based Learning Across the Curriculum. *Studies In Art Education*, 55(2), 104-127.
- Melnick, S.A., Witmer, J.T. & Strickland, J. (2011). Cognition and Student Learning through the Arts. *Arts Education Policy Review*, 112(3), 154-162,
- Merriam, S. B., Johnson-Bailey, J., & Lee, M. (2001). Power And Positionality: Negotiating Insider/Outsider Status Within And Across Cultures. *International Journal Of Lifelong Education*, 20(5), 405-416.
- Miles, M.B, and Huberman, A.M. (1994). *Qualitative Data Analysis, 2nd Ed.* Thousand Oaks, CA: Sage
- Mussweiler, T. (2006). Doing is for thinking! Stereotype activation by stereotypic movements. *Psychological Science*. 17, 17–21.
- Neelands, J. & Goode, T. (2000) *Structuring Drama Work: A handbook of available forms in theatre and drama.* Cambridge, UK: Cambridge University Press.
- Neville D. C, & Lovat T., (2012) Neuroscience and Education: Issues and Challenges for Curriculum. *Curriculum Inquiry*, 42(4), p534-557.
- O’Neill, C. (1995). *Drama Worlds: A Framework For Process Drama.* Heinemann: Portsmouth, NH.
- O’Toole, J. (1992). *The Process of Drama: Negotiating Art and Meaning.* New York: Routledge.
- Paufler, N. A., & Amrein-Beardsley, A. (2013). The Random Assignment of Students Into Elementary Classrooms: Implications for Value-Added Analyses and Interpretations. *American Educational Research Journal*. 22(10) 1-35.
- Postman, N. (1996). *The end of education.* New York: Vintage.
- Phelps, E. (2004) Human emotion and memory: interactions of the amygdala and hippocampal complex. *Cognitive Neuroscience*. 14(1), 98–202.

- Pieczura, M. (2013) Decidedly Dramatic! The Power of Creative Drama in Social Studies. *Social Studies & the Young Learner*. 25(3), 9-12.
- Prendergast, M. (2010). Reflective Praxis through Narrative and Poetry: Performing "Peace Mum". *Research In Drama Education*, 15(1), 79-87.
- Rohd, M. (1998) *Theatre for Community Conflict and Dialogue: The Hope Is Vital Training Manual*. Heinemann Press, Portsmouth, NH.
- Roulston, K. (2010). *Reflective Interviewing: A Guide to Theory & Practice*. Thousand Oaks, CA: Sage.
- Ruppert, S. S. (2006). *Critical evidence: How the arts benefit student achievement*. Washington, DC: National Assembly of State Arts Agencies.
- Saldaña, J. (1995) *The Drama of Color: Improvisation with multiethnic folklore*. Portsmouth, NH: Heinemann.
- Saldaña, J. (2009) *Coding Manual*. Thousand Oaks, CA: Sage Publication.
- Saldaña, J. (2011). *Fundamentals of Qualitative Research*. New York: Oxford University Press.
- Sallis, R. (2007). An Invitation To Cross The Curriculum - the possibilities for drama and cross-curricula applications. *Australian Drama Education Magazine*. 12, 8-16.
- Saudners, R. (2012) Assessment of professional development for teachers in the vocational education and training sector: An examination of the Concerns Based Adoption Model. *Australian Journal of Education*. (ACER Press), 56(2), 182-204.
- Sawyer, R.K. and Greeno J. G. 2009. "Situativity and Learning," in *The Cambridge Handbook of Situated Cognition*. (348 – 358). Philip Robbins and Murat Aydede (Eds.) Cambridge: Cambridge University Press.
- Schön, D.A. (1991, first edition 1983) *The Reflective Practitioner: How Professionals Think in Action*. Aldershot: Arena
- Slade, P. (1954). *Child Drama*. London: London University Press.
- Smagorinsky, P. (2008). The method section as conceptual epicenter in constructing social science research reports. *Written Communication*, 25(3), 389-411.
- Sofia, G. (2013). The effect of the theatre training on cognitive functions. In N. Shaughnessy (Ed), *Affective performance and cognitive science: body, brain and being*. (171-180). London: Methuen.

- Spolin, V. 1999. *Improvisation for the Theatre: A Handbook of Teaching and Directing Techniques*. Chicago: Northwest University Press.
- Sherman, R. R. & R. B. Webb. (1988). Qualitative research in education: a focus. In Sherman & Webb (eds.) *Qualitative Research in Education: Focus and Methods*. London: The Falmer Press.
- Starko, A.J. (2000.). Finding the problem finders: Problem finding and the development of talent. In R. Friedman and B. Shore (Eds.) *Talents unfolding: Cognition and development*. (233 – 49). Washington, DC: American Psychological Association.
- Strauss, Anselm & Corbin, Juliet (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.
- Tommerdahl, J. (2010). A Model for Bridging the Gap between Neuroscience and Education. *Oxford Review Of Education*, 36(1), 97-109.
- van Meter, P. (2001). Drawing construction as a strategy for learning from text. *Journal of Educational Psychology*, 93, 129–140.
- Wagner, B.J. (1999) *Dorothy Heathcote: Drama as a Learning Medium*. Portsmouth, NH: Heinemann Press.
- Way, B. (1967). *Development Through Drama*. Atlantic City: Humanities Press.
- White, E.B. (1952). *Charlotte's web*. New York: Harper & Row Publishers.
- Wilson, M. (2002). Six views of embodied cognition. *Psychonomic Bulletin & Review*, 9 (4), 625-636.
- Winner, E., and M. Cooper. 2000. Mute those claims: No evidence (yet) for a causal link between arts study and academic achievement. *Journal of Aesthetic Education* 34 (3/4), 11–75.
- Winner, E., and L. Hetland. 2000. The arts and academic achievement. *Journal of Aesthetic Education*. 34, 2–9.
- Yin, R.K. *Case Study Research, Design and Methods, 2nd ed.* Newbury Park, Sage Publications, 1994.
- Yin, R.K. (2009). *Case study research: Design and methods (5th ed.)*. Thousand Oaks, CA: Sage Publication.