

**PROJECT DEMONSTRATING EXCELLENCE**

*Accessing Embodied Imagination:  
An Approach to Experiential Learning through Movement Improvisation*

**by**

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Project Demonstrating Excellence (Dissertation)

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The research focus of this transdisciplinary study was the relationship between movement improvisation and embodied learning. Analysis of this research focus through the perspective of the intellectual traditions of experiential education, improvisation, and reflection revealed a lack of theory development. Prior observations supported the research rationale to develop a theoretical framework. The transdisciplinary qualitative-artistic research design included a pilot study and a main study. The main study involved one New York City public school class of twenty-five fourth graders and two teachers in fifteen ninety-minute sessions of movement improvisation and reflection, including journal writing. The research began with a movement methodology reflective of the school's underlying positivist orientation, but shifted to a constructivist pedagogy in response to rapidly changing conditions and complexity in the naturalistic context of the research site. Data collection included nonverbal-kinesthetic assessments, questionnaires, and interviews. Data crystallization, analysis, and interpretation involved coding for emergent lines of inquiry manually and using ATLAS.ti.5.0, a qualitative research computer software program, and identifying patterns among numeric configurations. Emergent themes included the role of the context, high achievement, transgressive-subversive behaviors, teacher resistance, gender differences, and anomalies. Findings indicated patterns of high achievement disproportionate among students participating in both the pilot study and the main study relative to others. Findings indicated that students from the pilot could more easily access, sustain contact with and demonstrate embodied

imagination than students participating only in the main study. New theory was developed that posits moving freely in upright frontal-bipedal binary space, then reflecting—as the movement-learning sequence for Accessing Embodied Imagination. Embodied imagination was theorized as grounded in paleoanthropological creativity and kinesthetic thinking and distinct from imagination defined as thinking in visual images. Accessing Embodied Imagination supports kinesthetic, experiential, and nonlinear learners and learning styles and makes multiple ways of learning accessible. Implications for future research included opportunities for investigation: the emergent themes, including transgressive-subversive behaviors, teacher resistance, gender differences, and anomalies; transdisciplinary knowledge construction; qualitative-artistic research; the nonverbal-kinesthetic assessment instrument; effects of embodied imagination on literacy and mathematical thinking; models of arts-based learning and teaching; and intercultural transdisciplinary movement as embodied imagination.

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## **Chapter One**

### **The Context for this Study**

This was a study of reflective responses to embodied learning experiences. The objective of this research was to construct a theory of accessing embodied knowing as an approach to experiential education. This was a transdisciplinary study, with transdisciplinarity defined as crossing, not recognizing, or transcending guidance by current boundaries of knowledge domains. Transdisciplinarity is discussed within the continuum of interdisciplinary and transdisciplinary discourse in chapter two, “The Intellectual Traditions.” In this chapter, the importance of embodied knowledge is established; social, political, educational, and artistic contexts are provided; opportunities for research are reviewed; a social meaning analysis is introduced.

#### **1. The Importance of the Research Problem**

Embodied (body-based) knowledge is an under-theorized knowledge domain. Embodied knowledge, often misconceived and undervalued as non-cognitive (non-thinking) in Western, particularly US, culture, includes the physical, kinesthetic, sentient, and sensory elements of experiential learning. Reflective responses to learning through movement are important because they can help make known the meaning of an experience for the learner. Reflective methods can be verbal or nonverbal. They make concrete implicit thinking that is embedded in non-logo-centric, i.e., creative, non-ego-centric experience.

The experiential learning in this study was improvisation-based. But the experience was not just improvisation involving learning by doing, which might be interpreted as “not thinking” or rote repetition. It was, rather, embodied learning requiring concurrent metacognitive activity or awareness of one’s actions and experience during or after an

activity. Taoist, Buddhist, and Quaker concepts also involve processes combining experience and reflection and frame social responsibility as embodied, deeply internalized reflective practice and methods.

Study of embodied knowledge and learning is important because it contributes to: broadening and refining the definition of experiential education from an arts-based perspective; inclusion of analogical thinking (making connections between dissimilar things); development of arts-based learning; utilization of embodied knowledge; engagement of improvisational practice and methods; understanding arts-based reflective methods; and providing a methodology for researching subtle, fleeting, and transient qualitative phenomena.

## 2. Overlapping Contexts for the Research

There were overlapping social, political, educational, and artistic contexts for this study. Examining these contexts reveals additional rationales for its importance. The study took place in a highly multicultural New York City public elementary school, with a majority of students from recent immigrant backgrounds and low to middle socioeconomic status. However, the contexts for this study impact individuals from all cultural heritages and segments of socioeconomic strata in the US and worldwide. There are ongoing, serious social conditions in the US and other countries that need immediate and direct attention and solutions. “Savage inequalities” (to use Jonathan Kozol’s term) between US inner city life experiences, including public school experiences, and those afforded other sectors of the population have been thoroughly documented and analyzed.

The allocation of financial resources to redress such challenges, often referred to as “throwing money at a problem,” does not address the underlying complexity of enduring conditions or deliver the necessary solutions. An example of this approach to problem-

solving exists in the seventy-five million dollars in Project Arts funding made available through the New York City Board of Education for increased arts and culture programming in the first three phases of the program from 1997 to 2000. This was the first major infusion of funds since the evisceration of New York City's public school arts programs in response to the city's fiscal crises of the 1970s. Project ARTS—Arts Restoration throughout the Schools—allocations were partly used for cultural programs and services provided by outside arts and culture organizations. Yet the New York City Department of Education referred and continues to refer to all providers of purchased goods and services, including arts and culture organizations, as “vendors,” rather than as “cultural partners” or “educational resources.”

Arts and culture organizations, along with the New York City Department of Education, have had uneven track records regarding delivery of educationally appropriate, site-specific, and quality programs. New York City's fourteen hundred public schools constitute a large market. Yet criteria have not been established and consistently applied to what constitutes quality arts education programming to satisfy that market. It must be emphasized that some of these organizations, the New York City Department of Education, and funding agencies such as The Center for Arts Education and New York State Council on the Arts have made considerable efforts in this area of delivery of high quality arts education services and partnerships. However, deficits in conceptualization and application remain and there is not consensus on what “quality” looks like given the range and complexity of contexts in which learning and teaching take place in the New York City public schools.

In some cases, this unevenness of teaching and learning may be the result of employing school-based certified teachers, some of whom might be filling in as arts

teachers, without the requisite education or experience in the art forms they are teaching. This example is a microcosm of the crisis in the quality of teaching and learning across the system. The problem of arts teaching and learning is compounded, because the school-based supervisors who make programming and hiring decisions themselves often lack breadth and depth of education and direct experience in and through the arts. Arts education is often absent from teacher training programs and other forms of higher education.

Many providers of arts and culture services to the New York City public schools are not-for-profit organizations. However, awareness of the critical role of not-for-profit arts and culture in US history and society is lacking generally in the US, and specifically in public schools. The history of not-for-profit philanthropy is not usually understood or appreciated as a historic phenomenon by the general public—or even the arts community itself. Not-for-profit organizations provide infrastructure for delivery of many current services in the US, including health, social services, education, and arts and culture. Moreover, noncommercial art forms are, by definition, difficult to sustain in a commercial and materialist culture such as the US. Concert dance and orchestral music are two examples of labor-intensive and communitarian art forms that are particularly vulnerable to market forces and lack of deep and long-term public funding.

Public opinion links the arts with their commercial manifestations, including Broadway theater, film, television, and pop music, rather than education. The creation and presentation of the arts exist on a continuum. Yet arts experiences delivered through the mass media can limit perception of the arts as existing only on the commercial end of this range. This can lead to a premature closing off of the imagination by adult and youth consumers alike when, for example, arts consumers get used to certain commercial

formulas embedded in market-driven rationales for the existence of art. The noncommercial arts tend to be created out of a need to create on the part of the artist. Yet this need and these art forms can be made invisible in the bright lights of the commercial entertainment industries, with their specific image-creating and money-producing objectives, grounded in principles of mass marketing.

That US society is competition-oriented is an established premise of the free enterprise system. This extends to the arts, which are often characterized by “winner-take-all” market forces. Those that have—grants, market share, “mainstream” visibility—tend to get more. Those that do not already have, tend to be excluded. The acknowledged American myth is of democratic meritocracy. So art forms and artists that are not commercially successful might be viewed as less important to the socializing goals of society, including education. These goals include socializing students to be passive and non-questioning of authority, consumerist in economic life, conformist, and knowledgeable about materialistic values and culture. This can lead to the kind of dulling of the bodymind that has been called the “anesthetic,” as contrasted with the aesthetic (Dewey, Art 40; Eisner, Arts 81; Greene, “Teaching,” par. 7).

Another reason why this study was important is that understanding of how the arts can ground and integrate transdisciplinary curricular experiences is limited, both in discipline-based education and varied social contexts. Transdisciplinary teaching and learning are not widespread practice promoted by the New York City Department of Education. One reason might include insufficiently prepared supervisory and instructional staff with education in transdisciplinary history, theory, and practice to implement this approach citywide. Time is another constraint. New literacy and math curricula required increased time allocations in order to improve national, state, and city-

mandated test scores, thereby privileging English language arts and mathematics. The result is that literacy and math, assessed through standardized testing, are defined and taught in ways that do not systematically include transdisciplinarity and the arts. However, many learners are not reached by prevalent mono-disciplinary literacy and math pedagogical methods.

One result of increased time spent on mono-disciplinary literacy and math test preparation is that even “top-200” elementary schools, at the time of this writing, continued to report elementary students receiving virtually no instruction in the arts or physical and health education. These were two hundred New York City public schools recognized in 2003 as exemplary by the Department of Education. These were considered the highest-achieving schools after factoring in socioeconomic and “public-relations” criteria with scoring on the standardized English language arts and mathematics tests, according to journalist Chris Smith (40). This elite designation exempted these schools from immediate implementation of citywide English language arts and mathematics curricula effective in 2003-04. However, the information regarding the lack of instruction in the arts and physical and health education at top-200 schools came from personal conversations with public school supervisors and teachers throughout New York City during the 2003-04 school year, including the school for this study.

Some supervisors and teachers reported that there was, in fact, no physical education in their schools despite New York State academic mandates. Lack of funding and enforcement of mandates resulted in principals in some schools requiring that classroom teachers become de facto physical and health education instructors for their students. Yet these classroom teachers lacked education, training, certification, and interest in physical and health education. The rationale given by supervisors and teachers

for this situation was that citywide reading and math scores were published annually in The New York Times, but not the results of physical, health, and arts education.

Other top-200 and many other schools in the system had and continue to have no certified arts (visual arts, music, theater, or dance) teachers as permanent staff members. Many schools do not have enough certified arts teachers on staff relative to the size of their student populations. In some of these top-200 schools, classroom teachers are expected to provide whatever arts experiences their students will have during their elementary schooling. This is part of the messy side of actual, lived lives within public schools which operate independently of the official national, state, and local legislation, mandates, and pronouncements.

This gap in public education exists in spite of the fact that students live in a city that prides itself as the arts capital of the US, if not the world. This gap feeds the malaise among students, parents, supervisors, and teachers that education and aesthetics philosopher Maxine Greene identifies as US society's alienation, violence, and disconnects that are reflected in its school cultures. For Greene, an emancipatory education is called for, one in which the arts and aesthetics are part of the overcoming cultures of silence and recognizing that all societies are constructed:

I cannot but start with a conception of a technocratic society armed with awesome power, both technical and communicative. Americans have only begun to discover how adept their leaders are at what Hannah Arendt describes as "lying in public." They have only begun to accept the picture of society that American literature has been presenting since the mid-19th century: a society lacking in trust and lacking in care; a society in which violence has been indigenous, and the pursuit of money an overriding concern. (Landscapes 55)

A school's culture is palpable to sensitized observers upon entrance to a school. But surface appearances, particularly those presented for public relations and marketing

purposes, do not necessarily reveal the day-to-day reality of actual operations.

Appearances are often constructed to mystify, conceal, and control.

Inequitable conditions for arts teaching and learning persist in spite of mandates from the New York City Mayor and Schools Chancellor. Such mandates led in 2004 and 2005 to New York City Department of Education curricular blueprints for teaching and learning in the arts, which mapped outcomes expected of learners and sample activities for K-12 students in visual arts, music, theater, and dance. These blueprints are one result of a coordinated effort—since the mid-1990s—to re-institutionalize arts teaching and learning in all New York City schools and to provide equitable arts and education access for all 1.1 million students (the largest public school system in the US).

The Center for Arts Education, a major New York City arts education foundation since 1996, was created to lead this systemic reintroduction of and funding for arts education in New York City. The Center originated as part of a nationally funded Annenberg Foundation Challenge for Arts Education. This project, as outlined by Mitchell Korn, Richard Kessler, and Robert Horowitz in its original funding proposal, involved a coordinated effort including the New York City Board of Education, United Federation of Teachers, and New York City Department of Cultural Affairs to support a public and private reinvestment in arts education. In addition to the intellectual capital provided by The Center, it has also provided over thirty million dollars to New York City public schools from 1997 to 2007. This arts education partnership work at the macro level was premised on simultaneous New York City Board of Education Project Arts Restoration throughout the Schools funding provided to all schools based on a student per capita formula. New York State Council on the Arts has also been present in New York City through unprecedented levels of state funding for arts organization and public school



partnership programs. The Council's Empire State Partnerships Program was another source of major funding leveraged through a New York City and State arts education coalition. The New York City arts education community, spearheaded by The Center for Arts Education, Department of Cultural Affairs, Empire State Partnerships Program, New York City Arts in Education Roundtable, and New York State Council on the Arts has used the muscle of this public and private funding since 1997 to raise required matching and additional supplemental funds.

One of the requirements of national, state, and local arts education funders is that not-for-profit arts and culture organizations explicitly connect the arts teaching and learning experiences they provide to national, state, and local learning standards. The US Department of Education focus on standards and standardization emerges from the school reform movement and reserves an important place at the table for the arts in the national conversation about Pre-K-12 education. Standards and standardization mandating what might be called a "one size fits all" mentality, perpetuate the language and rationale of factory-model education, arising from the efficiency movement in the 1920s to improve education (Eisner, Arts 161-77). From the perspective of the early twenty-first century, this focus on standards, standardized curricula and testing diverts attention from holistic, healing, empowering, and social activist uses of arts, dance, and movement-based practice and methods in public education. Post-industrial, twenty-first-century US society demands a new conceptualization of the philosophical and practical reasons for public education. Educating for the development of the individual who cannot be replicated provides one such rationale (personal conversations with Maxine Greene).

The intention of the linking of the constructs of standards and standardization is not to engage the relationship between standards and standardization. The intention is to

highlight the US Department of Education's focus on learning standards as a means to an end, i.e., to standardize the curriculum, the learning process, and the instructional approach. Beneath this focus is the concept that there is a one best way. This concept is further embedded in the current federal emphasis on high-stakes testing for public school students.

This study was worth doing because it required connecting social, political, educational, and artistic conditions that are often tacit and implicit constraints on implementation of arts education programs in US public schools. These conditions also shape discussions of the purposes of education, democracy and the arts, the twenty-first century learner, access to highest quality education, and higher-order cognitive and critical thinking.

The research project serving as the basis for this Project Demonstrating Excellence was a study of reflective responses to embodied learning experiences emerging from arts, movement, and dance-based learning methods and processes. These embodied arts-based approaches to teaching and learning become democratic methods and processes when made available to all learners across all sectors of society. The term "learner" is used here to include, potentially, all individuals in the US. In the context of the US public education system, "learner" is also an active term embracing all individuals as meaning makers involved in and with a school or learning community. The individual-as-learner is a core construct when democracy is considered "an open possibility, not an actuality" (Greene, Landscapes 58) that requires an educated, inquiring, and awakened citizenry to actively strive toward the realization of a free society. For Greene, an education that includes the arts and social imagination provokes human beings to reach their full potential for social awareness, action, and feeling "part of the dance of life" (Releasing 72). In The Dialectic

of Freedom Greene posits:

[. . .] a conception of education in what is described as our free society. It is through and by means of education, many of us believe, that individuals can be provoked to reach beyond themselves in their intersubjective space. It is through and by means of education that they may become empowered to think about what they are doing, to become mindful, to share meanings, to conceptualize, to make varied sense of their lived worlds. It is through education that preferences may be released, languages learned, intelligences developed, perspectives opened, possibilities disclosed. I do not need to say again how seldom this occurs today in our technicized, privatized, consumerist time. The dominant watchwords remain “effectiveness,” “proficiency,” “efficiency,” and an ill-defined, one-dimensional “excellence.” (12)

The arts and dance-based learning methods and processes at the heart of this transdisciplinary study are often perceived as approaches that are “alternative” to “proven” instructional methods. These approaches are therefore dispensable within a US public education system that seems, increasingly, to limit time for student and teacher creativity and reflection. However, this study theorized an approach to learning premised on accessing embodied imagination through movement improvisation, embedded within standardized instructional methods provided by the Learning Standards of New York State Education Department-mandated and curricular frameworks and arts blueprints of New York City Department of Education-mandated arts education. This approach to embodied learning situates a participatory learner within his or her constructed experience, despite constraints.

### 3. Openings and Calls for Research

Analyzing the openings and calls for research most relevant to the research concerns of this study provided an opportunity to explore multiple perspectives on current perceptions and uses of embodied knowledge in US culture and education. The perspectives that emerged as those most salient in constructing an appropriate context for

these research concerns included the domains of philosophy of arts and aesthetic education; US arts, artists, and society; US arts education; and the arts and movement in experiential education and transformative adult learning.

Theorists from the domain of philosophy of arts and aesthetic education have identified the need for rigorous qualitative-artistic (arts-based) research contributing to the creation of new knowledge. These perspectives create an opening for this study and its social relevance.

Educational and aesthetics philosopher Maxine Greene writes from a holistic perspective on the democratic arts. Her work is grounded in advocating for the arts and aesthetic education as an integral part of the foundations of teacher education for all teachers. Her work is seminal to the development of the New York City arts education community and to the re-institutionalization of the arts in the city's public schools (Greene, Foreword). She integrates literature and all of the arts into her teaching and writing as exemplar of an achieved aesthetic experience, when imagination and thought merge. Her thinking and writing create openings for qualitative-artistic research that explores the otherwise disregarded discoveries of the phenomenological self from multiple perspectives. She highlights otherwise marginalized voices and embodiments made audible, visible, and physically felt through aesthetic experiences.

The witness of society's silenced voices is imaginatively re-created, embodied, and released through the arts. The witness is to historic and persistent experiences in the US and worldwide of genocide, violence, poverty, and lack of possibilities for becoming who one might fully become. Racism, class-ism, gender and gender-orientation prejudice, and socioeconomic, educational, and cultural divides can be examined through arts and aesthetic experiences in education. Movement, dance, and improvisation are examples of

knowledge domains with contents and processes that afford opportunities for empathic examination of embodied social and educational inequities.

Educational theorist Elliot W. Eisner writes of the need for coordinated arts-based research efforts and multiple studies. His recommendations are for studies that are not isolated but part of systematic, rigorous, and long-term scholarly investigation of arts-based teaching and learning. The rationale he provides is to deepen understanding of how learning takes place in and through the arts (Arts, ch. 9). Eisner speaks of the need for qualitative-artistic research to broaden understanding of what research is and conceptualization of what comprises cognition. “When we come to understand that thinking is not mediated solely by language and that intelligence is not exhausted by tasks employing word and number, we are more likely, I believe, to provide more diversified and equitable programs in our schools” (Enlightened 245).

Shaun McNiff writes from a perspective as advisor for graduate student research in creative arts therapies. In Art-Based Research, he calls for art[s]-based methods to be used in order to broaden and deepen understandings of what constitutes research itself. Using creative practices and processes of art forms leads in this conceptualization to expanding epistemological frameworks to include in the very definition of “research” understanding derived from qualitative-artistic experiences and ways of knowing. The kinesthetic dimension is included. Openings for research include developing and refining research methods grounded in actual processes and contents used by artists who are creative arts therapists, reflective of their embodied and experiential ways of knowing.

Examined together, these perspectives from educational philosophers, theorists, and scholars create openings for rigorous qualitative-artistic research that broadens definitions of cognition through the lens of direct experiences with the arts and aesthetics.

There are gaps in research to be filled by including marginalized perspectives, such as those of artists, teachers, and children. There are openings for research to include marginalized domains and art forms, such as movement and dance. There is a demonstrated need to expand conceptualization of research to include artistic and aesthetic contents and processes.

The arts in the US are, however, often perceived to be separate from everyday life experiences. John Dewey's statement from Art as Experience continues to ring true: "Usually there is a hostile reaction to a conception of art that connects it with the activities of a live creature in its environment. The hostility to association of fine art with normal processes of living is a pathetic, even a tragic, commentary on life as it is normally lived" (27).

US arts and artists are often marginalized from mainstream life, in spite of images from popular culture associating pop icons/artists with vast wealth, conspicuous consumption, and integration into, and mastery of, the macroculture. The omnipresence of these images contributes to overlooking and undervaluing the contributions of non-commercial arts, artists, and creative processes to US and world cultures, education, health, and human development. Another reason to make explicit this disparity between artist haves and have-nots is to recognize and question the economic gap that is increasingly widening between "the haves and the have-mores" and the have-nots across all sectors of US and world societies (Bush). The average artist, in spite of mass media portrayal of "the artist," is a member of the working poor. The Ford Foundation Report cites the study Investing in Creativity: A Study of the Support Structure for US Artists by Maria-Rosario Jackson et al. and highlights that artists "face many of the same difficulties as the working poor" (Ford 6).

A popular misperception that is reinforced by these images is that artists do not work, but play. After all, they enjoy what they do. This notion does not, therefore, serve as inspiration to provide greater infrastructural and economic support for US arts and artists. It feeds, rather, a fear that those workers who do not enjoy their work, since it is often not their own, are being duped by artists, since artists are able to do what they love.

This is also seen as getting something for nothing because of misunderstandings regarding a) not-for-profit corporate status under the 501(c)(3) statutes of the Internal Revenue Service tax code, b) not-for-profit ethics and accountability, c) the work involved in fundraising, d) the processes and requirements involved in writing publicly and privately funded grant proposals and securing this funding, and e) implementing and evaluating programs to benefit the public-at-large. Additionally, many people only aspire to doing something enjoyable and self-initiated during their leisure time or in retirement. This approach often leads to jealousy and resentment of artists and the arts. It separates artists into an elite in the popular imagination, since artists “always” do what they enjoy and this is what Everyman can not do. It also denies the lifelong inquiry, learning, personal development, and sense of work purpose, potentially involved in both amateur and professional pursuit of the arts.

Teachers and administrators working in public school settings, sites for the development and perpetuation of mainstream culture and perceptions, likewise often devalue the contributions of arts and artists in society. This devaluation is experienced on a continuum and can be subtle. For example, the fourth-grade students in this study were given three forty-five minute visual arts lessons by the school’s visual arts teacher. This was the extent of the school’s planned arts curriculum for them all year, since fourth grade is a critical testing grade for literacy and math in New York City and State.

However, each student received an arts grade for each trimester that seemed to indicate that more substantive teaching and learning took place than actually occurred from the perspectives of students and teachers. The students all got good grades but very little actually happened. The classroom teacher provided her class with some visual arts activities but she was not formally trained or educated to conduct visual arts lessons. Nor was she keen to do so, given the pressures she felt to prepare students to achieve on the standardized tests. This was a devaluation of the arts, supported and perpetuated by the school's administration, because the arts in this school were not perceived as foundational to elementary school teaching and learning.

Likewise, schools often, perhaps unwittingly, perpetuate disavowal of the contributions of all but major artists to intellectual, cultural, and educational currents. Another example from this study follows. Age-appropriate (thin) biographical picture books of major twentieth-century European visual artists (e.g., Cézanne, Matisse, and Van Gogh,) and classical European composers (e.g., Bach, Beethoven, and Mozart) were available to students in the classroom's library. These were not required reading, however, nor were they part of a planned arts curriculum, including an assessment of student learning. They were casually present, referencing numerous major artists, but not really a substitution for contact with living arts experiences and processes.

This inadequate substitution is a situation that persists even in New York City, with its high concentration of commercial and noncommercial arts organizations, arts institutes and performing arts conservatories, arts-in-education resources, and artists. Despite diverse local, national, and international resources and treasures, many New York City public school leaders, teachers, and communities do not perceive the arts as critical to the education of their students. When members of school communities and the



community-at-large do not perceive arts-skills-based, aesthetic, and embodied learning and knowing to involve higher-order cognitive thinking, learners are deprived of fundamental pathways of inquiry, meaning-making, and success. Arthur L. Costa in The School as a Home for the Mind advocates for a use of aesthetics in support of the development of passionate experiential learners and critical thinkers:

Permeating the spirit of inquiry, inherent in creativity, and prerequisite to discovery, the aesthetic dimensions of thought have received little concern or attention as part of cognitive instruction. The addition of aesthetics implies that learners become not only cognitively involved, but also enraptured with the phenomena, principles, and discrepancies they encounter in their environment. (17)

Recent studies highlight the current situation of US arts and artists resulting from mainstream attitudes and economic and funding trends over the past half century. Jackson et al. present this perspective from research commissioned by The Ford Foundation on artists currently working in the US (Ford i). They cite the need for improved public and private support structures which are currently severely deficient. Their research concludes that structural supports need to be analyzed, monitored, and improved through six dimensions: validation, demand and markets, material supports, training and professional development, communities and networks, and information in order to sustain artists and their work in the US (Jackson et al. 83). Their calls for research include inquiry in: a) arts education to address lack of public understanding of the contributions of artists, through and including their works and creative processes, to society (14); b) societal contributions of artists and how these are publicly communicated (85); c) hybrid and interdisciplinary markets in which artists currently or could potentially work, including, I would add, arts education (86); and d) the need for theory development by arts practitioners in varied communities to influence public and private policy

decisions (77). Integration of artists into the economic mainstream through economic development will create stabilization, understanding, and valuing of their work and benefit society by such integration.

Recent nationally focused efforts involving scholars and researchers in the domain of arts education have resulted in published research with implications for arts education and recommendations for further research. The gaps cited by scholars and identified by researchers create openings for the development of new knowledge through rigorous qualitative-artistic research, including this study. Citing “compelling evidence” from research studies of seven exemplary US arts learning programs by respected educational researchers, Champions of Change analyzes why and how learning occurs through the arts in these contexts in order to advocate for the use of the arts in education and learning (Fiske xii). The generalization that the arts engage the whole human being through multiple means, involving multiple processes, is made. Edward B. Fiske implies the need for further research by writing of “the messy, often hard-to-define real world of learning” examined in these studies (xi). James S. Catterall, Richard Chapleau, and John Iwanaga offer specificity calling for creation of interdisciplinary knowledge “at the intersection of multiple and diverse studies of what the arts mean for human development,” including phenomenological research into “the meanings of arts experiences to individual children” (18). Research openings pertinent to this study are also suggested by findings that learners talented in the arts are sometimes not well-served by traditional methodologies of teaching and tests and “some of the qualities that are most appreciated in the arts get students into trouble in school” (Oreck, Baum, and McCartney 77). Dennie Palmer Wolf urges qualitative research into “what effects arts education programs have and why these effects may occur,” despite arts instruction for as little as an hour weekly over a thirty-

two week school year at US schools offering such teaching and learning opportunities (92-93).

Critical Links: Learning in the Arts and Student Academic and Social

Development is a compendium of sixty-two studies considered best examples from the field of arts education research, also spearheaded by the Arts Education Partnership (Deasey). Studies that focused on the effects of arts learning on learner academic and social development, rather than on the arts learning experiences themselves, were included. The goal was to contribute “to the national debate over such issues as how to enable all students to reach high levels of academic achievement, how to improve overall school performance, and how to create the contexts and climates in schools that are most conducive to learning” (ii). Essayists analyzed patterns emerging from the findings of the studies within each of the arts domains researched: dance, drama, music, visual arts, and multi-arts. They “urge that future research define with greater depth, richness, and specificity the nature of the arts learning experience itself and its companion, the arts teaching experience.” While in agreement that “well-crafted arts experiences produce positive academic and social effects, [ . . . ] they long for more research that reveals the unique and precise aspects of the arts teaching and learning that do so” (iii).

Analyzing research gaps in the domains of experiential education, adult education, and transformative adult learning is a way of underscoring that adults are the advocates, policy-makers, educators, and gatekeepers for children’s education in experiential education and the arts. Experiential education is a domain that overlaps with adult education and transformative adult learning, yet clearly involves the entire human lifespan. Scholarly research and theory development in experiential education have focused largely on adult experience (Kolb, Boyatzis, and Mainemelis). The theoretical

origins of the domain of experiential learning and education include the work of John Dewey and Jean Piaget. David A. Kolb, Richard E. Boyatzis, and Charalampos Mainemelis cite little research in K-12 education out of the 1,004 entries in the A[lice]. Kolb and David A. Kolb “Bibliography” (234-35).

The research focus of this study was the relationship between movement improvisation and embodied learning that involved elementary students and their teachers. Bringing together these three overlapping domains of experiential education, adult education, and transformative adult learning is an approach to broadening the definition of experiential education through the arts and embodied imagination.

Transformative adult learning, a relatively recent organized scholarly movement, has emerged over the past twenty years, according to Edward W. Taylor, as a primary area of study within the domain of adult education (“Analyzing” 285). Adult education also includes, for example, andragogy (adult learning and development distinct from pedagogy, learning, and development of children) and learning modalities adults use to pursue their own learning needs and interests, such as self-directed and experiential learning.

Theorist Jack Mezirow frames transformative adult learning as triggered by a “disorienting dilemma” or critical event and catalyst which causes the adult learner to examine and reformulate premises and assumptions that are no longer useful to growth during adult stages of life. “Critical reflection” involves questioning one’s premises and assumptions and can lead to revising assumptions, testing out and redefining new identities, skills, and ways of understanding these new perspectives based on acting in the world. This can further lead to redefined identity, roles, and new and more appropriate premises and assumptions, sometimes with changed epistemic frameworks or ways of

conceiving of what one knows.

“Rational discourse” or logo-centric cognitive processing of experience has been criticized along with “critical reflection” for its emphasis on rationality and language-based ways of knowing. A synthesis of these two constructs, “reflective discourse,” seems to provide a more inclusive conceptualization for connective pathways between the disorienting dilemma experienced and development of new identities and ways of being and acting in the world (Merriam and Caffarella 319-23; Mezirow 10-11).

What is missing when examining discussions of transformative process, critical reflection, rational discourse, and reflective discourse is the integrative theme of movement. This theme is integral to the concept and construction of embodied knowledge. Analyzing embodied knowledge, the basis of a practitioner’s acting and knowing, within the domains of experiential education and transformative adult learning reveals openings for additional research relevant to this study. These, in turn, provide opportunities for increased depth and connections with the calls for research previously cited.

Review of the literature of transformative adult learning reveals a need for additional research focusing on embodied knowledge and the integrative theme of movement in the domain of transformative adult learning, in order to further broaden and deepen the philosophical and theoretical frameworks of this “theory in progress” (Mezirow and Assocs.). Transdisciplinary literature across domains reveals some investigation of embodied knowledge (Amann 27). Movement rigorously analyzed as an embodied way of knowing, theorized as cognition or kinesthetic thinking, and involving processes of transformative adult learning (disorienting dilemma, critical reflection, and rational and reflective discourse) does not, however, appear in the research literature.

The paucity of work to date, however, creates openings for further research.

Tara L. Amann conceptualized embodied knowledge as body-based learning—comprised of kinesthetic, sensory, affective, and spiritual learning inputs—to define terms more clearly that have appeared to date randomly and without deeper analysis (27). Judith Beth Cohen analyzed yoga practice as bodymind connectivity and a way to transform thinking and behavioral patterns, expand definitions of reflection “to include more than cognitive activity,” and formulate breathing as a form of thinking that may bridge the Cartesian divide (88, 91). Movement is used as metaphor for changed perspectives. This change emerges through self-reflective practice grounded in a multimodal arts-based inquiry (Childs). Movement is implied, although not directly referenced, by Diane Lennard, Twila Thompson, and Gifford Booth through analysis of “The Artist’s Inquiry,” a heuristic acting methodology seeking transformative adult learning through reflection on experiential action choices. Such lenses as Hameed (Herukhuti) S. Williams’s study of Augusto Boal’s Theatre of the Oppressed and Afrocentricity allow one to view movement as a subversive challenge to the status quo and radical critique of its premises. Movement itself, by its presence, functions as critique of the dominant, unassailable, and immovable macroculture. Movement is always a means to new possibilities. Movement is also evidence of life and aliveness, despite oppression.

Embodied knowledge as a concept is beginning to appear in the transformative adult learning research literature. This is either a) through mind-body-emotion-spirit constructs, as, for example by the above referenced scholars, Edmund V. O’Sullivan, Amish Morrell, and Mary Ann O’Connor or b) from a rationalist perspective of dance as “alternative” language (Mezirow 6). Movement as a related theme also appears as a metaphor to approach understanding of complex processes, whether individual

experiences of transformative learning (Childs), or micro-macrocosmic healing connectivity, with reference to physicist David Bohm's work to bridge the fragmentation resulting from the Cartesian divide (Selby). As the theory of transformative adult learning is generally being challenged and expanded beyond the "rational" emphasis of its originator, Jack Mezirow, embodied knowledge and integrative movement are beginning to appear as concepts in the literature (Amann; Childs; J. Cohen; Lennard, Thompson, and Booth; Mezirow; O'Sullivan, Morrell, and O'Connor; Selby; Taylor, "Analyzing," "Looking"; Wiessner, Meyer, Pfhal, and Neaman; Williams).

The lack of research into embodied knowledge and integrative movement in the domain of transformative adult learning indicates that the arts, movement, dance, and aesthetic education have not been considered critically fundamental in the formation or transformation of adults through learning. This experiential and conceptual deficit begins with lack of curriculum in these domains in US elementary schools.

The result of these oversights and absences is a citizenry generally uninformed by or about the arts, dance, aesthetics, and integrative movement, as resources in lifelong, and potentially transformative, learning. Adults without deep knowledge of, experience in, and connections with, the arts participate in setting arts and aesthetic education agendas (or lack thereof) in public education for children and youth. Expanding arts learning experiences for adults would increase understanding regarding the need for expanded arts experiences for children and youth. Expanded embodied-learning through integrative movement would also provide additional healing opportunities for children, youth, and adults. These are promising openings for research into the current state of US public education and the examination of what it might become through the use of the arts, creativity, and embodied knowing.

#### 4. Social Relevance of the Research Focus

This chapter concludes with social meaning analysis of the importance of the problem of: lack of understanding of embodied knowledge and the scarcity of related theories, including movement improvisation, reflection, and effects in learning. Social meaning analysis is the elucidation of the possible benefits to society of this research. This analysis includes the subjective perspectives and situatedness of the researcher-as-learner. Subjectivity is introduced, because the researcher is the research instrument in qualitative research (Eisner, Enlightened 33-35; Janesick 58; Patton 566-67). For Creswell, this involves reflexivity or “self-awareness” (9). Social meaning is embedded in the multiple perspectives and ways of knowing researched in this study.

In the US Pre-K-12 and higher education systems, misperceptions persist around the functions and study of the arts. The following are common misperceptions I have encountered in the US while working in the field for over twenty years in the overlapping domains of the not-for-profit arts, dance, and education in New York City and State, the US, and abroad. I have spoken with and observed individuals in diverse US socioeconomic, cultural, political, and educational contexts perpetuating such misperceptions through their statements and actions as: The arts are elitist. Talent is a prerequisite for satisfactory participation in the arts. There is no significant learning that takes place in and through the arts and arts programs. The arts encourage self-indulgence rather than development of social awareness and action. Art forms are culture-specific and only people from specific cultural backgrounds can participate in certain art forms. Art forms are gender-specific and, as a result, boys in the US, e.g., generally do not want to learn in and through dance. Teachers are not collaborative learners, defined as constantly learning with and from their students and should not demonstrate vulnerability



by participating with their students in teaching artist-led arts activities. And the physical and experiential domains do not engage, and are not forms of, cognition or higher-order analytical processes.

A contribution to knowledge and understanding about embodied knowledge, creativity, and learning through the arts has social meaning and contributes to a larger effort to secure a primary place for the arts in education and society. There is a gap in the literature as demonstrated throughout this chapter, for broad and deep examination of how learning takes place in the arts. There exists, however, an opening for rigorous and disciplined study of experiential education, embodied knowledge, creativity, and reflective methods. The calls for research previously cited identify a need for research that will contribute to knowledge and understanding of how the arts contribute to learning and teaching. Arts experiences are not available to all in the US, in spite of the United Nations Universal Declaration of Human Rights that includes access to the arts as a fundamental human right (arts. 27.1, 26.2). This lack of access contributes to fragility in public and private support of and funding for the arts and arts education. Arts programs need to be embedded as a fundamental right in all levels of public education and as part of life-long learning opportunities for the general public, if all ways of learning are to be made accessible.

## **Chapter Two**

### **The Intellectual Traditions**

This chapter establishes an intellectual context for the study, locates the critical questions that define and delimit the study's scholarly context, traces recent scholarship to which this research will hopefully make a contribution, and responds to a review of the literature related to reflective responses in improvisation-based embodied-learning experiences (Patton, "Inside"). The critical concept of embodied knowledge and a brief overview of the history, theory, and practice of experiential education are discussed. The concept of improvisation is analyzed from the perspective of transdisciplinarity, defined by examining definitions across fields and domains, and further situated within artistic and scholarly discourse. Analysis and synthesis includes improvisation as analogical and kinesthetic thinking. The chapter concludes with an analysis of theories of reflection and reflective practice and methods. Bringing together three areas—experiential education and learning, improvisation, and reflection and reflective practice and methods—for closer examination is a tenet of transdisciplinarity, an epistemological perspective in which this study was grounded.

The research questions provided focus for this analytical synthesis. For the purposes of this study, the research questions were: What are the characteristics of reflective responses particular to improvisation-based embodied-learning experiences? Are these responses teachable? What would constitute their pedagogy?

For this review, online searches included: databases accessed through Google.com, online bookstores, university libraries, the Education Resources Information Center, and Union Institute & University's library and search engines, including FirstSearch and FindArticles.com. Other searches included the music, theater, and dance collections of

the New York Public Library for the Performing Arts at Lincoln Center and the National Dance Education Organization's database. The keywords used for these searches included experiential education, embodiment, embodied literacy, improvisation, reflection, and reflective responses. Using "improvisation" to delimit this search, dissertations were accessed using these search engines and databases.

### 1. Embodied Knowledge

The concept of embodied knowledge appears in the literature under various terms, including embodiment, bodymind, collective unconscious, blood memory, bodily-kinesthetic intelligence, embodied mind, embodied learning, physical thinking, and kinesthetic thinking. Embodiment as used in this study means direct knowing of and through the body. This is *technê* translated as craft or art, related and contrasted with *epistêmê* or knowledge, among the Greek philosophers, including Xenophon, Plato, Aristotle, the Stoics, Alexander of Aphrodisias, and Plotinus (Parry). *Technê* is lived consciousness, a very early version of embodiment of knowing. Embodiment appears in the literature of Somatics, the diverse practices and methods of body awareness and therapies concerned with understanding the bodymind as a connected and holistic unity. In Somatics, the bodymind is approached through direct experience, including disciplined and rigorous scholarly, anatomical and kinesthetic study (Freeman; Johnson, Bone; Saltonstall; Sweigard; Todd).

This experimenting, experientially based work, which often draws on and intersects with Eastern philosophy, indicates that cognition as awareness, knowing, and understanding is distributed throughout the body's multiple evolved systems and literally embedded within the organs, tissues, bones, and blood. C. G. Jung identified the collective unconscious as an evolutionary pathway linking each individual to the

cumulative river of lived experiences of his-her ancestors (29, 177). Dancer and choreographer Martha Graham cited “blood memory” as essential to her embodied creative process (8-10). She located it in the viscera, the human’s core rootedness in and experience of a physical body. It was a way of knowing, making possible imaginative leaps across historic and mythic thresholds, to embody Greek myths such as the Minotaur, Medea, and Oedipus (Lloyd 35-76).

Embodied knowledge, relegated to areas of vocational education and preparation for entrance to careers into industrial and manual labor, the military, and physical education, has often been viewed as a pastime and not as a way of knowing. Physical education has only recently been examined for its demonstrated uses of higher-order cognitive processes. Early twentieth-century dance educators like Margaret H’Doubler, influenced by Dewey’s theory of experiential education, were successful at negotiating a place for dance in higher education at first through women’s physical education programs in the 1920s, and only later as part of fine and performing arts departments (H’Doubler; Ross).

The school reform movement stimulated development of national, state, and local learning standards in the 1990s for K-12 education. Many arts educators have supported this development as a way to insure a place, if not a central one, for the arts in the basic kindergarten-to-grade-twelve curriculum. Yet learning standards for dance remain the least completely articulated of the arts learning standards developed by New York State.

The national dance learning standards help fill in some of the gap, as does the New York City Department of Education Blueprint for Teaching and Learning in the Arts: Dance, Grades PreK-12. But the arts, movement and dance, and aesthetic education are not part of mandatory foundations courses in all teacher education (personal

conversations with Maxine Greene). One result of these missing connections is that embodied knowledge is only slowly gaining acceptance as part of educational theory and only among some educators and learning communities.

Constructivist developmental theory points to the child's direct experiences of the world through the body's senses as basic to growth and cognitive development. Learning takes place progressively in developmental stages (Berk 12-15; Piaget, ch. 12) or in a "zone of proximal development" (Berk 40-42; Vygotsky 86), requiring experiential scaffolding to progressively and appropriately challenge the child (Berk 46-64).

Cognitive psychologist Howard Gardner's Multiple Intelligences theory recognizes the "bodily-kinesthetic" as a distinctive intelligence with an associated learning style. The seven intelligences originally identified by Gardner in this taxonomy included: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, intrapersonal, and interpersonal "human intellectual proclivities." In collaboration with David Feldman and Mihaly Csikszentmihalyi, the theory was refined to include distinctions between "*intelligences, domains, and fields*" (Gardner xvi).

## 2. Experiential Education and Learning

Experiential Education as a knowledge domain is all encompassing and could include all education (Henry 25, 28). It is often associated, however, with adventure and discovery-based Outward Bound-type or "other than business as usual opportunities," including internships. Experiential Education, if conceptualized as part of a broader contemporary educational framework, can include Pre-K-12 general education, higher education, and adult education, as well as the fine and performing arts.

Its roots might reach back to early Muslim civilization and medieval European guilds with modern incarnations in small business associations. The origins of guilds

were the ancient and classical world's regulation of professions ("Guild," pts. 1-2). The medieval European working class guild system (St. Clair and Busch, sect. 7, par. 3) required demonstration of skill development through stages of experiential learning beginning with apprenticeship. "Where guilds were in control they shaped labor, production and trade; they had strong controls over instructional capital, and the modern concepts of a lifetime progression of apprentice to craftsman, journeyer, and eventually to widely-recognized master and grandmaster began to emerge" ("Guild," pt. 2).

The tenets of contemporary Experiential Learning complement those of Adult Learning (Caffarella and Barnett 29; Merriam and Caffarella). Kolb's Theory of Experiential Learning involves four stages: experience, reflect, revise, re-experience (i.e., "concrete experience, reflective observation, abstract conceptualization, active experimentation") (Kolb 30; Kolb, Rubin, and McIntyre xii). Transformative Adult Learning involves a catalyst leading to revising assumptions and premises through critical reflection leading to trying out new roles and actions (Caffarella and Barnett; Mezirow; Mezirow and Assocs.). Similar to both theories is learning posited as changing foundational ways of knowing, resulting in new learning and new ways of learning and knowing involving action and reflection (Argyris and Schön; Caffarella and Barnett; Schön; Warren, Sakofs, and Hunt).

The theory and practice of Experiential Learning, according to David A. Kolb, comes from traditions of education, social psychology, organizational behavior, and cognitive development, and can lead to individuation and integration of the adult learner in its highest manifestation. Kolb cites the foundations of Experiential Learning as the educational philosophical pragmatism of John Dewey, the social psychology theory and technology of founder Kurt Lewin's T-groups, i.e., training groups and action research,

and the cognitive development theories of Jean Piaget. Kolb includes Paulo Freire and Ivan Illich's revolutionary, world-changing pedagogies, extending Dewey and William James. Kolb also cites Jung's theories of learning style and individuation, part of therapeutic psychology's contributions, including Erik Erikson's psychoanalysis and Carl Rogers's humanistic, client-centered therapy, Fritz Perls's gestalt, and Abraham Maslow's self-actualization approaches (Kolb, ch. 1). Common to Experiential Learning and Transformative Adult Learning are iterative cycles of action and reflection, involving awareness of a range of learning styles, as ways of knowing leading to lifelong learning.

While there are many approaches to teaching and learning in and through the arts, experience is a common denominator (Eisner, Arts, chs. 1-2). Dewey writes in Art as Experience, "Experiencing like breathing is a rhythm of intakings and outgivings" (56). Kolb's iterative model of experiential learning includes experience, followed by reflection, followed by theory, followed by experimentation. Experiential Education is not just doing something, but is a process connecting doing with reflective methods leading to action and change, i.e., learning. For Dewey, "Every experience is a moving force. Its value can be judged only on the ground of what it moves toward and into" (Experience 38).

Broadening and refining the definition of Experiential Education connects with and builds on Dewey's pragmatic educational foundations grounded in experience. Maxine Greene and Elliot Eisner speak to the need to awaken the anaesthetized individual through experiences of the aesthetic dimension via engagements with the arts and aesthetic education. Whether through "*conscientização*," i.e., critical awareness of social, economic, and political factors in society creating inequality and injustice (Freire 19-20), "the challenge to care" (Noddings xi-xiv), "teaching to transgress" (hooks, introd.), or

“releasing the imagination” (Greene 1-6), the outcome of such radical aesthetics of critical awareness, caring, transgressing, and imagining rests on coming to know oneself as simultaneously authentic, multidimensional, and whole in order to move actively in the world and, perhaps, change it.

Aesthetics, in this conceptualization of what might be posited as a “radical aesthetics,” is linked with social critique of inequity and injustice embedded in a society’s socioeconomic and historical evolution, or lack thereof. In this case of a “radical aesthetics,” the study and application of aesthetics are not elitist practice, available only to a privileged minority, but a pragmatic, rigorous, and disciplined holistic approach to meaning-making, what Eisner calls “that most enigmatic aspect of the human condition: the construction of meaning” (Enlightened 15). It is accessible by all members of society by engaging in the adaptive dynamics of multiple perspective-taking. Active versus passive experiential learning leads to agency, an individual’s ability to take action in the social sphere as a fully embodied human being. The agency to act is a primary outcome of experiential education as defined in this study.

Experiential Education, thus defined, is broad enough to encompass knowledge domains, such as the expressive arts therapies, which deepen understanding of embodiment, as a way of learning and knowing. “The core of the movement experience is the sensation of moving and being moved” (Whitehouse 243). “Moving and being moved” is a way dance-movement therapists might frame the therapeutic vehicle of the dance-movement experience that awakens the individual to his or her own embodied experience and full expressive range of physical and emotional movement. Agency takes on other meanings grounded in developmental issues, but embodied knowledge remains at the core of the meaning being constructed.



### 3. Improvisation

In this section, improvisation is defined by examining transdisciplinary dynamics, definitions, and examples of improvisation across domains and fields, including dance, theater, music, visual arts, education, and organizational management. Improvisation is also analyzed in the context of subfields such as modern dance, bricolage, contact improvisation, improvisational theater, Happenings, jazz, curriculum development, and creative arts therapies. A discussion of improvisation as analogical and kinesthetic thinking concludes this section. The rationales for bringing these various approaches together are: 1) contextualize and situate this study within transdisciplinarity, 2) identify transdisciplinarity as the epistemological framework for the study, 3) broaden the definition of experiential education through the arts using improvisation as the focal point, and 4) locate improvisation within artistic and scholarly discourse.

Interdisciplinarity is defined in this study as the “weaving together” of several domains of knowledge in order to approach complex phenomena and problems with multiple perspectives. Liminal or between spaces emerge with new possibilities and configurations for research, scholarship, and social relevance. New conceptual fabrics are woven from the warp and woof of theory and practice, with threads from various disciplines still identifiable, albeit in new patternings (Caruso and Rhoten; Klein, Crossing, Interdisciplinarity; Lattuca; Mitchell; Nissani; Reese; Weingart and Stehr). A movement analogy for interdisciplinarity can be conceptualized as caring for one’s bodymind through combining kinesthetic arts, athletic, meditative, and somatic (body-based) practices of dance, swimming, yoga, and Kinetic Awareness (Saltonstall).

Transdisciplinarity requires breaking apart conceptual boundaries, limitations, and edges in order to create not only hybrids, but also new relationships and new “through-

lines” across knowledge domains (Cedillos, “Typology”; Gibbons; Nicolescu, “Interview,” “Transdisciplinary”). Process itself emerges as a subject of study superceding traditional emphasis on form (boundedness). The dynamics of relational systems and networks require shifting perspectives from background to foreground and vice versa. Transdisciplinarity can be posited as drawing on concepts from Chinese philosophy, such as the *Lao Tzu* or *Tao-te ching* (Classic of the Way and its Virtue) (Chan 137), which advises:

Act without action.  
Do without ado.  
Taste without tasting.  
Whether it is big or small, many or few, repay hatred with  
virtue.  
Prepare for the difficult while it is still easy.  
Deal with the big while it is still small. (169)

Thus, the transdisciplinary dynamic involves interplay between shifting perspectives, such as doing and not doing. Emphasis is on, and discovery involves, transition and movement.

Another metaphor for the transdisciplinary dynamic and theory of the embodiment of cognition made visible through kinesthetic thinking follows:

Take, for example, the metabolism of a cell. It consists of a network (*form*) of chemical reactions (*process*), which involve the production of the cell’s components (*matter*), and which respond cognitively, i.e. through self-directed structural changes (*process*), to disturbances from the environment. Similarly, the phenomenon of emergence is a *process* characteristic of dissipative structures (*matter*), which involves multiple feedback loops (*form*). [. . .]

The structural changes in this network pattern are understood as cognitive processes that eventually give rise to conscious experience and conceptual thought. All these cognitive phenomena are nonmaterial, but they are embodied—they arise from and are shaped by the body. Thus, life is never divorced from matter, even though its essential characteristics—organization, complexity, processes, and so on—are nonmaterial. (Capra 72)

Rather than the interdisciplinary metaphors of the newly interwoven conceptual fabric or the shaped body, the transdisciplinary metaphor might be the dance of the weaving, i.e., the process of knowledge construction itself. The process of movements (cognitions) in space, required of the layered actions linking shuttle, hands, and threads, is the transdisciplinary dynamic. Dance can also be defined as the motions of transition, as e.g., Isadora Duncan “conceived the essence of movement to lie in transition, not in position,” according to modern dancer, choreographer, teacher, and movement theorist Erick Hawkins (41).

Interdisciplinarity is a multilevel connective process resulting in knowledge construction through inter-connective, multiple perspective-taking. Transdisciplinarity, a multidimensional breaking-apart phenomenon, approaches complex processes that are not necessarily experienced as objects, but rather as events, as energetic dynamics such as fields and networks. Networks involve communities in the domain of human life and culture. The arts, while sometimes abstracted and absent in mainstream US consciousness, involve processes that have the potential to deepen human understanding of holistic experiences of community, learning, healing, well-being, and transformation, in a complex world of experience.

Improvisation involves the dynamics of transdisciplinarity by emphasizing process as integral to content, unfolding as essential to form. Improvisation is, thus, an essential and dynamic methodology that connects process, content, and form and creates new constructions. Its essential dynamic involves breaking beyond the known and integrating potentials and contextual properties indicated by the tacit and the implicit. Its dynamic emerges through movement toward the not yet known and the unknown.

Improvisation is defined as the engagement of a multidimensional, multilevel,

complex behavioral structure with flexible functions. As a result of this definition, improvisation must be studied in a transdisciplinary context with reference to transdisciplinary form, content, and process. Interdisciplinarity and specifically transdisciplinarity are used to focus on the research spaces that exist in the gaps and shortfalls between established knowledge structures and domains. Some of these gaps or spaces can be defined through interdisciplinarity defined as the overlap or connectivity of two or more disciplines. Some spaces do not have epistemological or research definitions. Thus, they transcend guidance provided by current boundaries. Embodied knowledge, nonverbal learning, and improvisation are examples of such transdisciplinary spaces.

Improvisation can generally be defined as creating without a plan or a pre-conceptualized pattern in The World Book Dictionary (a source widely used in public schools). The first definition of “improvise” emphasizes spontaneity and suddenness of impulse or opportunity to act and includes the arts: “to make up (something, such as music or poetry) on the spur of the moment; sing, recite, or speak without preparation [ . . . ].” The second definition further highlights the element of time: “to prepare or provide offhand; make for the occasion; extemporize [ . . . ].” “Extempore” is “on the spur of the moment; without preparation; offhand” and “impromptu” from the Latin “out of, from [ . . . ] time.” Improvisation is action taking place in real time. The third definition brings composition or design into the mix: “to compose, utter, or do anything without preparation or on the spur of the moment.” This is creativity in the moment, the act or process of coming or bringing into being. There is an emphasis on quickness, rather than on studied deliberation or sustained form or style. Spontaneity is thus generative and integral to improvisation. Spontaneity makes improvisation synonymous, if variable, with the creative process itself. Creativity is defined in this study by its categorization as

originality, or creating “out of nothing” (*creatio ex nihilo*): “Improvisation is the practice of creativity. For dancers it is a way of gaining an understanding of textures, imagery, depth, and motional resonance that can lend a richness and poignancy to performance. It is one of the best trainings and preparations for the art of performing” (Louis 124).

A plan can generally be defined as involving a process of premeditation. Premeditation seemingly contrasts with the *modus operandi* of improvisation which involves quick, spontaneous action. The dictionary’s definition of plan includes the idea of careful advance preparation, as in a written outline, drawn sketch, or conceptual model. These are pre-conceptualized visualizations of what will be, i.e., projects and procedures fully constructed and realized in the future. A plan is: “1) a way of making or doing something that has been worked out beforehand; scheme of action [ . . . ] 2) a way of proceeding; method [ . . . ] 3) a drawing or diagram [ . . . ]” (World Book). In the arts, plans include, for example, choreographic scoring in dance, script in theater, screenplay in cinema, score in music, preliminary sketch or maquette in the visual arts. These examples connote a degree of laborious crafting that also appears in published writing. These plans involve the creative process and the art experience, but are not yet the realized aesthetic experience, which is the objective and potential outcome of the plan. Art experience is used here to signify the creative artist’s experience, involving creative processes, in order to develop works of art. This is distinct from, although related to, the aesthetic experience. The aesthetic experience involves the perception and analytical processing of a work of art by an observer. Dewey’s reflections on emergence of works of art, and their apperception and examination, include:

Works of art often present to us an air of spontaneity, a lyric quality, as if they were the unpremeditated song of a bird. [ . . . ] The spontaneous in art is complete absorption in subject matter that is fresh, the freshness of

which holds and sustains emotion. Staleness of matter and obstrusion of calculation are the two enemies of spontaneity of expression. Reflection, even long and arduous reflection, may have been concerned in the generation of material. But an expression will, nevertheless, manifest spontaneity if that matter has been vitally taken up into a present experience. [ . . . ] Keats speaks poetically of the way in which artistic expression is reached when he tells of the “innumerable compositions and decompositions which take place between the intellect and its thousand materials before it arrives at that trembling, delicate and snail-horn perception of beauty.” (Art 70-71)

Despite improvisation's emphasis on spontaneity and quickness, plans can be part of the continuum of improvisational experience. For example, structured improvisation does include guidelines, sometimes in the form of thematic material to be used as a point of departure for the improvised journey or exploration. Improvisational guidelines, plans, rules, scores, and structures can be further situated on a metaphorical continuum, depending on the function of their varied uses, whether as compass or indicator of a magnetic directionality, approximating map, or exacting blueprint.

A general definition of pattern is repetition. The dictionary defines pattern as forms and models, structures and designs including: a) “an arrangement of forms and colors; design [ . . . ] motif”; b) “a model or guide for something to be made”; c) “a fine example”; d) “form; shape; configuration”; and e) “structure or design in a work as of literature or music” (World Book). Preparation and circumstances, even if not in the form of plans, might comprise a pattern. This pattern is part of the approach of the improvisational composer to improvisational composition, such as getting ready for the moment to improvise (Cedillos, “Designed”). For Jose H. Cedillos his daily “setup” might comprise the manifestation of a lifetime of preparation for the moment to begin improvising. This preparation also includes the actual work space, tools, and attitude used to approach bricolage (20).

Bricolage is a layering process witnessed in the quotidian and incremental steps taken in all aspects of the arc of daily life from birth to death. Ben Willis, in The Tao of Art, further suggests that the artist's pattern of preparation for the improvisational moment is a way of living:

By reducing form to *artistic* essence the artist is already clarifying the natural essence, *ch'i*, or spirit, which is innate in every form. [. . .] *ch'i yun* referred precisely to the Taoist idea of an all-pervading spirit reflected in nature and inherent in form, and the Chinese artist turned his attention wholly to the search for essence.

The need for *ch'i yun* in painting required something of the painter — the meditative disposition whereby his spirit or intuition could become 'the perfect reflection of Tao'. This lent a ritual quality to art by which the creative process and its products became the symbolic and actual wedding of matter and spirit, the unification of opposites, the harmonization of *yin-yang*. [. . .] Although it demanded great self-discipline, concentration and asceticism of the painter, the end of such meditative creativity was the actual realization or expression of *ch'i yun*, the 'life movement' of the Tao found in form and nature. (52-54)

Form emerges in improvisation, but it is form of a different order, in which originality is evoked in every aspect of the form. Form created through the deliberation and due diligence involved in pre-planning and pre-meditation, i.e., futuring imaginatively, expresses originality primarily in conception. Ted Gioia, in The Imperfect Art, refers to improvisation as a "retrospective" rather than "blueprint" method of creating form. Gioia contrasts two ways of arriving at form: the blueprint method, exemplified by architecture, and the improviser's retrospectively looking at what has just happened in order to shape "with relation to what has gone before" (60-61).

Looking behind at what one has just done and is doing, rather than imaging and carefully constructing one's actions for the future, is a method most often used by jazz musicians, but also used by artists working in other art forms. This compositional method does, however, distinguish jazz from other art forms because of its centrality to the

actions taken and frequency of use.

Gioia cites as rationale for employing the retrospective method of improvisational composition in art forms other than jazz an artist's impatience or "acute time pressure" (59-62). These examples comprise challenges to be faced and problems to be solved, which includes the low abstraction or practical problem-solving dimension of bricolage creativity (Cedillos, "Designed").

Other definitions of improvisation are examined and synthesized in the subsections that follow. These are definitions emerging from the history, scope, and limits of specific practices from specific domains. Domains, fields, and subfields from which this analysis is drawn include: dance and contact improvisation, theater and improvisational theater, visual arts and bricolage, and organizational management.

Time and form are categories that emerge across and connect these preceding general definitions of improvisation, plan, and pattern with variable attributions. Heuristic experiences of time include properties of: 1) spontaneity versus preplanning unfolding at opposite ends in the dimensional continuum of rigidity-flexibility and 2) sudden versus sustained unfolding, similarly, in the dimension of durational-transitional. Form's sustainability determined by how it comes into being, whether by blueprint or retrospective method, can also be found along the temporal dimension of durational-transitional.

In the transdisciplinary literature on improvisation, a differentiation emerges, and a dialectical relationship is identified, between structured and free improvisation. This connects to the previous discussion through time and form. Both of the categories, structured and free, include properties of greater or lesser boundedness. Boundedness or degrees of containment operate in dimensions of time, space, and energy (force-weight).



These intersecting dimensions are Rudolph Laban's elements of movement and dance (Dell; Laban, Mastery, Modern; Laban and Lawrence; North; Preston-Dunlop).

These categories, structured and free, also appear in the literature as innovation and originality. Innovation is variation based on a prototype. Originality is creation "out of nothing." Innovation can thus be subsumed by the category structured and originality by the category free. Improvisation appears in the arts and performing arts literature of music, theater, dance, and visual arts both as structured, i.e., involving degrees of innovation or variation based on a prototype and free, i.e., involving originality, or creating "out of nothing." Examples of these categories, emerging from practice and situated on a continuum of purpose involving greater or less emphasis on the categories structured or free, include structured, generative, and performative improvisation.

Structured improvisation uses thematic material or rules governing improvisation that are pre-established, including the rule that one can bend, or even break, the rules, e.g., modern dance, jazz, and the European tradition of clowning. Generative improvisation, structured or free, is used to generate performance material in rehearsal that will ultimately be replicable in performance, i.e., through development of a theater script in experimental, experiential, and physical theater, or a dance score for a choreographed work. Performative improvisation comprises the process for rehearsal or performance using spontaneous, live action, as in contact improvisation in postmodern dance or free jazz. This is also related to bricolage, as will be discussed. These categories include transdisciplinary concerns: "Never 'final,' never 'finished.' [. . .] I share the same concerns for space and movement and structure as contemporary dancers. I consider spontaneity, improvisation, continuity and harmony" (Haring).

Improvisation is process-oriented (McNiff, Trust 13). It is the act of being wide-

awake to the possibilities contained in the moment, while in a discovery mode. It is the aliveness of feeling one's multimodal awareness and simultaneous metacognitive processing, while allowing the body to "move and be moved" (Pallaro, Moving; Whitehouse 243). Trusting the process and maintaining the integrity of its properties are, however, both a threshold to the improvisational experience and a challenging, often inaccessible, modality for individuals educated solely in traditional Western discourses and cogni-centric worldviews. Frameworks positing superiority of the intellect and privileging mind over matter make entering a field of discovery, engagement, and sustainability through a non-logo-centric improvisatory (imagination-based) process, problematic.

When introducing the concept of improvisation to nine-to-ten-year-olds and one eleven-year-old student, as I did in this study, it cannot be assumed, of course, that the child-learner is a tabula rasa of improvisation. Previous experiences shape attitudes and habits that inform entry into new experiences and processes, including art-making and learning by improvising. Negative cultural assumptions regarding the arts, movement, dance, and improvisation sometimes appear like an "elephant in the classroom," or an obstruction to free movement. Years of schooling privileging logo-centrism, the verbal-linguistic and mathematical-logical domains, might contribute to this invisible, undeniably felt, yet never discussed, "presence." This can, of course, contribute to repression and judgmental stances inhibiting playfulness and free improvisational flow (Blatner and Blatner, ch. 10). Schooling devoid of and lacking the multimodal arts leads, unfortunately, to ignorance produced by restricted movement and lack of fluency in the symbolic systems embedded in those domains (Dewey, Art; Eisner, Arts 15-19; Gardner; Greene, Releasing).

Mihaly Csikszentmihalyi's systems approach to creativity involves the interaction of a knowledge domain, a field of action, and the acting individual. This approach contrasts with theories locating creativity solely in the "extraordinary" individual: "Each domain is made up of its own symbolic elements, its own rules, and generally has its own system of notation. In many ways, each domain describes an isolated little world in which a person can think and act with clarity and concentration." The rationale of knowledge, interaction, and fluency in different domains is that: "Each domain expands the limitations of individuality and enlarges our sensitivity and ability to relate to the world" (Creativity 37). Ignoring, denying, and denigrating non-logo-centric ways of knowing, such as those accessed and afforded through the arts, the physicality of the learner, and improvisation limits this heightened sensitivity and increased interconnectedness with the world (Belenky, Clinchy, Goldberger, and Tarule; Greene, "Arts"; J. Taylor).

There have historically been negative associations with the concept of improvisation. For example, Novack cites the association of amateurism with improvisation, which was a method of dance instruction taught in universities and for recreational dance purposes from the 1920s (23-24). The field was split into academic and professional milieus. Early modern dancers sought to professionalize by distinguishing themselves from social and entertainment dancing (23). In this context, improvisation was either absent or used by early modern dance pioneers to train and to generate material, but not to be performed in its generative phase:

The only major exception to the absence of improvisation from the early American modern dance tradition was the teaching of Hanya Holm, expatriate student of the German dancer Mary Wigman. In Germany, modern dancers always considered improvisational practices to constitute part of their technical training; Holm continued teaching improvisation and composition in America, as did her students Alwin Nikolais and Murray Louis. Yet even in this professional technique, improvisation has

still been part of the training method, not a vehicle for performance.  
(Novack 24)

This example indicates a historic differentiation of uses of improvisation along the criteria of its artistic and educative purposes. The purposes that improvisation can be put to can be summarized as: training in the art of performance; first step in a creative process to generate material to be perfected, performed, and presented as a completed, polished, and finished phenomenon; or visible portion of a creative process demonstrated in-the-moment, and including risk, whether through *creatio ex nihilo*, ‘creating out of nothing,’ or creating from improvisational structures or other points of departure, such as thematic material.

Mistakes and failure are, of course, embedded within improvisational processes. The more publicly visible the artist makes this creative process, the more likely will be opportunities for sharing the flaws in the form’s structure, patina, and decision-making process. Sharing this vulnerability in public can be at odds with an audience’s expectations of highly polished and entertaining performed spectacles. In jazz it can be the opportunity to witness flights of non-logo-centric high-wire genius “where the musician’s artistry is closely linked with innovators of the past” (Radano 204). The degree to which mistakes or atonal or discordant events are integrated into the improvisational process reflects a performer’s range and philosophical aesthetic.

In US public schools failure is not officially tolerated or encouraged, as indicated by the No Child Left Behind Act of 2001. Therefore, improvisation as an arts-based learning and teaching methodology might well be a) misunderstood and misapplied, b) frowned upon, and c) dismissed as an inappropriate learning domain. In the current era of “school-to-work-standards” (outlining direct connections between public school and

work experiences) arguments can be made that the twenty-first-century workforce needs the learning and work skills inherent to improvisation (New York State Learning Standards, “Career Development and Occupational Studies”). These arguments include: spontaneity or creativity and generation of new ideas, quickness, and shortened time gap between idea and execution. This does not, however, change underlying attitudes and assumptions that mistakes are costly.

The concept of costly mistakes harkens to the factory model of public school education, whereby piece and line workers (students and teachers) are responsible for their quotas of endlessly duplicated products (quantifiable test results demanded by standardized and prescribed teaching and learning). The results of their mechanized, monotonous, and repetitive labors are routinely and regularly inspected by supervisors (teachers and administrators) for precision of duplication according to extant models. Exactness and efficiency are criteria used to evaluate performance. As Matisse said, however, “Exactitude is not truth.”

Mistakes can, on the other hand, provide opportunities for the artist to work with the resources offered by the unexpected. In clowning, “Mr. Flop” is part of the gambit that the clown learns to accept and work to his or her advantage. Philippe Gaulier, who taught in Paris at *L’École internationale de théâtre Jacques Lecoq* and travels worldwide as an expert clown teacher from his London-based school, called this phenomenon “Mr. Flop” in the 1997 workshop I took with him in New York. This phenomenon arises from the natural lessening of interest on the part of the audience in the improvisational “mucking about” in which the clown is involved. This dialectical tension between success (pleasing the audience and oneself) and disaster (totally failing to amuse the audience and oneself) provides the clown’s reason for being. The clown’s

purpose in life is to be so totally stupid as to reveal his-her essential humanness in dealing with life's many banalities.

“Multiple Stupidities” is the way I would further frame kinesthetic clown intelligence that requires direct non-logo-centric perception rooted in bricolage. The clown as bricoleur would then be defined as having the competency of making do with materials immediately at hand, imaginative or real, and thus within or just beyond grasp. This way of framing the essence of clown, as within European and indigenous traditions, is also, of course, a way of inverting and therefore underscoring Gardner's Multiple Intelligences Theory of human intelligence, which includes the kinesthetic. Inversions of role and status and psycho-physical-affective transformations are fundamental principles found across intersecting intercultural transdisciplinary continuums of clown, fool, trickster, healer, artist, priest, and shaman.

Social constructivist educational theory posits that the learner co-creates the learning experience and its meaning (Merriam and Caffarella 262-63). The collapsed temporal gap of improvisation highlights the learner's role in his or her own learning. When learners begin to improvise in movement, for example, they might experience a larger gap between thought and execution of an action than they do after repeated practice and refinement of improvisational process. As they gain familiarity and fluency in the creative processes involved in improvisation, this gap can be lessened and aligned through simultaneity of perception and action. This collapsing of temporal gap and sense of merging emerges as Visual Thinking, in which, according to Rudolf Arnheim, perception and thinking take place simultaneously (Arnheim; cited in Cedillos, “Designed” 23). This collapsed temporal gap and sense of merging can be framed as what I am calling Kinesthetic Thinking, when action is involved (Laban, Mastery 75,

Modern 44; Preston-Dunlop 1; Sweigard 7; Todd).

Form appears in improvisation, but technical emphasis is not necessarily on predetermining or directing the emergence of form through logo-centric processing. Staying in technical alignment with the “internal necessity” of the moment necessitates letting go of pre-conceptions in order to respond to, and be part of, what emerges or happens. Vasily Kandinsky, who titled paintings improvisations, defined the principle of internal necessity in the arts as “the principle of the purposeful touching of the human soul” (169). This is “flow” or “optimal experience” for Csikszentmihalyi that can, for example, lead to greater complexity of the organization of the self; in other words, to greater self-reflectivity and proficiencies (Creativity; Flow). Increased complexity results from psychological processes of differentiation and integration. Differentiation is “movement toward uniqueness, toward separating oneself from others,” while integration is “union with other people, with ideas and entities beyond the self” (Flow 41). This psychological construct runs parallels with inter/transdisciplinary tensions in the weaving together/breaking apart dynamics of knowledge construction, discussed previously. The flow experience or optimal experience “is the opposite of psychic entropy [. . .] and those who attain it develop a stronger, more confident self, because more of their psychic energy has been invested successfully in goals they themselves had chosen to pursue” (40).

Creating the background conditions for flow to emerge, which I am collapsing into the category “safe space,” is necessary for releasing the creative process. Creating a safe space connects with, invokes, and is invoked by, ritual. Claude Lévi-Strauss distinguishes between the differing underlying structural elements of ritual and game:

Games thus appear to have a *disjunctive* effect: they end in the

establishment of a difference between individual players or teams where originally there was no indication of inequality. And at the end of the game they are distinguished into winners and losers. Ritual, on the other hand, is the exact inverse; it *conjoins*, for it brings about a union (one might even say communion in this context) or in any case an organic relation between two initially separate groups [. . .]. (32)

These distinctions are also the weaving together/breaking apart dynamics of inter/transdisciplinary knowledge production. The field thus created by attending to what has not yet appeared, is potentially a sacred and healing, as well as a creative, space. In societies with no word for art, and ways of knowing and meaning-making other than the Western triadic analytical tradition of thesis, antithesis, and synthesis, the artist can also appear as shaman, healer, magician, and priest. These ways of knowing and meaning-making appear in the archetypal structure of myth and story (Estés 14-15).

In our consumerist, postmodern, and what some philosophers and intellectuals might begin to posit as US post-democratic society, a shadow side in the culture is manifested as an impoverishment of the arts (personal conversations with Maxine Greene). This includes a reduction, suppression, or cutting off of this form of fundamental human expression. As Maxine Greene has written of meeting this and other fundamental challenges to freedom, “Education for freedom must clearly focus on the range of human intelligences, the multiple languages and symbol systems available for ordering experience and making sense of the lived world” (*Dialectic* 125).

Improvisation is mistrusted for its insistence on non-logo-centrism and its exotic use of the logics of language. In the US, the omnipresence of violence and cults of celebrity in the mass media deaden imagined possibilities of the arts as universal, daily experiences for the average individual. Shaun McNiff, in *Art Heals*, calls for recognition of what is implicitly, if not explicitly, known, that the arts and arts processes, (including



improvisation, I would add) are, as earlier stated, healing (290-93).

McNiff also identifies that the creative process needs *temenos*, a space apart, safe or sacred space (30). For Stephen Nachmanovitch, *temenos* is the “play space.” “In ancient Greek thought, the *temenos* is a magic circle, a delimited sacred space in which special rules apply and in which extraordinary events are free to occur” (75).

Improvisation—creating without a plan or pre-conceptualized pattern—exists in everyday activities, responses and adaptations to environmental “affordances” (Gibson 127-43), whether safety is precarious or not, e.g., as in hip-hop and krumping (LaChapelle).

Yet the study and practice of movement improvisation and embodied learning benefit from the establishment of a safe space. The “atmosphere,” for Lynne Anne Blom and L. Tarin Chaplin is important so that “[. . .] human trial-and-error is given a positive rather than a negative vote, thus making risk-taking more acceptable” (55). This provides a rationale for the importance of preparation of the conditions for improvising well when working with improvisation, which is to say, with the creative process.

If improvisation involves a transdisciplinary effect, a process-focused, “breaking-apart” dynamic, it is safe space that constitutes the background conditions for improvising, i.e., creating well. The preparation of this creative and safe space involves weaving with elements from various domains: arts, dance, movement, creativity, group dynamics, and psychology. These areas might include whatever interests and background experiences the artist-preparer-educator-researcher brings as skills to bear on the inquiry.

Transdisciplinarity provides the quality standards required to balance and ground paradoxical tensions and possibilities integral to new knowledge structures. For Alfonso Montuori, “The concept of improvisation is crucial to the existential reality of complexity. [. . .] Improvisation involves a constant dialogic between order-disorder,

tradition and innovation, security and risk” (13-14). Creativity might be measured on a scale including, for example, “inspiration” and “*duende*,” a state of possession brought on the dancer by the dance, the dancer, and the surrounding community, e.g., in Flamenco, among the Roma or *Gitanos* of Spain. Two different dancers are described in the following passage, a child “who improvises a raised stage on the back of a truck to dance, and her grandmother, who follows her” (Yoors and López, front jacket cover):

The skinny little five-year-old flung back her head and froze in the pose of a seasoned professional. [. . .] The girl who danced first was technically superior, but this little thing had the *duende* or *angel*; she had “soul.” I thought she was one to watch grow over the next ten years.

[. . .] Her face was as passive as her general appearance; but to please her husband she had come forward. The handclapping grew thunderous. Then suddenly she snapped her fingers in *pitos* and it sounded like the angry cracks of a whip. Her arms and hands moved with the sinuous beauty of a swan and the swiftness of a hawk. The contained tension grew. [. . .] The driving rhythmic accompaniment of handclapping, *palmadas*, the tapping of knuckles on the side of the truck, the stamping of feet and finger-snapping grew more intense still. Then she burst loose in an explosion of energy, into a climax of rage. (130-31)

The etymology of inspiration evokes multiple meanings: spirit, muse, and breath, as well as to awaken, fill, and stimulate. The imagination is “the ability to create new things or ideas or to combine old ones in new forms” (World Book). This critical concept intersects with improvisation. “Indeed, the imagination sharpens all of our senses. The imagining attention prepares our attention for instantaneousness” (Bachelard 87). Imagination is, in other words, a key element of, and preparation for, improvisational release or realization of instantaneous form. The imagination mediates the dynamics of transdisciplinarity as both context and conscience.

Expertise in the art form(s) involved is sometimes assumed a prerequisite for successful participation in improvisation. For example, in some art forms like jazz, the public might expect to witness, and take pleasure in, the unfolding of artistic genius. In

this artistic context, even “failures” are of interest by providing insight into the artist creating them (Gioia 66-67). Expertise in the techniques of the art form alone does not, however, necessarily guarantee expertise in the practice of improvisation. Ballet training is situated at one end of this continuum, emphasizing the expert repetition and “perfection” of a specified movement idiom. Ballet dancers are, however, generally untrained in improvisation as either a creative, choreographic material-generating or performance methodology. It can be noted that there is an absence of any reference to improvisation in two comprehensive classical ballet technical manuals emphasizing the interconnected (via George Balanchine) American and Russian schools (Stuart; Vaganova).

Classical ballet connects with Kathakali, a dance drama of Indian classical dance, where the best performers might improvise, but do so without specialized training in improvisation (Schechner, Between 222). Similar is Japanese Noh: “The most respected performers are allowed more improvisation, more tampering with the rules, than younger actors” (242). These three classical forms converge in their restricted relationship to improvisation, learned as part of observation over a performer’s career, but not through formal study.

In 1957 John Cage wrote that “purposeless play” is the purpose of artistic activity. “This play, however, is an affirmation of life—not an attempt to bring order out of chaos nor to suggest improvements in creation, but simply to wake up to the very life we’re living, which is so excellent once one gets one’s mind and one’s desires out of its way and lets it act of its own accord” (Tomkins 73). This description encompasses both the preparation for improvisation (awakening) and engagement with improvisational dynamics (acting and allowing to “act of its own accord”). The concept of “purposeless

play” supports a definition of non-logo-centrism as non-ego-centric creativity.

Cage used silence as a compositional element and not as just a gap in continuity. Silence, thus used in the context of twentieth-century Western arts and music, was also an act of transgression. His teaching and work contributed to twentieth-century composers’ theoretical understanding of consonance/dissonance and noise/sound (Tomkins 87) and “had a profound influence on all the arts” (Kirby 32). His use of chance procedures such as the divination process of the *I Ching* is “a means of leaping into an entirely new situation beyond his control” (Tomkins 111, 120). These compositional approaches demonstrated his advocacy for experimental methods and reaching beyond Western traditions, in order to broaden Western and US academic and artistic aesthetic contexts to include intercultural influences. This situates Cage within the transdisciplinary, experimental, and revolutionary lineage of twentieth-century movements in the arts and aesthetics, such as Dadaism, Surrealism, Futurism, and “*Bruitisme* (or ‘Noise Music’)” (Kirby 36; Brotchie).

John Cage identifies “grace” as “the play with and against the clarity of the rhythmic structure.” This suggests structured improvisation, i.e., innovative playing with, and off, thematic material. According to Cage, this interplay and oppositional tension between play and clarity mediated via technical accomplishment and acuity appears in multiple intercultural forms: jazz, “Hindu music and dancing,” and ballet (109). This definition of grace suggests the expression of a virtuosic performer’s interactive musicality. Musicality includes adjustments, what might be conceived of as highly structured mini-improvisations, informed by the musician’s background, education, training, inclination, and the work being performed. The play is the dynamic of transcending guidance provided by current boundaries found in disciplinary work.

This ability to operate well in a field of grace can be described as involving qualitatively thick, rather than thin, experiences of improvisation. Clifford Geertz, borrowing Gilbert Ryle's notion of "thick description," presents the ethnographer as picking his or her way through "piled-up structures of inference and implication" to construct a representation of experience (6-7). This converges with the improviser's interplay (grace) with the extant form composed from, and embedded within, scored music. This grace is achieved extemporaneously, but it is informed by preparation. It is a transient and fleeting, yet, paradoxically, an intensely participatory experience that appears through a performing artist's being "inclined and able" to improvise, as in the dictionary definition of "extemporaneous," i.e., "to make speeches without preparation" (World Book).

Postmodern choreographer and dancer Trisha Brown deepened improvisational movement exploration, begun while she was teaching at Reed College, through study with movement experimentalist and community movement ritual builder Anna Halprin in 1959. Brown defines "structured improvisation" as that which "locates you in time and place with content" (45). Responsiveness is a principle of contact improvisation, a form of "structured improvisation," using Brown's definition. It is "structured" because it is grounded in "the physical dialogue of two dancers, the action which results from the sensations of touch and weight" (Novack 11). Structure, boundaries, and definition of movement emerge from the limitations of the form's ground rules, i.e., "touching and sharing weight with a partner of either sex and any size as a way of constructing a new experience of the self interacting with another person" (11). In transdisciplinary work, the "new experience of the self interacting with another person" becomes the experience of creating conceptual interaction between and among knowledge structures.

Improvisation is generally perceived as freedom without structure, constraints, or preparation. However, this discussion of structured improvisation points out that free is a categorical term and not a defining property of improvisation since, as the *I Ching* counsels, “Life on Earth is conditioned and unfree.” For example, the influence of spatial and atmospheric conditions that lead to improvising well are irreducibly part of the phenomenology of improvisation. This is what Jung analyzes as:

[. . .] synchronicity, a concept that formulates a point of view diametrically opposed to that of causality. Since the latter is a merely statistical truth and not absolute, it is a sort of working hypothesis of how events evolve one out of another, whereas synchronicity takes the coincidence of events in space and time as meaning something more than mere chance, namely, a peculiar interdependence of objective events among themselves as well as with the subjective (psychic) states of the observer or observers. (*I Ching* xxiv)

Qualitative and qualitative-artistic research seek to make explicit the presence and situated participation of the researcher. The observer’s presence becomes part of the due diligence and rich description required by the analytical and interpretive processes. The result is construction of knowledge.

In the history of twentieth-century intercultural transdisciplinary performance, such activities as Assemblages, Environments, and Happenings might appear to be on the less bounded end of performative and free improvisation. After all, they prefigure Jerzy Grotowski and Augusto Boal’s breaking of distancing fourth-wall boundaries in audience-performer relationships (Kaprow, *Assemblage* 188-89; *Assemblages* 269). These forms emerged from a historical continuum including Futurist, Dadaist, and Surrealist transdisciplinary—breaking apart—experiments, Bauhaus art performances such as those of Oskar Schlemmer (Kirby 32-34), Abstract Expressionism, street theater, and socio-political action groups incorporating arts principles such as ACT UP (AIDS

Coalition to Unleash Power) (Kirby 29-42; Schechner, *Future* 9-10). John Cage was an experimental composer and music theorist who used chance (aleatory) methods and procedures that were situated throughout the history and context of twentieth-century Western music. He is cited by Michael Kirby as contributing to the conceptual development of Happenings through his New School teaching (32). “Happenings might be described as *a purposefully composed form of theatre in which diverse alogical elements, including nonmatrixed performing, are organized in a compartmented structure*” (21).

Happenings were so highly scripted that it might seem that there was little room for improvisation. Depending on the definition of improvisation used, the case can be made that improvisational dynamics were present, if not privileged in Happenings. For example, embedded within structured improvisation is the dialectic of “constant transgression and reestablishment of codes in the process of improvising” (Corbett 233). In the structural anthropological view of Lévi-Strauss, this improvisational dynamic involves the bricolage of new codes from entropic zones of syntagmatic structures (149-50). Part of this definition of “improvisation”—“constant transgression and breaking of codes”—situates Happenings within a continuum of improvisation, albeit with tightly controlled elements achieved through rigorous preplanning and organization:

Although entrances and exits may occasionally be closely cued, the performer’s activities are very seldom controlled as precisely as they are in traditional theatre, and he generally has a comparatively high degree of freedom. It is this freedom that has given Happenings the reputation of being improvised. “Improvised” means “composed or performed on the spur of the moment without preparation,” and it should be obvious that this definition would not fit the Happenings as an artistic whole. Its composition and performance are always prepared. The few Happenings that had no rehearsal were intentionally composed of such simple elements that individual performers would have no difficulty in carrying them out, and in many of the works the creators themselves took the major roles.

(Kirby 18)

For Boal's Theatre of the Oppressed, improvisation is a tool to be used in a radical theater responding to untenable social conditions embedded in authoritarianism as a transgressive act (ix-x). This theater is meant to break down socioeconomic divides and raise public consciousness of lives lived submerged by the effects of social injustice. His premise is that "all theater is necessarily political, because all the activities of man are political and theater is one of them" (ix). This heightened awareness is achieved by spontaneous appearances of a form that, in theory, has no spectators and no actors. The time-space continuum in which it manifests itself is non-theatrical, unannounced, and pedestrian, i.e., the narrative stream of ordinary life. In The Theatre of the Oppressed, Boal declares:

[. . .] the bourgeois theater is the finished theater. The bourgeoisie already knows what the world is like, *their* world, and is able to present images of this complete, finished world. The bourgeoisie presents the spectacle. On the other hand, the proletariat and the oppressed classes do not know yet what their world will be like; consequently their theater will be the rehearsal, not the finished spectacle. This is quite true, though it is equally true that the theater can present images of transition. (142)

Boal's "invisible theater" is public performance action of what is, what is not yet known, and what can be (143-47). Heightened social awareness and increased critical discourse are its political and artistic objectives. "The *poetics of the oppressed* is essentially the poetics of liberation: the spectator no longer delegates power to the characters either to think or to act in his place. The spectator frees himself; he thinks and acts for himself! Theater is action!" (155). "Change is imperative" (ix). Improvisation is, thus, liberating action, a transgressive act at the heart of *creatio ex nihilo* and the means for creating a real time space for transdisciplinary work.

Liberation can also be approached from internal, as well as external, sources of



initiation and focus. The foundations of structured improvisation underlie the preparation for breaking the rules. These foundations employ self-reflection and self worth, or as philosopher Greene puts it in Variations on a Blue Guitar, “My point, however, is that self-reflection and critical consideration [after an experience] can be as liberating as they are educative. They, too, have the potentiality of opening multiple worlds” (22).

These forms of reflection include an improvisational dynamic allowing the not-yet-known, the tacit, to become known to the conscious mind (Polanyi). Interweaving and integrating arts practices, such as kinesthetic improvisation and reflection, with individuals’ actual “lived lives” (Greene) can bring awareness to the phenomenology of personal authenticity, also achievable via creative arts therapies. The rationale for direct experience of kinesthetic improvisational arts practices and processes by more individuals than might otherwise have the opportunity to do so is to broaden and expand means for understanding self and society and for self-directed meaning-making. The purpose for analyzing the practice of iterative kinesthetic improvising and reflecting (heuristic inquiry) in creativity is to develop integrative holistic vehicles for individual and social healing and change:

People inexperienced with artistic improvisation sometimes find it “weird” to respond to pictures with sounds and movements; but once they let go and immerse themselves in the process, they experience new dimensions of their expression. They communicate in ways that they did not know before, and they find that these new expressions give satisfaction and arouse emotions in themselves and others. (McNiff, Art Heals 159)

McNiff describes outcomes of a therapeutic process oriented through theory and practice toward interiorizing arts experiences, contents, and processes. Individual, rather than social, healing and transformation is the primary emphasis. The social is, however, present and intertwined in therapeutic inquiry, as well as radical education. “I tell

students not to confuse informality with a lack of seriousness, to respect the process” (hooks 146). bell hooks identifies yet another bias against the non-linearity of improvisation: that improvisation lacks seriousness and is perhaps facile and superficial. She implies that the “informality” of improvisation is misleading. The closing-off of the imagination to nonlinear possibility leads, of course, to a lack of skill development in the expert execution of the perceived “informality.”

These transdisciplinary, boundary-crossing, qualitative-artistic (arts-based) approaches to improvisation are connected by a common theme of subversion of expectations. Subverting expectations, including patterns of the bodymind through transgressive actions, can quickly take place through improvisation. The element of subversion potentially includes both those creating and perceiving artistic creations and creativity. Maxine Greene speaks of the arts as subversive. She uses the dynamics of improvisation and non-linearity to surface, order, and reorder a lifetime of transdisciplinary scholarship in the domains of literature, the arts, aesthetics, and social justice. She improvises her inquiry while teaching teachers about the critical concepts of aesthetics and the foundations of a socially relevant pedagogical practice.

Greene, speaking with Richard Schechner, challenged scholars and teachers at the international Forum on Assessment in Arts Education in New York in August 2003 to consider the reasons for the lack of scholarly discourse about the role of the arts in a socially engaged education. She asked why no one had publicly mentioned or criticized the latest US-initiated war in Iraq. The implication was: by what criteria does the educator assess, for example, his or her own use of the arts in a socially conscious and engaged pedagogy? For Greene, questioning is critical to theory of inquiry and socially relevant aesthetics, requiring “wide-awakeness.” Cutting through imposed, accepted, or

unquestioned silences is subversive praxis in many socio-political and educative contexts, including those of higher education, according to Greene.

Anna Sokolow is a choreographer who, like Greene, is also concerned with giving voice to the voiceless, the average man and woman. Anna Sokolow, seminal choreographic dance theater “author,” is claimed by Mexican (Dallal 141, 163), Israeli, and US modern dance communities (Warren viii). She was of immigrant origins, and identified with the lower socioeconomic intercultural milieu of New York City’s Lower East Side (Warren 1-3; personal conversations with Anna Sokolow). Sokolow provides a lived example through her choreographic oeuvre, pedagogical legacy, and philosophical aesthetic of the critical transgressive aspect of art that reaches beyond the definition of art as unthinking but effective entertainment, seduction, and sensual release and satisfaction for the masses. Hers was a call for an art that required the individual’s full participation, whether as performer or public (personal conversations and rehearsals with Anna Sokolow). Hers is a call for socially transformative action: “An art should be constantly changing; it cannot have fixed rules. [. . .] The modern dance should be non-conformist. [. . .] Our strength lies in our lack of tradition. [. . .] The good teacher does not teach rules; he stimulates. He shows the students what he knows and inspires them — to go and do something else” (Sokolow 29-30).

“Conscious thinking always involves a risk, a ‘venture into the unknown’; and it occurs against a backdrop of funded or sedimented meanings that must themselves be tapped and articulated, so that the mind can continue dealing consciously and solicitously with lived situations, those situations (as Dewey put it) ‘in which we find ourselves’” (Greene, Dialectic 125 citing Dewey, Art 263). Achieving a state of wide-awakeness is a Buddhist principle, what psychiatrist Mark Epstein articulates as “what makes it possible

to live in an uninterrupted flow, absorbed in the moment, in accordance with one's truest [i.e., authentic] self" (11).

Defining subversive as the unexpected, the surprising, and the unprepared for implies an awakening, a quickening, and a heightened awareness, on the part of creator and perceiver, that aligns with the experience of epiphany. Epiphany, that is to say insight, is, of course, the "Aha!" moment described in metacognitive and aesthetic literature. This is the flash of knowing, also described as luck or synchronicity.

On the other hand, it is said that breaking habits is not possible through improvisation (personal conversations with New York classical ballet teacher Alfredo Corvino). At what might seem like another extreme of the aesthetic continuum, when considering the formal clarity and linearity of ballet (except for ballet's foundation for the Anna Sokolow-Pina Bausch aesthetic of a movement theater of brutally honest emotional revelation) is Antonin Artaud's anarchic "poetry for the senses." Artaud challenged verbal and logo-centric assumptions of Western theater by positing a theater of physical language and "spatial poetry" independent of speech (98-99).

If the arts are, by definition, subversive of the quotidian, habitual, and otherwise submerged and taken for granted, it is in improvisation that the dynamic of subversive transgression is found. "Improvisation involves the permanent play of threshold and transgression" (Corbett 224). It is this play between what "is," and its "new utilization," that is considered the *raison d'être* of bricolage. The bricoleur, after all, "uses devious means compared to those of a craftsman" (Lévi-Strauss 16-17). As Nachmanovitch synthesizes, "The *bricoleur* is an artist of limits" (86). What is implied and necessary is that the bricoleur works with limits themselves as compositional elements and resources. The orientation to cast everything into the cauldron of creativity characterizes the

shamanic essence of improvisation and space for *creatio ex nihilo*.

Bricolage, or using materials at hand, is conceived by some scholars as synonymous with improvisation. Bricolage is improvisation and creativity found in the folk or indigenous worlds. Bricolage can be defined as alchemical processing of happenstance and, hence, as magic. The everyday and regularly discarded object and occurrence in postmodern world culture is dross or garbage unless perceived or felt and then transformed to gold (Cedillos and Davis). The words “alchemical” and “shamanic” are used to describe the operational dynamic of bricolage (personal conversations with Jose Cedillos). Materials immediately at hand are used to create “stone soups,” i.e., the means of communal sustenance recounted through stories of survival via community, happenstance, or synchronicity, such as that of making soup from stones during “long ago” times of famine, of times beyond our physical, but not imaginative, reach.

These narratives are passed intergenerationally, via inherited blood, bone, and muscle memory, shame, silencing, illness, family rememberings, retellings, recountings, folklore, obsessive-compulsions, and continuing-to-live-and-experience kinesthetic reenactments. An example of such submerged passings-on is the intergenerational trauma acquired from otherwise unspeakable abuse, communal violence, and genocides, e.g., the Holocaust, re-experienced over multiple surviving generations (Smulowitz). US slavery and the genocides of American Indian peoples are examples of other traumatic legacies with documented intergenerational effects.

Bricolage is, in that case—as in every case—survival. The Great Depression is an example of a time when bricolage and imagination were used as a matter of course for survival in the US. In the context of current US materialism, wealth, and waste, bricolage seems to have disappeared as a widespread practice. The use of bricolage in the US can

be a socio-political statement. In the US, bricolage becomes a means of recognizing that “repairing,” for example, is less arrogant and selfish than “discarding,” since world resources are finite, and provide the root cause, when resources are scarce, for war and genocide (Maathai). Bricolage is then a way to address US culture’s unconscionable lack of embodying democratic “wide-awakeness” and a democratizing “social imagination” (Greene, “Arts,” Notes; Maxine). This bricolage of human caring and connectivity assumes, of course, an intrinsic desire and non-complacent, ever-questioning, and non-self-satisfied practice of creating and continuing to create, acknowledge, and achieve transpersonal spaces through transcultural and transdisciplinary means. Bricolage is a way of life and living. It is a concrete and kinesthetic, rather than abstracted, shielded, and removed response to environmental “affordances” (Gibson), thanks to wealth and privilege.

Improvisation can be seen in the daily activities of the world. There is an unfolding quality of becoming in the phenomena of everyday living (Merleau-Ponty). Rather than limiting genius to a small percentage of the human population, bricolage—or acts of innovation, everyday genius, ingenuity, and creativity—is a way to broaden conceptualization of genius to involve greater numbers of individuals. A benefit of this construct is recognizing creativity to be a widespread human phenomenon that includes greater numbers of high-level practitioners and allows for the rise of the non-logo-centric polymath than when genius is conceived as use of intellect rooted in verbal-linguistic and mathematical-logical competencies alone.

Another challenge embedded in conceptualizing “improvisation” is how to approach the continental Cartesian divide. Some definitions of improvisation posit thinking first followed by action. But no matter how reduced the time lag between

thought and execution in this schemata, the mind and body are not interwoven but remain separated. Rather than conceptualizing improvisation to involve a collapsed temporal gap that perpetuates the Cartesian divide between moment of conceptualization and unfurling of action, Cedillos considers simultaneity and synthesis of complex perception and distributed cognition to be achieved in improvisation (“Designed” 23, 26). Therefore, the divide is rewoven through spontaneity, creativity-in-the-transitional moment, and attended to by participating in this unfolding process of knowing and unknowing.

A distinction arises in the literature between bricolage and improvisation. For Cedillos, bricolage fuses perception and cognition, assuming an inherent simultaneity of “seeing and doing.” Cedillos posits, “The theory of composition in the Bricolage creativity model is conceptually and operationally organized around free improvisation, the highest form of spontaneity” (“Designed” 23). Bricolage and all creative processes, however, are more or less structured or free depending on how they are applied.

The organizational management literature largely emphasizes innovation as the goal and outcome of improvisation, i.e., developing new products, services, and solutions to problems based on the features of previously successful products and services. There is also an emphasis on reduction of the time gap between idea, i.e., impulse to act, and execution of action. This urgency results from, and is a response to, a volatile environment. Mistakes arising from educated guesses or from a process of elimination can be tolerated in this context. But unless an organization has an experimental culture, mistakes will be seen as costly. This contrasts with the stance that mistakes are inevitable, necessary, and integral to the creative process that characterizes improvisation. This approach describes Gioia’s “aesthetics of imperfection” (66).

Organizations look to improvisational theater and jazz music for creative solutions

via models of ensemble-playing and problem-solving. Using the materials and limitations at hand imaginatively describes constructivist situatedness as a form of knowledge construction in the work of improvisational performing arts ensembles. An example of constructivist situatedness as a way of knowing is Tiffany von Emmel's explorations of somatic social improvisation, which she defines as "responding in the lived experience of the moment" (14). She proposes deepening organizational improvisation by "practicing the improvised action of knowing" (15). Further differentiation of the phenomenon of improvisation includes characteristics such as trust and a common philosophy, arising from a shared disciplinary language, common to participants. Descriptive (what it is) and prescriptive (how to do it well) aspects, or "spontaneity and creativity," define improvisation. However, "expertise and teamwork skills" are prescriptive, but not definitive, aspects of improvisation (Crossan, Pina e Cunha, Vera, and Vieira da Cunha 8).

Analogical thinking, connecting logo and non-logo-centric experiencing, is demonstrated through use of metaphor (M. Johnson; Lakoff and Johnson). Metaphor is the bringing together, connecting, juxtaposing, and comparison of two disparate, seemingly unrelated ideas or images. This making of connections defines and demonstrates analogical thinking. The result is creating, evoking, and releasing a new gestalt or whole that comes from "nothing," since the elements used are unrelated. This "creating from nothing" is also present in improvisation. Improvisation is thus a form of analogical thinking. In order to improvise, the individual must use an analogical mode of processing information that leads to the evocation or creation of previously unseen—that is to say, unrealized—and not previously conceived or perceived metaphors.

Metaphors take the forms of the analogical thinker's field or domain. The scientist



thinking analogically demonstrates his or her thinking process through scientific discovery. The scientific method is, however, only a partial explanation of the complexity of scientific thinking (Kuhn, introd.). Qualitative-artistic inquiry often progresses from a whole to parts, rather than parts to whole. Non-logo and logo-centric processes are part of both logo and non-logo-centric allegorical and analogical “paradigms.” In Western tradition these have been separated for the past two thousand years, resulting in the Cartesian mind-body separation (Stafford).

The individual witnessing analogical thought in oneself or another must feel and perceive its presence through kinesthetic means in order to recognize its existence. A measure of oral language fluency and comprehension is the perception of humor in spoken jokes. A measure of analogical thinking might be the feeling-perceiving of the presence of metaphor, whether kinesthetic, as in the domains of experiential education, movement, and dance or verbal-linguistic, as in the domains of language and poetry.

The allegorical tends toward the literal where symbol has equivalence. Symbol (word, image, or physical representation) represents concept. The analogical tends toward the poetic (metaphoric), where symbol is concept. An example from dance conservatory methodology is that “lightness” in dance as an energy (force-weight) does not illustrate “bird.” It is bird. Otherwise, bird state of being has not been entered; it has only been indicated.

Analogical thinking makes connections between dissimilar things. Barbara Maria Stafford, in Visual Analogy, examines the history of visual analogy as a form of thinking going back to Greek thinkers such as Aristotle and Plato. She describes how visual analogy split toward a narrative form from allegory as a way of knowing. Historical movements, including Neoplatonism, Gnosticism, and Romanticism, succeeded in

separating the analogical from the allegorical, which might have been a unified and holistic form of perceiving-thinking at other points of human evolution and culture. Lévi-Strauss's location of decentralized bricolage as midway between and linking indigenous mytho-poetical (analogical) and Western scientific (allegorical) thinking provides another perspective on these different functions of human cognition (Cedillos, "Funny").

This separation persists in the postmodernist emphasis on allegory's cool (emotionally detached and unavailable) difference over analogy's warm (emotionally present and available) connectivity. Visual metaphors of the functioning and biological basis of embodied human consciousness are available in the form of visual art works (Stafford). Transdisciplinary arts and science investigations into the embodied nature of cognition and consciousness might be enhanced by analyses of embodied time-space-energy realizations of decentralized cognition by kinesthetic artists working in non-text-based creative arts fields (Stafford 139). It follows that artists working with and from within embodied forms and symbol systems have particularly innovative contributions to make to transdisciplinary knowledge construction, including breadth and depth of human and nonhuman, i.e., animal and hominid, ways of knowing (Sheets-Johnstone).

Locating thinking within the body is a departure from the Western philosophical tradition of Cartesian polarization of perception and cognition, and body and mind. Heightening awareness of the experience of embodiment provides the basis for transdisciplinary knowledge construction theories in the arts and sciences. Scholars working in this way come from fields and domains including artificial intelligence, cognitive science, creative arts therapies, linguistics, neurology, philosophy, psychology, qualitative research, and sustainability studies (Capra; M. Johnson; Lakoff and Johnson;

Maturana and Varela; Sheets-Johnstone; Stafford; Varela, Thompson, and Rosch).

Scientists, philosophers, and theorists in aesthetics, cognitive science, evolutionary biology, human development, neurology, and psychology are working to develop and demonstrate theories supporting the evolutionary biological basis for thinking (Dissanayake; Sheets-Johnstone). Sensorial perception precedes conception or formulation of an idea of, or about, an object (Merleau-Ponty; Stafford). Higher-order cognitive processes cannot be separated from the flesh, blood, and bones of the individual experiencing them. The complex orchestration of physiological and sensory processes that converge as singularly perceived experiences by the individual is inseparable from cognition.

The Santiago Theory posits, for example, that cognitive processes are the processes of life itself (Capra 34-38). Within this framework, movement, an omnipresent condition of life, is proposed as consciousness and cognition. Embodied knowledge, reliant on the medium of movement for its expressions, is an analogical framework for reconnecting the individual to his or her holistic experience of life and living. Its research and teaching is transdisciplinary.

Improvisation is an experiential and kinesthetic way of knowing. Ways of knowing are epistemological stances and means of knowledge construction, meaning-making, and understanding that expand beyond traditionally conceived fields and knowledge domains inherited from the academic institutionalization of knowledge construction (Reese; Weingart and Stehr). They include, for example, indigenous (Lévi-Strauss) and women's (Belenky, Clinchy, Goldberger, and Tarule) forms of knowledge construction, as well as the arts (Allen; McNiff, Trust), movement and dance (DeGarmo, "Curricula"; De Spain; Fraleigh and Hanstein; Greene, Notes; Hervey; Johnson, "Sitting," Bone), and

engagement with silence (Kalamaras; New York Yearly).

Ways of knowing expand definitions of cognition to include socially situated, distributed (Fisher and Fisher), and embodied, (i.e., kinesthetic) thinking and meaning-making. Improvisation involves dealing both with complexity (differentiation), and simplicity or integration. It involves both a reining in and letting go of effort. Kinesthetic thinking requires concomitant being in the moment, attending to one's actions with wide-awakeness, and suspending disbelief—or engagement of one's internalized critical voice—while engaging in action.

#### 4. Reflection and Reflective Practice and Methods

A divide appeared in the literature on reflection and reflective practice and methods. This split runs parallel to the logo and non-logo-centric divide appearing in discussions of consciousness, intelligence, education, the arts, analogical and allegorical thinking, and improvisation.

An example of logo-centrism appears in Dewey's work How We Think. In Dewey's philosophy, reflection is thinking. In other words, reflection is logical and stepwise, but not mechanistic. It is internalized independent processing, involving observation, analysis, and categorization, which is to say, defining and dividing data. From a logo-centric perspective “[. . .] the word *logical* is synonymous with wide-awake, thorough, and careful reflection — thought in its best sense [. . .]. Reflection is turning a topic over in various aspects and in various lights so that nothing significant about it shall be overlooked [. . .]” (57).

It follows that other synonyms for logical are: rigorous, thorough, considered, with due diligence, calculating, reflective, and thoughtful. Dewey continues: “No argument is needed to point out that the educator is concerned with the logical in its practical and vital

sense. Argument is perhaps needed to show that the *intellectual* (as distinct from the *moral*) end of education is entirely and only the logical in this sense; namely, the formation of careful, alert, and thorough habits of thinking” (57-58). Dewey delineates dual movement in reflective thinking involving inductive and deductive processing of experiential data. “The inductive movement is toward *discovery* of a binding principle; the deductive toward its *testing* [. . .]” (82). This iterative inductive-deductive processing includes the basic principle of the positivist-objectivist scientific method, which is to formulate, then test, hypotheses without interference from the presence of an inquirer.

Hence we arrive at the logo-centric rationale for education itself: “The outcome, the *abstract* to which education is to proceed, is an interest in intellectual matters for their own sake, a delight in thinking for the sake of thinking” (141). However, this “interest” and “delight” seem an idealization of reflective processing that does not account for the messiness of lived lives involving multiple, often conflicting and competing, perspectives embedded in and revealing complex contents, contexts, and processes. “Interest” and “delight” seem like a veneer on the volcano of qualitative-naturalistic experience, including, for example, the failure of the US educational system to retain educators and to graduate students from high school who are prepared to think, reflect, and act in multiple complex contexts (Greene and Winters; “Teacher”).

Dewey’s idealization tends toward a logo-centric tidiness. He does not account for meeting the socio-educative needs for all individuals. The perspectives of complex multi, pluri, and transcultural societies are absent from his discussion. Rapid change and increasing challenges to developing lifelong critical learners are issues educators routinely confront. The twenty-first-century challenge and context is an increasingly complex, global, and uncertain world. As contrasted with Dewey’s vantage point,

embodied intercultural transdisciplinary performance offers contextualization for the crystallization of perspectives and complexity increasingly emergent from the world's marginalized to the US mainstream. This construct informs conceptualization of thinking, reflection, and education through performativity (Barba; Birringer; DeGarmo "Curricula," "Innovations," Partnerships; Delgado and Muñoz; Fusco; Goodman and de Gay; Huxley and Witts; Johnstone; Silvestro; Taylor and Villegas; Uno and Burns).

A non-logo-centric approach to reflection includes the body prominently, first and foremost, and not as an afterthought. For Csikszentmihalyi, reflection joined with relaxation and alternated with kinesthetic tasks requiring some attention, "but not all of it," is a means of replenishing one's source of creativity (Creativity 354). Reflection, in other words, is not synonymous with "doing nothing." Rather, it is part of a cyclic letting go of one's intensity of focus and concentration on particular tasks, including engagement in other kinds of physical activities. Julia Cameron refers to these repetitive, rote physical activities such as driving a car, walking, or swimming, cited by Csikszentmihalyi, as "artist-brain" activities that "prime the well" leading to artistic imaginative uncovering and recovery (Cameron 22). For Cameron, healing involving combined logo and non-logo processes is critical for artists creating in a society such as the US, that is not arts-oriented. Reflective practice aims for an embodied healing that returns to the world via creative productivity. This is a principle of embodied creativity applicable to all education and learning.

This perspective of reflection as embodied healing and nurturing, practiced in order to serve the community through iterative creative praxis emerging from the domain of creativity and creative process studies, is found in Western, e.g., Religious Society of Friends or Quaker (New York Yearly) and non-Western, e.g., Buddhist, Confucian, and

Taoist views of reflection as meditative practice. Silent meditation involves sitting silently for one or more hours without externalization of movement, thought, or action. This involves the Taoist principle of action through non-action. Many Westerners find silent, still meditation difficult to imagine or sustain because of the US and Western orientation to doing rather than being.

As previously stated, everyday kinesthetic activities can be approached in such a way through the body—that they calm the brain’s ordinary continuous flow of spontaneous verbalizations and images. One result of this calming, depending on the individual’s philosophical and perhaps cultural orientation, is both a dynamic of “emptying” oneself and allowing subconscious body-based contents and processes to surface to consciousness. The Jungian Mary Whitehouse, the West Coast founder of movement and dance therapy, posits the body as the subconscious. These everyday reflective methods of mediating and modulating states of consciousness can be situated on a continuum involving action and non-action. Reflective methods focusing on the body’s responsiveness, whether through action or non-action, provide in these creative, spiritual, and Jungian theoretical constructions a means for releasing insights gleaned from embodied experiential knowing, understanding, and meaning-making.

Reflection can involve a collapsed temporal gap. Paxton’s keynote address at the Improvisation: Dance as Art-Sport conference, the American Dance Guild Annual Meeting in Minneapolis on 16 June 1980:

[. . .] comprised a series of musings on the nature of improvisation [. . .]. He spoke about performance as behavior, a chance “to observe oneself” reacting spontaneously, as opposed to performance as preplanned presentation. He contemplated the “wall” of one’s own movement habits encountered when supposedly “dancing freely,” and he discussed the idea of “ki” (in Eastern philosophy, the energy source from the earth manifested in the body) in doing improvisation. (Novack 99-100)

Paxton's musings describe "reflection-in-action" practiced by professionals with deep knowledge, understanding, and experience of their fields and the actual materials and processes required in hands-on practice through deep and prolonged experience (Argyris and Schön 157; Schön, ch. 2). This description of performative improvisation provides an example of integrative movement connecting knowledge construction contents and processes, and interweaving logo and non-logo-centrism.

For educational philosopher Maxine Greene, reflection is critical questioning. To pose questions is to begin authentic learning that is meaningful to the learner her/himself (Variations 62). But what comes first is experience:

We all realize by now that, where the arts are concerned, we must begin with experience, not with concepts. We must begin with blocks of "reality" first perceived globally, gradually revealing patterns, structures, details. I cannot stress often enough the importance of taking time and allowing for moments of stillness, of personal encounter, of coming to know." (60)

One critical purpose of reflection is bringing, revealing, or allowing the meaning of experience to arrive to consciousness for oneself. Learning and meaning-making are achieved through active construction that includes the body of the "construction-worker" in constructivist theory. Consciousness situated within the body, including readiness and active participation, are needed in order to release an imaginative and experiential, qualitative, artistic learning process. Use of reflective methods such as multi-media activities, through verbal and nonverbal, logo and non-logo-centric, kinesthetic, written, visual, auditory, and oral forms of processing and symbolic representation can complement and extend a kinesthetic experience.

Examples connecting use of reflective methods to individualized combinations of intelligences and learning styles are drawn from educational practice. Educational



practitioners have noticed that visually oriented learners first need to structure and construct the meaning of an experience visually in order to grasp its significance. This visual framework can lead to breakthroughs for learners challenged by language learning to “understanding the reading and writing process” (Blecher and Jaffee 93-94). It follows, then, that kinesthetic learners with dominant kinesthetic learning styles might process information most effectively, including reading and writing, through pedagogies combining kinesthetic frameworks and reflective methods.

Reflective methods involve imaging, recalling, and re-experiencing, as well as deconstructing and reconstructing embodied experiences in order to make meaning, and, hence, achieve understanding. Janet Metcalfe and Arthur P. Shimamura say: “[. . .] self reflection and personal knowledge form the basis of human consciousness. [. . .] The term *metacognition* has been used to describe our knowledge about how we perceive, remember, think, and act — that is, what we know about what we know” (xi). Nonlinear and kinesthetic learners might learn, know, and come to understand what they know with greatest facility when provided opportunities to reflect on their embodied knowing through experiential education and the arts.

This study is an attempt to broaden conceptualization of learning, reflection, and reflective practice and methods beyond the cogni-centric and the critical, to include the embodied and the improvised in response to complexity. Kinesthetic thinking uses and is the result of using movement as the medium through which symbolic content is expressed via embodied kinesthetic means. Symbolic content can be placed on a continuum ranging from the quotidian and pedestrian to the extra-ordinary and refined. Abstraction, defined both as selection of elements and non-representation of actual objects or narratives, can occur anywhere along this continuum. An example of working

along this categorical continuum is when a kinesthetic improviser-learner, in a performative-improvisational context, abstracts (selects) movement that is sometimes pedestrian, and, at other times, not related to quotidian gesture or action. Attention to detail, ordering, and care are common to thinking and reflecting whether logo-centric (ego-centric and linear) or non-logo-centric (non-ego-centric and nonlinear). The ground of the human experience is the body and kinesthetic thinking. The experience of simultaneously perceiving, reflecting, thinking, and acting in and through embodied improvisation, reveals what Maxine Sheets-Johnstone identifies in The Roots of Thinking, as the basis of the evolution of human cognition and evolutionary adaptability: non-logo-centric kinesthetic thinking and embodied knowing.

## **Chapter Three**

### **Methods of Inquiry**

This chapter describes and contextualizes the methods of inquiry used in this research study. The research design included an exploratory pilot and, one year later, the study. The rationale for this dyadic approach was to broaden and deepen inquiry in order to construct a theory grounded in rich data on improvisation. The discussion in this chapter includes the research project's research questions and definitions of terms, theoretical framework, purpose and focus, research procedures, participants, data collection and analysis, the findings and their limitations, and research ethics.

#### **1. Research Questions and Definitions of Terms**

For the purposes of this study, the research questions were: What are the characteristics of reflective responses particular to improvisation-based embodied-learning experiences? Are these responses teachable? What would constitute their pedagogy?

The major elements of the research questions are the terms: "what," "reflective responses," "embodied," "improvisation-based," and "learning experiences." The following are definitions of these terms contained within the research questions. These are defined in order to emphasize the meaning of the research questions as focus for the inquiry, analysis, and presentation of this study.

"What" is a term that signifies openness and pragmatism in response to an emergent design within a qualitative-naturalistic inquiry, as articulated by Yvonna S. Lincoln and Egon G. Guba (225), and cited by Michael Quinn Patton (44). This kind of responsiveness to context, also characterized by Patton as "a high tolerance for ambiguity and uncertainty as well as trust in the ultimate value of what inductive analysis will

yield” (44), are the same characteristics McNiff identifies as required of artists researching, creating, and reflecting on creative work (Art-Based 38, 88-89).

“Reflective responses” appears in the literature as reflection, reflectiveness, self-reflection, reflexivity, and critical reflection. Reflection comes from Latin etymology “to bend back.” Reflection, as articulated by Max van Manen, refers to phenomenological “retrospection” on, or “recollection” of, “lived experience” that is not “introspection,” because it takes place after an experience has been “lived through” (Manen 9-10; Patton 104).

“Reflective responses” in this study include different forms of raw data generated by participants through metacognitive activity after the improvisational-based experiential learning activities. These responses, created by the students, teachers, and me, included: journal writing and visual arts, audio-taped semi-structured interviews with my own verbatim transcriptions, and videotaped pre-intervention and post-intervention nonverbal-kinesthetic assessments and written questionnaires.

“Embodied” is defined as body-based, decentralized throughout the body, and emerging from the body. Embodiment is analogous to thought centered or contained within the brain. There are a variety of terms that appear in the literature to describe the concept of body-based. These include: “bodily-kinesthetic intelligence” (Gardner, ch. 9); “‘bodymind,’ or unity of our overall experiences” (Saltonstall 11); “direct sense of embeddedness in the body and the sensible environment” (Johnson, “Body Practices” 107); “‘body’ [. . .] a generic term for the embodied origins of imaginative structures of understanding” (M. Johnson xv); “*embodied* [. . .] reflection in which body and mind have been brought together” (Varela, Thompson, and Rosch 27); “kinesthetic consciousness” (Todd 31); “motor memory [. . .] (Some people call it nervous system—

others call it consciousness.)” (attributed to Martha Graham by Lloyd 41); “tactile-kinesthetic” and “corporeal” (Sheets-Johnstone 5, 12). Other terms include physical, nonverbal, and non-logo-centric.

“Improvisation-based” is that which involves practice and methods of improvisation. Improvisation is defined as the engagement of a multidimensional, multilevel, complex behavioral structure with flexible functioning. Improvisation refers to exploration of spontaneous physical impulses, making up as one goes along, “creating out of nothing,” collapsing the temporal gap between embodied impulse and taking action, and learner-directed spontaneous exploration and discovery. The entire learning experience studied did not completely involve improvisation, as there was a need for an armature in order to develop the capacity to improvise, which was student preparation.

“Learning experiences” comprise processes of change and growth. Experience means activities, participation, and engaged doing. Learning experiences are defined as a cycle of activities, participation, and doing, followed by developed reflection or metacognition. Metacognition is synonymous with thinking about one’s thinking. This activity leads to heightened embodied knowledge and consciousness. This activity involves observation of one’s own, or of another individual’s changes, learning, and developmental growth.

## 2. Theoretical Framework

This study included a rigorous, emergent design within a mixed theoretical framework. The design was mixed, by definition, because multiple theoretical orientations and data types were unified into a cohesive framework. This study drew upon, and integrated, naturalistic, transdisciplinary, constructivist, and qualitative-artistic research epistemologies and methods. The mixed design included a multi-method

approach to different data types. There were multimodal verbal and nonverbal, logo and non-logo-centric data, derived from a study of improvisation. During the data collection and analysis phases, constructivist grounded theory was used as the theoretical framework to develop thematic lines of inquiry. Constructivist grounded theory was chosen for these phases of the study in order to emphasize rigorous definition, and creative flexibility in response to the complexity of the data.

The rationale for the choice of a mixed theoretical framework lies in the complexity of the subtle, fleeting, and transient qualitative data under study. Qualitative research emphasizes the “complex” and “holistic” (Creswell 15). This definition situates the research focus of this study within a qualitative-naturalistic context of lived lives and an ongoing flow of experiences. A naturalistic context was utilized to implement an improvisation-derived pedagogical experience in an “exemplary” New York City public elementary school. This school context was selected because while an “exemplary” school, it did not provide breadth and depth of opportunities for learning and teaching through a sequential arts curriculum. This context made the instructional implementation distinct. The naturalistic context and the multimodal data collected included properties and characteristics that are complex and holistic. The dimensions of these characteristics involve mind, body, emotions, interaction with the environment and other individuals; and multiple-learning domains, including embodied improvisation-based learning experiences and reflective methods. The construct of experiential education and the arts synthesizes this description.

The theoretical frameworks that initially emerged through preliminary critical review, evaluation, and synthesis of the literature associated with this study were phenomenology, ethnography, and qualitative-artistic research. Following is an overview

of these qualitative methodologies. This overview contextualizes the use of constructivist grounded theory for data collection and analysis, a transdisciplinary interpretation of the data, and an overarching transdisciplinary, qualitative-artistic approach. It also illustrates the evolution of my methodological thinking, as a result of preliminary and transdisciplinary “crystallization,” rather than “triangulation,” of methods and theoretical frameworks (after Laurel Richardson as cited by Valerie J. Janesick 66-68).

Phenomenology involves discernment of essences of shared experiences. A phenomenological perspective generates questions such as: “What is the nature or essence of the experience of learning (so that I can now better understand what this particular learning experience is like for these children)?” (Manen 10; Patton 106).

Ethnography’s emphasis on the study of culture that emerges from any group of people together for a period of time, participant observation, in-depth interviews, and extended field work intersect with the theoretical frameworks and methods of phenomenology and qualitative-artistic research (Patton 81-84).

Qualitative-artistic research, through arts-based practice and methods, makes visible subtle, fleeting, and transient qualitative phenomena. My arts background, including long-term, in-depth, rigorous, and disciplined training in practice and methods of nonverbal-kinesthetic improvisational creation and participant observation, makes this theoretical framework part of my lived experience and embodied knowledge. I have high tolerance for ambiguity, and desire discovery, deep inquiry, creative process, and authenticity. These descriptors are the hallmarks of the qualitative-artistic researcher (McNiff, Art-Based 140). A growing body of researchers conduct, supervise, and publish rigorous and disciplined inquiry and research within the qualitative-artistic research framework (Cedillos, “Mayan”; Cedillos and Davis; De Spain; Eisner, Arts, Enlightened;

Fraleigh and Hanstein; Greene, “Constructivist”; Hervey; Janesick; Johnson, “Sitting”; McNiff, Art-Based, Trust; Stinson; von Emmel).

I have felt myself propelled toward increasingly challenging learning experiences from an early age. What has often produced deepest satisfaction for me within the experiential learning process has been not merely having an experience, but developing subsequent, heightened awareness and understanding of it through reflective methods. When I was fifteen, I had an epiphany after experiencing my first professional modern dance performance. My primary art form would not be poetry or playwriting, as previously believed, since I had been imagining thought as words only, but choreography, i.e., conceptualization in space.

One result of spontaneously knowing myself to be an embodying creative artist within the domain of movement and field of dance, while not yet even a novice, was that improvisation (creating without a plan or pattern) became for me an omnipresent, accessible, and embodied method and practice of knowing. Subsequent rigorous professional training and education in practice and methods of dance, including improvisation, deepened my belief, along with core competencies rooted in experience, that improvisation is a generative, irreducible principle of the performing arts.

Parallel to my development and education as a technically trained, professional dancer, choreographer, as well as founder, executive and artistic director of a not-for-profit dance company in New York City, was my development as a teaching artist. This integration of arts education theory through praxis led to a body of experience, including core competencies in practices and methods of inquiry and activity-based aesthetic education. These teaching experiences allowed me to explore improvisation with reflective methods connected as a form of embodied learning, with a continuum of



specialist and non-specialist (arts) learners. This formed the preliminary foundation for this study.

### 3. Purpose and Focus

The purpose of the study was to construct a theory of accessing embodied knowing through use of movement improvisation and reflection, as an approach to experiential learning. The study was based on one classroom of fourth graders in one K-5 public school of twelve hundred students in New York City. While many of the mostly nine- and-ten-year-old students in the study were born in the US, none of their parents were. The low-to-moderate income neighborhood of recent immigrants surrounding the school is located in the most multicultural county in the US. Three quarters of the school's students qualified for free lunch, an indicator that their families live below the poverty line.

The research focus was the relationship between movement improvisation and embodied learning. I chose this topic because of my work as a teaching artist of aesthetic education and dance for over twenty years, and as a professional choreographer and dance artist for over thirty years. During this time I have witnessed individuals of all ages in a variety of cultural contexts—both in the US and internationally—experience life-enhancing transformations resulting from experiential learning through the arts. The need for a theoretical framework was evident to me.

### 4. Research Procedures

The research procedures included:

1. Develop, test, conduct, and videotape a pre-intervention nonverbal-kinesthetic assessment for students.
2. Develop, test, and administer a pre-intervention questionnaire for students and

teachers.

3. Develop, test, and conduct an experiential transdisciplinary pedagogy, including embodied improvisation and reflection. Implementation of each lesson to include: introduction of the lesson's content, movement warm-up, improvisation-based creativity, and preliminary reflection and cool-down. Follow with reflective writing, including visual arts entries.
4. Conduct and audio-tape semi-structured interviews.
5. Administer a post-intervention questionnaire, identical to the pre-intervention questionnaire.
6. Conduct and videotape a post-intervention nonverbal-kinesthetic assessment (see appendix A, pp. 161-65 for journal, questionnaire, and interview questions).

The beginning of each ninety-minute lesson included a brief review of the previous lesson, such as asking the students to consider what they remembered. Sometimes these memories were shared verbally by volunteers and written using a graphic organizer or mind map on a chalk board or flip chart. The second half of the ninety-minute lesson involved dance journal writing.” For the first six lessons, a room was provided for the research that—although “too small by one student”—was the best option available in the overcrowded building. During these lessons, the review was followed by a choreographed dance warm-up, including a progression from seated floor exercises to standing exercises. I selected popular, classical, traditional and world cultural music to accompany the exercises. I also used counting, clapping, and singing as accompaniment to encourage enthusiasm, musical responsiveness, rhythmic accuracy, and to model musical improvisation. The warm-up included pedagogical elements selected from the

lineage of the modern dance techniques developed by José Limón and Doris Humphrey.

The pedagogical rationale for using elements from these techniques was to create an armature for subsequent movement improvisation. I selected elements from these techniques and adapted them to provide an age-appropriate level of challenge. These methods were part of the Juilliard School's dance conservatory curriculum. I studied these methods at Juilliard with Daniel Lewis, used them in performance with the Bill Cratty Dance Theatre, taught them at the Limón Institute in New York, and continue to use them as part of the technical base for my professional dance-technique teaching and choreographic creation (Lewis; Stodelle; Window).

The pedagogical rationales for the use of non-improvisation-based as well as improvisation-based dance and movement methods were:

- 1) Introduce students to principles of movement and movement qualities in dance (i.e., time, shape, space, energy-force-weight, and motion) to use as a foundation for subsequent independent movement exploration (improvisation);
- 2) Teach a shared movement vocabulary that could be referenced, compared, and contrasted to learner-directed spontaneous composition (improvisation);
- 3) Facilitate a learning process, with practice and methods, that could be compared and contrasted with the improvisation-based learning;
- 4) Create sequential learning experiences in alignment with Lev Vygotsky's theory of "zone of proximal development," in which students are supportively challenged, using practice and methods, such as repeated movement forms, appropriate to this age group (Berk 73-74; Vygotsky 86);
- 5) Experience another form of embodied practice in order to gain physical skill

and confidence, and to form a base from which to move into improvisation.

The pedagogical rationale for the use of improvisation was that contemporary information and social conditions increasingly require multi-tasking, which begs an interactive compositional approach based on improvisational activity. There is a compositional necessity for creating continuity of experience in conditions of complexity, ambiguity, and disorder.

The warm-up began with sitting on the floor and establishing the vertical alignment of the spine in relationship with the crown of the skull and the floor of the pelvis. Students then practiced drawing potential energy up along this vertical axis of the spine. Next they explored folding and unfolding of the spine vertebra-by-vertebra starting from the head and moving sequentially down through the spine's cervical, thoracic, lumbar, and sacral regions. They practiced releasing potential energy into kinetic energy through rebounding actions of the torso, initiated from the weight of the head, in three seated floor exercises: a) soles of the feet together with the legs bent in a diamond shape, b) legs outstretched and together on the floor in a perpendicular relationship with the vertical torso (making an "L-shape"), and c) legs stretched and opened wide apart on the floor. Use of vertical (up-down), horizontal (side-side), and sagittal (forward-backward) spatial directions, dimensions, and planes was introduced while sitting. Students explored use of balance, strength, stretching, and coordination while seated. One seated floor exercise required making a "V-shape" with the whole body with arms outstretched in another V-shape overhead, while balancing on the tailbone with the legs outstretched and together in the air by using the abdominal muscles. Another exercise required placing the hands on the head and rising to standing from sitting, without using the hands. While not from the Humphrey and Limón tradition, these were favorite exercises for the students.

Standing exercises expanded on the principles of movement explored while sitting. Standing exercises began with aligning the spine while standing upright. Students explored resisting and releasing into the force of gravity. They used principles of oppositional energies for stretching, strengthening, twisting, and modulating movement qualities to achieve movement differentiation and contrast. Exercises included sensing the weight of the head, torso, arms, and legs. Students explored using the body's weight to shift from foot to foot, for jumps, and to travel through space. Principles of parallel and turned-out positions were introduced. Aligned and coordinated use of the joints of the legs was studied through first and second (narrow-wide, together-apart) positions. Parallel positions involved hips, knees, and feet facing forward. Turned-out positions included the legs rotated outward from the hip sockets to the degree that the individual's body safely allowed, but creating no more than a ninety-degree angle. Principles of *plié-relevé* were introduced: bending the legs to lower the body's center of gravity, stretching the legs, and shifting the center of gravity upwards through a rising action of the body. Principles of jumping and safely landing were also introduced.

Standing exercises incorporated the principles of fall and recovery in bounces and rebounds, swings, and suspension and release of the weight of the body parts and whole body. Swings of the torso, arms, and legs were explored. Directives integrating principles of dance technique, composition, and performance were introduced. These directives encouraged the internalization of preparing for and readying oneself to begin a dance class, exercise, or assignment; assuming responsibility for maintaining one's own focus and concentration over the arc of the ninety-minute lesson; awareness and use of breathing, visualization, and imagination; listening carefully to verbal instructions and observing physically demonstrated movement patterns, with attention to detail in order to

replicate them accurately; taking responsibility to monitor and maintain awareness of one's own body; listening to the music and its rhythmic structure; accurately counting the dance exercises; maintaining awareness of one's personal space in relation to the other dancers in the space; participating with a spirit of openness and inquiry as a learner in a community-of-learners; and self-initiating independent practice, experimentation, and reflection.

When I arrived on the seventh day of the study, the room previously assigned to us had been converted into a storage space. Without prior notice, a ton and a half of computer equipment blocked entrance into the space. The students' classroom was now the only space that the school administration would make available for the study, despite previous verbal agreements to provide an adequate space for dance, out of the classroom. This demonstrates the low priority given arts-based and embodied learning in the US, as described in "The Context for this Study." Smaller, more cluttered, much hotter, and more humid than the original space, this classroom could not safely accommodate the previously established movement warm-up with the twenty-five students sitting and stretching on the floor in unison. After attempting the original warm-up in the classroom, determination was made to change the warm-up to include an activity-based instead of a conservatory-based movement methodology. At that point, improvisational structures and methods were used throughout each lesson. The movement warm-up became a participatory follow-the-leader format, with students taking turns leading each other, along with me, working in a tight circle. This approach provided an opportunity for comparative analysis with the original plan to begin each lesson with a challenging technical warm-up, with students in rows facing a common front, as though on a stage. In one subsequent lesson, the original warm-up was again attempted to provide comparative

analysis of what students had remembered and retained. But the space was too small; it constrained students' ability to accomplish the learning objectives of the pedagogy.

I facilitated movement improvisation experiences throughout the study that can be classified according to the categories previously identified in "The Intellectual Traditions" as structured, generative, and performative (see p. 41). In practice, improvisation requires responses to complexity demonstrating problem-solving strategies, situated on a continuum of innovation and originality. The pedagogy explored a range of approaches to accessing embodied imagination through spontaneous movement response. Complex factors influenced how individuals (students and teachers) responded to the varying degrees of freedom and structure provided by the pedagogy in the context of this naturalistic setting.

Follow-the-leader is an example of a structured improvisation that the students explored in almost every lesson of the study. Each individual in the dance circle took a turn leading the other participants in a movement, series of movements, or brief improvisation. The guidelines included not doing anything that had already been done by another student in the circle during that activity. Music was sometimes provided as a method of stimulating embodied imagination and generating kinesthetic responses. Another structured improvisation involved the teaching artist calling out directives in response to student choices while they were improvising. Directives indicated changes of level, direction, speed, movement or lack thereof, including energized stillness, and movement quality. One directive asked for backward locomotion. Another called for connecting with one or more dancers and moving together while on different levels in the space. There was a directive for a "fancy" walk. Others called for moments of free dance or choosing a specific way to move through the space.

In response to emergent themes provided by my observations and preliminary analysis of student learning, I developed a game structure using language, movement, music, memory, embodied imagination, cooperative group process, and chance procedures involving teacher participation. The set-up included assigning small groups of students particular letters from the alphabet to use in brainstorming vocabulary related to the movement-oriented content and process of the study. The groups developed written lists of words, using only the letters their group was assigned, and that had not been introduced or previously mentioned in the dance lessons. These words were written on index cards and then randomly drawn as themes for student improvisations. A number, also randomly selected, signified a music CD, and another number drawn indicated the musical selection on the CD to be used. Students, whose names were chosen, were assigned as leaders of their small group's improvisation.

These improvisations were performed as a dance-off or competition. But concentration, teamwork, innovation, originality, and fun were emphasized as assessment criteria, rather than winning or losing. It was repeated that there were no singular, right or wrong solutions. The pedagogy emphasized an open-ended and exploratory, rather than formulaic approach to learning and creativity. As students viewed the work of each team, they were assigned the task of analyzing the improvisational strategies they were learning. They were directed to notice the choices the other students made individually, and as part of the group. Reflective thinking and processing of these observations continued through Socratic dialogue, graphic organization of improvisational strategies that had been observed, and individual journal writing, including visual arts entries.

An example of generative improvisation included asking students in small groups to improvise to music. Words were assigned as points of departure, with one student in



the group acting as leader embodying the chosen word or words, while the others were asked to follow or to do something different from or the opposite of what the leader was doing. These improvisations were limited to twenty to thirty seconds. Students produced movement material that could have been used, if the videotape were played back to them, as the thematic material and basis for choreographed dances.

I also modeled performative improvisation, involving spontaneously creating structures and scenarios “out of nothing” for an audience. One morning, I spontaneously developed a French-speaking clown character and game, in response to student ennui and listlessness due to the high temperatures and humidity and the end of the school year. I used English and French, knowing that only one student came from a French-speaking background, but that many other students spoke or understood Spanish and Portuguese.

Students were given the clue in English to play the game by “listening,” “observing,” and “paying close attention” so that my improvising clown character would not trick or confuse them. Seated in a circle, they were each given a number, one after the other, from one to five in French. They were then asked to form small groups in different parts of the room with classmates from around the circle who had been assigned the same numbers.

The game required that everyone must perceive, then remember, his or her number. Next, each individual needed to perceive that she or he was to join the other students with the same number in another place in the space. I used pantomime and language to assist perception and direct the student action. Each round of the game lasted until a student acted confused or ended up in the wrong small group.

The students were not accustomed to taking this kind of responsibility for themselves or each other in a cooperative group situation. This meant that the rounds

were quickly completed due to the ensuing constructive chaos and confusion. Students then returned to the group dance circle and the game of assigning each student a number in French began again. The game ended either when all students were divided into five small groups, or until it was decided that the game was over and it was time to find another way to divide the students into five small groups.

The original purpose of this game, as it emerged, was to create a multimodal way to organize the students into small groups. I also wanted to model embodied imagination through playfulness, spontaneity, language, and the unexpected use of clown. But the students were accustomed to and well-trained in a pedagogy that required teachers to predigest, explain, and model every step in a learning sequence that would then be repeated by the students in the assignment. If time were short, or if a student did not appear to understand a directive, the teachers would become impatient. Then, for example, a teacher might physically place students in the space rather than using verbal directives to direct student action with the goal of achieving understanding, rather than compliance.

The game was played during two lessons. This repetition provided comparative analysis of the arts-based methods I used, the methods used by the teachers, and the effects in improvisational and embodied learning and understanding. My assessment was that the methods that I observed the teachers use served to infantilize the nine-and-ten-year-old students; increase their dependence, already exaggerated, on the teachers' approval; and discourage students from taking responsibility for their actions and discovering their full potential as self-directed learners.

Teachers wanted students to quickly reach understanding and demonstrate back to them what they expected to see in the first place. This was the teachers' definition of

modeling. Nor did the behavioral modification strategies the teachers used, including use of fear and shaming, encourage playfulness in the learning space. Demonstrations of risk-taking and divergent thinking were implicitly prohibited. Creativity was effectively squelched. The arts-based learning objective of the mini-lesson was unintentionally transgressive in the context of the school's pedagogy and approaches to student discipline.

The learning objective of the game was to show that in order to improvise one must be wide-awake and ready to "play," which means to "work," (i.e., focus, concentrate, and participate) in the reversed-logic and parlance of clown improvisation. The point was that the improvising dancer is responsible for engaging embodied imagination. The dancer must never enter the dance or improvisational space expecting to sleep through the dance lesson.

As part of every lesson, students wrote about their embodied improvisation-based learning experiences through directed, reflective journal-writing assignments. These assignments included visual arts entries and graphic representations of reflective responses, as well as descriptive (what we did) and affective (how I felt through my emotions) language. Assignments were responsive to the learning observed during each lesson. There were also group discussions to share and summarize student learning, notated on a flip chart by one of the teachers or me, or, in one case, by student volunteers. Students were encouraged to formulate questions as part of this discourse and inquiry.

## 5. Participants

The participants in this study included one classroom of twenty-five fourth-grade students, their classroom teacher, and their reading-writing teacher at a New York City Department of Education public school. The class was chosen based on the criteria of

availability and teacher and student interest. The reading-writing teacher, the classroom teacher, and nine of the students participated in the pilot study. The class was not chosen on the basis of perceived talent, special interest in the arts, or evidence of prior embodied knowledge. Nor did the school have an arts plan providing in-depth, sequential, and ongoing arts experiences in all arts disciplines for all students. This gap existed despite the school's identification by the New York City Department of Education as exemplary, due to high student scoring on standardized reading and math tests relative to the demographic profile of its student population.

A point of comparison between the pilot study and the research project was that both teachers involved in the research project had previously worked in the pilot study. Additional comparative analysis was provided by participation of nine of the twenty-five fourth-grade students both in the research project and in the pilot study (as third graders) with two different classroom teachers, but the same reading-writing teacher. There were three classes in the pilot study: one third-grade and two second-grade classes.

According to the Comprehensive Education Plan 2004-05 that every New York City Department of Education school was required to complete, students at the school were forty-eight percent Hispanic, thirty-two percent Asian and others, including Pacific Islanders, Alaskan Natives, and Native Americans, fourteen percent White, and six percent African American. Students in the class and their families were from different strata of low-to-middle socioeconomic status. They were from multinational and multicultural backgrounds, including at least twenty countries, excluding the US, where some of the children and their siblings, but none of their parents, were born. All six of the earth's historically inhabited continents—Africa, the Americas, Asia, Australia, and Europe—were represented. Students reported that their parents and families were from:

Australia, Bangladesh, Brazil, Chile, Columbia, Croatia, Dominican Republic, Ecuador, Egypt, Greece, Guinea, India, Mexico, the Middle East, Pakistan, Peru, Philippines, Puerto Rico, Nepal, and Tibet. Students reported fifteen languages spoken by or among family members as first, second, and third languages. These included: Arabic, Bengali, Croatian, English, French, Greek, Italian, “Non-Sylhetti,” Portuguese, Punjabi, Spanish, Sylhetti, Tagalog, Tibetan, and Urdu. There were, however, different degrees of reported student fluency and student interest in the languages spoken at home by their families. The participating teachers reported all students to be fully fluent in English.

There were twenty-five nine-and-ten-year-old fourth-grade students in the research project. One student turned eleven just after the study began. There were fifteen girls and ten boys. The research study began on March 30, shortly after one behaviorally disruptive boy left the class. On May 25, three weeks before the end of the school year, another boy was added to the class. He had recently been readmitted to this school, after having previously been expelled from this and a Catholic school.

Students created their own imaginary names to be used in the study that would ensure their anonymity and summarize their experiences of and feelings about working in the project. I placed their names in italics in order to prevent possible confusion from the selection of names such as *dance* and *Improvisation*. The fifteen girls were: *Angel Shy*, *The Ballet Dancer*, *Courageous Person*, *dance*, *empty-headed kid*, *Improvisation*, *Kevin*, *less brave*, *make-up nervous girl*, *Martha*, *shy girl*, *shy tryer girl*, *Tryer*, *U.S. Angel*, and *Wild and Crazy Child*. The ten boys were: *Balancesir*, *Coko the Crazy*, *The combinator (aka The Hatred)*, *crazy dancer*, *Harry*, *Joe*, *Kite Man*, *Little Jordan*, *Paul*, and *wild beast*.

Teachers self-selected how they participated, within parameters. The two teachers

participated in the study by videotaping and photographing the lessons, some of which I also videotaped. Teachers recorded their observations of student learning through guided observational journal-writing during the sessions. I requested that the teachers allow their students to experiment, improvise, and construct their own learning experiences. I also requested that the teachers not spontaneously correct or direct the students, whether verbally or nonverbally, as students improvised and moved. Teachers participated in some movement exercises and improvisations. They also facilitated follow-on commentary and reflective activities, including group discussions and some of the student journal-writing.

## 6. Data Collection and Analysis

Data collection was informed by the pilot study that served as an exploratory inquiry. It was conducted on-site a year earlier, from January to April 2003. Data that I collected at this school in 2001 fulfilled practicum requirements for a qualitative research seminar in arts education assessment and evaluation. For that practicum, I created an assessment rubric by comparing the data of my written lesson plans with the field notes of actual lessons taught and student learning observed. The rubric included the dimensions of student learning that I expected students to achieve over time. I identified the specific criteria for these dimensions from my teaching practice and articulated the characteristics of these criteria along a scale that indicated sequential, incrementally increasing skill development. I then compared this instrument with my written curriculum and the New York State Learning Standards for learning and teaching in “The Arts: Dance” and “English Language Arts” to identify interdisciplinary connections between my pedagogy and the state-mandated academic curriculum that included the arts.

The pilot study included a preliminary planning session with teachers, a brief

introduction to each class as part of a career-day presentation, lunch meetings with teachers on each of the fifteen days of the project, fifteen forty-five to fifty-minute movement sessions, and a return visit to speak briefly with students and to collect student reflective responses at the end of June. This work involved one third-grade and two second-grade classes, their classroom teachers, and their reading-writing teacher.

Preliminary data collected during the pilot study in winter-spring 2003 included: a) my field notes; b) one teacher's observations journal; c) reflective response journals included in ongoing writing journals that were randomly collected and sampled from six third-grade students; d) reflective response journals from one class of second graders; e) poetry responses to the movement-based learning experiences from a broad sampling of all students in the three classes; f) third-grade dance research reports facilitated by the reading-writing teacher and completed over the two months (May-June 2003) after the movement experiences ended; g) summative personal dance quotes created by each third-grade student as part of the dance research reports that served as crystallizations of individual new learning and reflective self-evaluation; h) photographs taken throughout the inquiry; i) videotaped samples of student movement, improvisation, and informal interviews; j) the reading-writing teacher's responses to the learning she observed; and k) my field notes from sixteen meetings with teachers.

The research project's embedded assessment included: a preliminary planning session with teachers; a discussion with the students and teachers regarding informed consent and confidentiality followed by a pre-intervention nonverbal-kinesthetic assessment; pre-intervention questionnaire; fifteen ninety-minute sessions combining movement and reflective practice using discussion, open classroom journals, graphic organizers, mind maps, and individual dance journals; three twenty to fifty-minute early

and mid-program assessment sessions with the two teachers individually (one with the classroom teacher and two with the reading-writing teacher); interviews; a post-intervention questionnaire; and a post-intervention nonverbal-kinesthetic assessment. This work involved one fourth-grade class and their two classroom and reading-writing teachers.

The data collected during the research project in spring 2004 included:

a) participant observation recorded through double-entry, written reflection journals, including descriptive (“what we did”) and affective (“how I felt”) language and visual arts entries that were largely graphic organizers of student writing; b) summative statements of the experience in the construction of imaginary names by the students and teachers; c) student participation and responses through videotaped improvisation-based learning sessions and audio-taped semi-structured interviews; d) baseline of student attitudes and core competencies through pre-intervention questionnaire, videotaped pre-intervention nonverbal-kinesthetic assessment, and photographs of the pre-intervention nonverbal-kinesthetic assessment; and d) post-intervention questionnaires, photographs, and assessments compared with baseline data (see appendix A, pp. 161-65).

The nonverbal-kinesthetic assessment instrument was based on twenty-one nonverbal-kinesthetic dimensions or indicators across five categories: space, time, energy (force-weight), flow, and working together. The foundation for this analytical, nonverbal-kinesthetic assessment was the movement theory of Rudolf Laban (Dell; Laban, Mastery, Modern; Laban and Lawrence; North; Preston-Dunlop) and the work of movement and dance therapists and researchers Dianne Beverly Dulicai, PhD, ADTR and William Charles Freeman, PhD, ADTR.

In 2002, I worked with Dulicai and Freeman on nonverbal-assessment methods



they developed to evaluate special-needs, including nonverbal, children. The rationale for selecting an instrument developed to assess special-needs students follows. The portions of the instrument relevant to my research purpose of assessing embodied knowing through use of improvised movement were: 1) grounded in Laban's theories of movement and qualitative-movement analysis, 2) designed for working with children, 3) applicable to working with children of multiple levels of verbal capacity, and 4) congruent with my artistic background working in modern dance improvisation, including with Hanya Holm. Holm was considered one of the "Big Four" twentieth-century pioneers of US modern dance and a proponent of pedagogies incorporating Laban's principles of movement notation and analysis.

The research purpose of this study was to construct a theory of accessing embodied knowing as an approach to experiential education. The assessment instrument I developed allowed making visible, through numeric representation, patterns of nonverbal data from improvisational learning. This data involved student learning as demonstrated through changes in their use of subtle and fleeting, improvisational movement. The nonverbal assessment that Dulicai and Freeman designed for their purposes provided an ongoing model for their collaborative work. Their collaborative assessment and evaluation process involves an individual movement therapist, Freeman, conducting a videotaped assessment with one individual special-needs child. Freeman specializes in working with autistic children. The videotape is then sent to Dulicai, who analyzes the videotaped data and develops a written evaluation report based on her findings. Freeman then discusses the evaluation's findings and consults with the child's parents and a team of school physical, occupational, and speech therapists, educators, psychologists, and social workers. A movement therapy intervention is developed based

on the findings of the nonverbal assessment contained in the written evaluation report and the team's conferencing. Freeman uses this information to develop and implement an individualized course of movement therapy with that child. After the course of the movement intervention, the child is reassessed, and a final evaluation is made for that phase of the movement therapy with recommendations for future treatment.

I adapted, field-tested, and refined the assessment instrument over one year under Dulicai's advisement. I continued to conduct the assessment and to analyze data collected through use of this instrument over another year, the last three months of which were concurrent with the research project's data collection phase. I conducted this field-testing while working as part of an evaluation team with another New York City Department of Education public school. I conducted the assessment twice each year for two years, with the same group of over one hundred students, but with a different control group each year, totaling over forty students. I conducted the assessment and analyzed results from September 2002 to June 2004, as regular-education and special-needs students moved from first through second grades.

I adapted the instrument developed by Dulicai and Freeman for the different purpose of assessing students in classroom settings that include working with an entire classroom of up to thirty students simultaneously, not one-to-one as in their application. I used the same series of directives and activities in pre-intervention and post-intervention assessments. I developed scoring and comparative analysis matrices to measure the amount of change, in the range of differentiated movement and movement qualities being demonstrated, that had taken place between the pre-intervention and post-intervention assessments.

The categories (A-E) and dimensions of the nonverbal-kinesthetic assessment

were:

## A. Space

### 1. Planes

#### a. Horizontal

1) wide

2) narrow

#### b. Vertical

1) high

2) low

#### c. Sagittal

1) forward

2) backward

#### d. Combine and modulate horizontal, vertical, and sagittal Planes using the six dimensions previously defined and used (i.e., wide-narrow, high-low, and forward-backward)

### 2. Direct and Indirect Use of Space (using Single and Multiple Focus)

a. Single focus, i.e., direct use of space

b. Multiple focus, i.e., indirect use of space

c. Combine and modulate single and multiple focus, i.e., direct and indirect use of Space

## B. Time

### 1. Quick

### 2. Sustained

### 3. Combine and modulate quick and sustained use of Time

### C. Energy-Force-Weight

1. Light
2. Strong
3. Combine and modulate light and strong use of Energy-Force-Weight

### D. Flow

1. Free
2. Bound
3. Combine and modulate free and bound use of Flow

### E. Working Together

1. Three horizontal straight lines (drawn on cardboard and shown to students as a problem to be solved as a whole group)
2. Circle (drawn on cardboard and shown to students as a problem to be solved as a whole group)

The directives I used for students to respond to A-D through nineteen individual nonverbal-kinesthetic mini-improvisations combined verbal and nonverbal cues provided by me for nonverbal-kinesthetic response. My cues included modulating the dimension of horizontal space by using narrow and wide movements while saying, “Make your body narrow. Make your body wide.” I then asked students to show how else they could improvise using narrow and wide movements. The cues for the Working Together category included: E1. three horizontal straight lines drawn by me with red marker on a piece of eight-and-a-half-by-eleven-inch white cardboard and E2. a red circle drawn on another piece of white cardboard of the same size. The cues used to direct student action were for me to present one of the pieces of cardboard for them to see while I said, “Show ‘this’ [i.e., the pattern of the three horizontal straight lines, or the circle drawn on the

cardboard] as a group.” Scoring by me during the data analysis phase involved use of 1 for “none,” 2 for “some,” and 3 for “all” of the nonverbal-kinesthetic indicator being present in the student’s videotaped improvisation, when responding to each of the particular movement and movement-quality directives and indicators.

The analysis phase of the data included reviewing, scoring, and comparative analysis of the pre-intervention and post-intervention nonverbal-kinesthetic assessments. During this phase of analysis, four dimensions from the original twenty-one assessed were eliminated. After having made this decision and having completed the videotaped post-intervention assessment, I then re-analyzed the videotaped pre-intervention assessment using all twenty-one indicators, including the four eliminated from the post-intervention assessment. The rationale to eliminate four dimensions was concern that specific contextual challenges might have inadvertently created inadequate testing conditions, weakening the qualitative “validity” of the findings.

As another perspective on this analytical issue, during the writing and descriptive-presentation-of-results phase, this decision appeared overly cautious. The conditions and reactions that emerged during the assessments were not atypical for those routinely demonstrated by the students with whom I conducted the study. In other words, idealizing “the situation” in which the assessment would be most effectively conducted may be a constraint on the naturalistic design. However, I consciously chose 1) to err on the side of caution in the case of this analysis and 2) to present my decision-making to reveal the knowledge construction process in which I eliminated four dimensions. The dimensions eliminated were: Multiple Focus, Combine and Modulate Single and Multiple Focus, Three Horizontal Straight Lines, and Circle.

Two of the eliminated dimensions were Multiple Focus and Combine and Modulate Single and Multiple Focus from the category of Space and subcategory of Direct and Indirect Use of Space (Using Single and Multiple Focus). My concern in reviewing the pre-intervention assessment was the possible lack of clarity in my delivery of the verbal directives. I reasoned that lack of clarity might have created student misunderstanding of how to demonstrate the dimensions. There was also the possibility that the students were not yet able to demonstrate these dimensions. Initial review of the videotape led me to conclude the prudent choice was to eliminate this spatial subcategory from comparative data analysis.

Three Horizontal Straight Lines, and Circle from the category Working Together was also eliminated because of time limitations in the post-intervention assessment. The school's cafeteria, serving as the post-intervention assessment site, was suddenly overrun with students from other classes arriving for lunch. This happened moments before the assessment's conclusion, leading to student confusion. I encouraged students to complete the assessment "quickly," but unexpected contextual interference was irrevocably introduced.

My rationale in asking students to complete the assessment was that, throughout the testing, there had also been a group of food service workers speaking very loudly at one end of the cafeteria. Students and teachers accepted this as part of the context of working in that space. The advantages were a larger space than students were accustomed to working in, and air-conditioning. The need to unexpectedly share the space is an example of a contextual challenge faced in conducting a naturalistic research project.

The rationale supporting the analytical decision to eliminate these dimensions included my broad and deep arts expertise. It was through experiential knowing that I

trusted that, in both cases, on analyzing the videotapes, student responses did not feel “‘true’ or ‘authentic’ or ‘real.’” These are among Patton’s “Alternative Sets of Criteria for Judging the Quality and Credibility of Qualitative Inquiry” using “Artistic and Evocative Criteria” (544-45). Attention to due diligence, rigor, and accuracy throughout all phases of data collection, analysis, presentation, and interpretation was recognized as necessary. These qualities of the scientific researcher and research process provided a rationale for choosing constructivist grounded theory for the data collection and organization phase of the analytical process. As Kathy Charmaz states in delineating constructivist from positivistic approaches to coding and sorting data and developing thematic lines of inquiry through grounded theory:

A constructivist grounded theory recognizes that the viewer creates the data and ensuing analysis through interaction with the viewed. Data do not provide a window on reality. Rather, the “discovered” reality arises from the interactive process and its temporal, cultural, and structural contexts. Researcher and subjects frame that interaction and confer meaning upon it. The viewer then is part of what is viewed rather than separate from it. What a viewer sees shapes what he or she will define, measure, and analyze. (“Objectivist” 273)

The research objective was to collect and analyze data for greater complexity rather than lesser degree of detail. Therefore, the nonverbal-kinesthetic-assessment data collection instrument and analysis matrix were designed to explicitly measure both dimensions comprising a category or subcategory’s range. I reasoned, for example, that measuring the degree to which both High and Low dimensions were or were not present in the subcategory of Vertical Space was more useful, provided greater detail, and gave the individual student increased opportunities for success in demonstrating his or her kinesthetic thinking. Examples of demonstrating that all of the dimension of High was present included a student changing level and shifting his or her center of gravity as much

as possible in an upward direction and fully reaching, stretching, or jumping to the upward limits of his or her “personal space or ‘kinesphere’” in which he or she moves (Laban, Mastery 38-39). Low was demonstrated by changing level and shifting his or her center of gravity as close as possible to or onto the floor with limbs and extremities also moving downward toward the ground and the lowest portion of his or her kinesphere. This way of scoring for greater complexity also increased the analytical opportunities for identifying—in greater and more refined detail—the nonverbal-kinesthetic challenges that students demonstrated. Measuring through use of a single numeric value to represent, for example, the student’s more generalized use of Vertical Space would not yield this degree of rich, descriptive, integrated detail.

My concern as a qualitative research analyst in this study was to organize and analyze data in such a way that would lead first to greater differentiation, and therefore richer description, of nonverbal-kinesthetic detail. Expressing descriptive detail through numeric values was a way to generate and recognize emergent patterns in the data. This rich detail also provided another analytical lens to assess and evaluate the work of the individual student, through the analytical lens of the degree of success and challenge faced in completing his or her improvisational assignment. Analysis and interpretation of this nonverbal-kinesthetic data can then be used as feedback in applied practice. It also provides the additional rationale for use of nonverbal-kinesthetic assessment instruments: 1) to evaluate why all nonverbal-kinesthetic dimensions are or are not present in the cases of individual learners and a class as a whole; 2) to inform pedagogical design decisions and educative, experiential, nonverbal-kinesthetic interventions intending to increase student use of all nonverbal-kinesthetic dimensions; and 3) to provide a measurement of nonverbal-kinesthetic thinking.



I analyzed student pre-intervention nonverbal-kinesthetic assessment data both for use of all twenty-one dimensions across five categories and the seventeen above-mentioned dimensions across four categories. I analyzed student data in the post-intervention nonverbal-kinesthetic assessment for nineteen dimensions (eliminating two dimensions in the category of Direct and Indirect Use of Space). I also analyzed student data for the seventeen above-mentioned dimensions across four categories. Comparative pre-intervention and post-intervention assessment analysis examined the same seventeen dimensions across four categories. The eliminated dimensions were: Multiple Focus (Indirect Focus in and Use of Space), Combining and Modulating between Single and Multiple Focus. The eliminated category was Working Together.

The questionnaire design included two parts. The first part consisted of seven open-ended questions calling for descriptive writing. The second part consisted of twenty words to be defined from the content and process of the experiential arts-based pedagogy (see appendix A, pp. 162-63). Students scored consistently higher on the first than the second part. I concluded that this scoring differential was due to the use of open-ended questions, requiring use of previous general knowledge in the descriptive first part, and more precise and challenging content and process-based knowledge in the second part.

Twenty-three students participated in the pre-intervention questionnaire. All twenty-five students participated in the post-intervention questionnaire. There was reflective group discussion and mind mapping of the previous sessions that took place before students completed the post-intervention questionnaire. The purpose of the discussion, which one student missed, was to stimulate student reflection regarding what they had learned over the previous sessions. This discussion was facilitated by me, but only students were allowed to make contributions.

As part of the analytical process, immersion in the written questionnaire data was achieved through thorough and in-depth reading, reflection, and comparative analysis. The pre-intervention questionnaires were initially analyzed using a yes or no, i.e., correct or incorrect scoring matrix. I was not satisfied, however, that this would reflect the degree of nuance and of learning-processes-in-progress present in the questionnaires. For example, there were responses that were approaching correctness or understanding. These responses demonstrated the unfolding of constructivist student thinking and learning processes. Students were beginning to demonstrate meaning-making in vocabulary, grounded in and analogically representing their actual experiences with the interdisciplinary content areas under study.

The pre-and-post-intervention questionnaire data were analyzed and compared using a 1-2-3 scoring matrix with 1 as “none,” 2 as “some,” and 3 as “all,” of an accurate written description (first part) or definition (second part) being present. Some of the first-part descriptions required that students know certain definitions. For example, one question in the first part: “What do you feel (through your emotions) when you dance?” required that the learner know the definitions of emotion and emotional feeling. Another question: “What do you learn when you reflect on your dancing?” required that the learner know the definition of reflect (see appendix A, p. 162). Students were ranked using scales of: pre-intervention and post-intervention achievement on each of the two parts and as an overall score; students clustered in high, middle, and low scoring; and amount of pre-intervention and post-intervention change as a measure of learning. Comparative data analysis included whether students had participated in the pilot study.

There were twenty questions in the preliminary semi-structured design of the taped interviews. These questions were based on the research questions and purpose. Another

twenty questions were formulated to ask prior to beginning the interview process, as a result of emergent themes from the improvisational learning data that was analyzed as the study unfolded. The additional questions included information about students' interests, favorite subjects, hobbies, languages spoken by families, countries of origin, and kinesthetic activities students did individually and with family members and friends. The objective was to gain deeper understanding of the different contexts in which student improvisational, kinesthetic, and arts-based learning was grounded. I wanted to gain broader understanding of the familial and cultural contexts of students' lives and personalities. The purpose was to make explicit these contexts that might otherwise remain submerged because of my relationship with these children as a visiting teaching artist. They were, after all, individuals and learners with specific interests, daily rhythms, ways of speaking and making meaning, ancestries and cultural backgrounds, and learning resources, including their imaginations. I also recognized that if I relied only on their teachers' perspectives of them, I would not develop my own direct understanding and would rely on mediated perspectives of the students' individual learning styles, interests outside of school, and strengths and challenges as learners.

During the course of the interview process another six questions emerged that were asked of all subsequent interviewees, for a total of forty-six questions. In some interviews, in keeping with the semi-structured design, other questions arose in the natural course of the conversation, in order to probe responses for deeper meaning, or as part of a natural, conversational stream-of-consciousness. The forty-six questions were tracked systematically and each interview covered the same range of content leading to rich, descriptive interview data (see appendix A, pp. 163-65).

There were no formal time limitations to the twenty-seven interviews that were

conducted individually with the twenty-five students and two teachers. I did not want students or teachers to feel rushed but did want to be sure that critical data would be made explicit. I did not know until actually conducting each interview how long it would take to complete, given the individual's oral communication and conversational skills and reflective and analytical abilities. The interview process, therefore, involved a continuum of free and structured improvisation regarding use of time. Each student interview took from fifteen to sixty minutes to complete, with the average length about twenty minutes. Each teacher interview took ninety minutes and required two sessions to complete.

The interviews took place over the last week and a half of school requiring seven days total. The objective in starting the interview process as late as possible in the data collection phase of the study was for the interviews to provide each student and teacher an opportunity to reflect on their learning and understanding after having completed as much of the research project as possible. The pedagogical objective was for participants to engage in a process of spoken, reflective meaning-making regarding their experiences during the study. I wanted to be fully present as witness to their individual stories in order to facilitate the possibility for their meaning-making to take place as a result of our interview process. Acknowledging and acting in my dual role as witness and researcher was a way to give back to the participants, to create the potential for individual meaning to be constructed, and for broader social meaning to emerge through the study.

I personally transcribed the twenty-seven recorded interviews over a period of three and a half months. The transcriptions of the eleven hours of taped interviews resulted in three hundred fifty-six pages of single-spaced typed text. The purpose in personally conducting this detail-oriented process during the analysis phase of the research project was to become further immersed in the data and continue to perceive

emergent themes in the multimodal data. Analytical notes and memos were made and emergent themes were coded. This analytical process included creating a listing using a line-by-line data coding technique to both arrive at and fracture eighty-four quotations from the twenty-five student interviews coded as Reflection through use of the ATLAS.ti 5.0 qualitative analysis computer software program. The listing resulted in preliminary categories and hypothesized properties and dimensions also grounded in the data. This procedure of arriving at categories was done as a preparatory step to diagrammatic representation of the connections between the categories and their properties and dimensions. Several initial categorical models were diagrammed, as patterns were perceived emerging from the listing. This was also a way to further deepen contact with the data and increase understanding of how to develop a conceptual framework while working within the constructivist grounded theory approach to data organization and analysis.

Crystallization is an approach to methodological, analytical, and interpretive rigor that further distinguishes qualitative research from concepts and terminology of research rooted in Euclidian geometry, or linear rationality, rather than nonlinear complexity (Janesick 66-71). “Triangulation” is a term from land surveying and frames a body of data within three points of reference and perspective (Patton 247). Crystallization intersects with Joe L. Kincheloe’s “ontology of complexity” honoring the “in-process (processual) nature” of, and the researcher’s relationships to, qualitative naturalistic contexts (72-74). Working with multimodal data derived from a study of improvisation presents challenges for data crystallization and analysis. Looking for connections, a scanning and recognition process between different kinds of data representing different ways of knowing (Pink 142), is part of creating a “complex, holistic picture” through the

data analysis process (Creswell 15). Using the comparative analysis technique of qualitative research and grounded theory, visual ethnography was examined in comparison with grounded theory (Patton 56). Visual ethnography suggests preliminary approaches to data analysis by investigating the relationship between movement and other knowledge sources, including the verbal (Pink 118-20). Data collected in spring 2004, and subsequently analyzed, was “crystallized,” rather than “triangulated.” The challenge when working within acknowledged multi-dimensionalities of complexity is to maintain the richness of knowledge construction without becoming epistemologically reductionist (Kincheloe 72-74). Crystallization offers multiple perspectives, dimensionalities, and an organically growing responsiveness to the complexity of reflexivity and experiential data, rather than fixed points capturing stable data.

The content analysis of the data emerged from analytical procedures, using the stepwise procedures of constructivist grounded theory. Thematic lines of inquiry and a conceptual model were developed based on crystallized data of: 1) student and teacher semi-structured interviews conducted and transcribed in order to become deeply immersed in the data; 2) students’ reflective writing journals, teachers’ written observational notes, and my observational field notes that I personally entered into typescript; 3) students’ pre-intervention and post-intervention questionnaires that I personally entered into typescript; and 4) analysis matrices created to code and analyze the video data of students’ pre-intervention and post-intervention nonverbal-kinesthetic assessments. The ATLAS.ti 5.0 Scientific Software computer program designed for grounded theory qualitative analysis was a tool that helped with coding and retrieving data and attaching memos, without “stripping” data of context (ATLAS.ti; Auerbach and Silverstein; Glaser and Strauss; Maxwell; Strauss and Corbin).

## 7. The Findings and their Limitations

“Descriptive Presentation of the Results” includes a synthesis and summary of the findings in order to present the research essence of this study. The findings are interpreted in chapter five, “Interpretation of the Data,” in relation to review of the literature’s substantiation of previous research, methods, theory, and practice. In chapter six, “Recommendations for Future Research,” the findings are evaluated in response to opportunities for further research that resulted from this study.

The use of mixed data, design, and analysis addressed the limitations of findings by anticipating and attempting to answer potential criticisms of the approach to data sampling, collection, and analysis presented in this study (Patton 247-49). Verbal and nonverbal, logo and non-logo-centric kinesthetic, observational, written, and oral data were collected through multimodal methods. The methods of inquiry included pre-intervention and post-intervention nonverbal-kinesthetic assessments, pre-intervention and post-intervention questionnaires, and interviews with twenty-seven participants. The data were analyzed through multimodal means and by immersion in the data, throughout the analysis phase that began during data collection and extended well beyond that phase. I used a mixed methodological approach by combining theoretical frameworks, including constructivist grounded theory in data collection and analysis.

Qualitative research findings are grounded in the purpose of qualitative research. The purpose is to make salient the meaning of rich data related to experience, as in phenomenology and heuristics; to text, as in hermeneutics; and to qualitative-artistic experiences, processes, artifacts, forms, products, and imagination as in qualitative-artistic research. Making evident the meaning—including multiple meanings of an

experience, text, process, or cultural artifact—provides the purpose of inquiry.

Constructing and answering a research question leading to knowledge construction grounded in experiential data is the *raison d'être* of naturalistic research and constructivist grounded theory.

Numeric values are used in qualitative research to make evident patterns in an array of complex data. This tool was used to create and discern patterns that potentially bring forth the meaning embedded in complex, transdisciplinary, arts-based learning experiences. However, a transdisciplinary-constructivist orientation brings forth the humanly constructed aspects of creating and breaking across knowledge domains and conceiving the inquirer's role in situating, informing, and establishing the researcher's perspective as located and embodied, never removable and disembodied. The patterns analyzed from the quantitative data are integrated into the narrative "Descriptive Presentation of the Results." The computer-generated and quantitative raw data used specifically to identify and categorize patterns for further analysis do not otherwise appear in this document.

## 8. Research Ethics

In conducting this study, I adhered to the code of research ethics and conduct required by the Union Institute & University Institutional Review Board. This research was approved by the Union Institute & University Institutional Review Board through established guidelines and my demonstrated understanding of the code of research ethics and conduct. My new learning in this knowledge domain was achieved through on-line study and testing and close interaction with the Union Institute & University Institutional Review Board coordinator and co-chair in developing a Union Institute & University Institutional Review Board-approved written proposal. I established clear agreements in



the form of informed consent from students, parents and guardians of all students involved, teacher participants, and the school principal. I secured written release forms to use photographic and video images of participants involved in the research for the study; assured confidentiality in the written portions of its presentation; and verbally explicated accurate procedures, ensuring full disclosure of the nature, requirements, and purpose of the research (see appendix B, pp. 166-80 for sample informed consent forms).

## **Chapter Four**

### **Descriptive Presentation of the Results**

The purpose in this and the following chapter, as it has been throughout this study, is to answer the research questions: What are the characteristics of reflective responses particular to improvisation-based embodied-learning experiences? Are these responses teachable? What would constitute their pedagogy?

In this chapter, I describe the salient results of this research through the process of analyzing various sources of experiential data. Students' improvisational learning is analyzed through crystallization of multimodal data from nonverbal-kinesthetic assessments, questionnaires, and interviews. Crystallization, as conceptualized by Laurel Richardson and cited by Valerie J. Janesick, is used as a metaphor for the analytical lens emerging from a transdisciplinary, qualitative research design (67). The crystallization metaphor is derived from an organically growing crystalline form with its structurally sound multiple edges and facets, yet allowing illumination to pass through and be refracted as a full spectrum of visible light. In terms of research data transparency, finding connections among disparate data, located in an unstructured field of information created from an array of multiple perspectives, is a sorting process for making increasingly rigorous data differentiations. Specificity and changeability of lens and focus (perspective) are concurrent possibilities and opportunities. In other words, changing epistemological positions is a methodological operation for discovering additional data, possibly occluded by competing or uncoordinated epistemological structures and behaviors. The crystal is a transdisciplinary computational metaphor for analyzing, describing, and presenting the results of multimodal nonverbal and verbal, logo and non-logo-centric data collection (Guba and Lincoln 208).

Patterns emerged through crystallization, coding, and analysis of the multimodal data. These patterns were indicated by numeric configurations. Comparing results of student participation in the pilot study with those in the main study revealed patterns of high achievement among students who participated in the pilot study relative to the other students. An element common to these students was their prior experiential learning in the pilot study. Other patterns revealed through analysis included emergent themes of the role of context, transgressive-subversive behaviors, teacher resistance, gender differences, and anomalies.

The patterns indicated a contrast of factors between the pilot and the study and the impact of these factors on student achievement. The emergent themes further highlighted the contrasts in student achievement. The difference between ideal conditions and, then, the reality of how it can be otherwise cast the research as a case study on the contrast between facilitative research conditions and a research situation facing ongoing contextual and behavioral challenges. What do you do when things don't go right?

This chapter continues with an introductory analysis, description, and presentation of findings regarding the context. This contextualization of the conditions of the research then provides the basis for presentation of the findings regarding high achievement among students participating in both pilot and study. The findings regarding high achievement are further examined in "Interpretation of the Data." The other themes, while mentioned in this chapter as part of introductory contextualization of the research as it unfolded, yield "Recommendations for Future Research."

#### 1. Stable Conditions and Relative Calm in the Pilot Study

The pilot emerged as a result of a multiyear project supported by an assistant principal who, although a self-professed quantitative, rather than qualitatively oriented

educator, supported whatever arts-based pedagogy I proposed and taught. She consistently budgeted adequate financial resources, provided space, and arranged teachers' schedules to insure deployment of this interdisciplinary dance pedagogy. She privately acknowledged the deep resistance of the teachers on the staff to any educational project directed by an artist. Her response in year one was to provide some professional development time for me to work with the teachers. She also agreed to include curriculum development and planning with the teachers, a notion that was not typical for other outside artists and groups providing pedagogical services at the school. Teacher resistance reflected lack of teacher education in the arts, the removal of the arts for so many years from the New York City public schools, and the issue of dance as the art form least integrated into the curriculum of the New York City Department of Education. Although she primarily believed that the students needed fun and relief from the high-stakes test preparation that focused the school's curriculum, she became convinced of the work's other benefits for learners and teachers-as-learners. The turning point in her own thinking came the first year, three years before the pilot, when the lowest-academic achiever of all fifth grade students was transformed from a disruptive student to a learning leader. The dance class created a distinct space in which this student, recently suspended, demonstrated exceptional abilities in dance improvisation. He became my teaching assistant who demonstrated embodied imagination and kinesthetic thinking-in-action by improvising with movement in ways that many professional dancers with whom I have worked could not.

This assistant principal was still at the school during the pilot. Her responsibilities included logistical oversight as well as insuring active participation of all teachers in the pilot. She made them directly accountable to her for reporting on the learning that took

place. The teachers were also responsible for accounting for how they were integrating the pedagogy into other areas of their curriculum. The objective was to make primary connections between the dance curriculum and English language arts, and secondary connections to social studies, math, and science. They shared with her examples of student work through writing projects, including poetry, reflective dance journals, and research projects of historic dance figures.

Teachers could not officially be asked to work on their lunch breaks by administrators because of union contracts. However, this assistant principal creatively swapped working lunches for additional preparatory periods for the teachers. The working lunches in the pilot were peer-directed exchanges with the purpose of discussing student learning. Another purpose was integrating the dance and creative movement work into different genres of writing. Student work, facilitated by the teachers, included ongoing poetry and reflective journal writing. The reading-writing teacher, who also worked in the study, directed the one class of third-grade students in a two-month process of developing research reports on dancers and choreographers of historic significance. This happened after the fifteen forty-five-minute dance lessons with me had been completed. During many of these fifteen working lunch meetings plus a preliminary curriculum development session, conversations included school gossip and politics and complaints about each other when one of the four teachers was absent or late. However, we bonded as a group. An overall sense of collegiality and supportiveness evolved. Consequently, the teachers were happy. Reports back to the assistant principal and principal were positive. The principal and assistant principal each stopped by our working lunches to check in with us for less than five minutes during the pilot. The assistant principal observed the dance work during the pilot for, at most, one minute.

Other aspects of the pilot's context made for an experience that from the logistical perspective flowed effortlessly. The music teacher offered her room for the pilot and the assistant principal agreed to its use. The music room was filled with natural light. It had adequate ventilation and a comfortable temperature. The floor was tile laid directly on cement. It was not the sprung wooden floor that would have been ideal for a dance studio. However, the room was largely cleared of furniture and had a working boom box with adequate sound quality and volume for CDs. There were musical instruments available and a flip chart for graphically organizing reflective class discussions. It was easily transformed into a working dance studio.

The assistant principal handled the logistics with great expertise so the teachers were relieved from participating in arranging logistical support. There was even a sense among them that they had been hand-selected for participation in a special program. One of the second-grade classroom teachers who also participated in the study had a classroom across the hall from the music room. She could quickly check to see that the previous class had left and that it was her class's turn to dance. This proximity facilitated the least amount of disruption possible to her class's schedule.

Two classes of second graders and one class of third graders and their four classroom teachers and one reading-writing teacher participated in the pilot. Participants were chosen on the basis of the assistant principal's belief that these would be the most receptive teachers in the school of over one hundred staff members. The pilot ran from January to April with each of the three classes receiving fifteen forty-five minute lessons. The reading-writing teacher continued the reflective portion of the work with students into June. I was paid for my professional services. This was a nearly ideal situation for any New York City public school. Yet, this was a school allowing an arts and dance-

based learning experience to unfold without the full support of its principal or of a pre-existing curricular orientation that included the arts.

Students were introduced to principles of kinesthetic thinking in the pilot with an emphasis on learning dance technique through a conservatory methodology. This approach is described in “Methods of Inquiry.” Students were introduced to this approach and worked on increasing their skills in dance technique throughout the pilot.

Improvisation was introduced gradually, at the end of each lesson, using five-to-seven-minute guided activities and assignments requiring cooperative problem-solving in small groups. Toward the end of the pilot, improvisational activities occupied more of each lesson but generally not more than twelve minutes. There was an emphasis on creation of a “safe space” from which students could gradually increase and demonstrate self-directed improvisational learning skills. Criteria for assessing students’ improvisational learning included: 1) risk-taking, as indicated by leading other students in movement improvisations and 2) voluntary contributions to class discussions.

The classroom teachers and the reading-writing teacher were responsible for facilitating student reflective writing after each session. There was generally just one teacher, either the classroom teacher or, occasionally, the reading-writing teacher present during each lesson that I taught. Teachers were asked to participate in any way that they wanted and to help keep the students focused, as needed. They were encouraged to find ways to model co-learning as participants or active observers. However, there was not a particularly high level of expectation placed on the teachers regarding their involvement during the dance and improvisational movement lessons.

One second-grade teacher had very poor behavioral modification skills and her class had gained a reputation as one of the worst behaved in the school. I demonstrated

behavior modification approaches in dance, such as outlining my expectations for all student behavior in dance class and consequences for infractions, consistently using hand gestures and vocal modulation for gaining order, immediately recognizing and directly addressing unacceptable behavior, and using time-out for disruptive students to observe, reflect, and regain composure. These approaches began to create a greater sense of order for this class during their dance lessons. Another technique was having the second-grade class observe an entire lesson danced by the third graders. The younger students wrote in their journals about the behaviors they observed the older students demonstrating.

Although these approaches generally helped to improve student behavior in dance class, the lack of consistency on the part of the classroom teacher seemed to prevent her students from demonstrating the behaviors being asked of them in dance throughout the school day.

This last exercise had a positive effect on the third graders. I noticed a particularly interesting effect in the area of performative improvisation. The experience of sharing their improvisational creativity seemed to catalyze the third-grade class beyond the relatively high level of achievement they were already experiencing. There was one diminutive boy terrified of dancing and dancing in front of his peers. He refused to take the role of leader in our group follow-the-leader improvisations until that lesson, during which he finally discovered the confidence to improvise. He did this while we maintained eye contact and I encouraged him with my facial expressions that he was doing excellent work.

Another third grader transformed in the pilot was an obese Mexican-American boy who had been, at a younger age, classified as a special needs student. The dance work stimulated his growth and self-confidence to such a degree that the teachers were



convinced that he was no longer a special needs child. He had not spoken in class discussions all year until dance class. Then, he began volunteering to speak during the class's reflective discussions. This behavior continued outside of dance class. His teachers also noted that the quantity of his writing increased. The reading-writing teacher tried to include him in the study because of the highly positive effects of the pilot on his dance and academic learning and emotional and social growth. But since he was not in the selected classroom teacher's class, he did not participate in the main study.

## 2. Rapidly Changing Conditions and Complexity in the Main Study

The main study occurred during the fifth year of my involvement with the school. However, major contextual shifts made for a new experience distinct from that of the pilot. The principal had retired and the assistant principal had been assigned to another school. Another assistant principal at the school, who I knew but with whom I had never worked, became interim-acting principal. An interim-acting assistant principal, new to and unfamiliar with the school, was now in charge of oversight for the study. A school-wide culture of learning and teaching in the arts had never evolved at the school because the previous principal emphasized high achievement on standardized reading and math scores over other kinds of knowing and learning. The reassignment to another school of the assistant principal, who had taken care of arranging for and following through on the pilot's logistical issues of scheduling, space, teacher oversight, and budgeting, left a gap. There was no longer a friendly administrative insider serving as liaison and advocate for the study to the school's leadership team and faculty.

The timing of my entry into the school for the study was delayed beyond what I knew would be the optimal starting date that the school could realistically support. This delay was caused by my negotiation of the Union Institute & University Internal Review

Board process for gaining approval to begin. The study was not approved to begin until after mid-March. There was a long vacation in April. This meant that the study would run through the end of the school year with the need to hold more than one lesson per week during some weeks in order to include the fifteen lessons and twenty-seven interviews that were planned. This created friction with the participating teachers even before the study began. They thought that I had intentionally caused the delay due to lack of organization and planning. They reached this conclusion based on knowledge that the study was about improvisation, and a misunderstanding that improvisation was synonymous with “winging it.”

The administrators’ and teachers’ reactions to the strict parameters for insuring informed consent of the participants made evident the differences between the cultures of the school and the university. The principal and teachers thought that the Internal Review Board’s insistence on the age-appropriate informed consent forms and the informed consent process that caused the delay were unnecessary. The informed consent forms were more comprehensive than the permission slips the school used. This reinforced the school personnel’s view that I was being needlessly difficult before the study even began. The teachers continued to remind me of this while questioning my planning skills and organizational abilities periodically throughout the study.

Although I maintained close contact with the interim-acting assistant principal before the study began, this was the first year of the reorganization, along a corporate model, of the New York City Board of Education as the Department of Education. There was a system-wide sense of disquiet and unease reinforced by early retirements of principals. There were many newly appointed interim-acting administrators who would not know until the end of the school year whether they would be retained by the system

or kept at their new school assignments. There were rumors of harsh corporate management techniques being used, including intimidation of superintendents and principals by higher-ups during regional meetings. New regional structures had been created incorporating several former school districts per region that cut across the city's geographical and political divides throughout the five boroughs. Formerly accessible district arts coordinators were, as regional arts coordinators, stripped of their abilities to fund school arts programs directly. They went from overseeing thirty to forty schools to hundreds. Some no longer answered their telephones or returned messages. I noticed a sense of dread and anxiety that pervaded schools throughout the city as though an imaginary guillotine might fall at any time. Survival became the watchword.

There was, additionally, a sense of dismay among the school's faculty that the assistant principal who had been the insider advocate for the pilot, had not been assigned to the school as principal the year of the study. Although she was not especially well liked, she was preferred over her colleague who landed the job. She was strict but had a reputation for playing fair. The recently retired principal, a former Catholic school principal with a reputation for caring only about literacy and math at the elementary school level, had mentored both assistant principals. The interim-acting principal seemed to the teachers to act in an arbitrary fashion and to play favorites. If she liked you, you were in. Otherwise, watch out. The reading-writing teacher advised me that all personnel were expected to buy her a gift the day she was permanently assigned to the school. The teacher mentioned that this administrator would remember who had remembered her and would settle scores through future work assignments.

Teachers seemed fearful of having their teaching assessed more harshly than prior to the citywide reorganization. Although exempt from that year's implementation of the

new citywide curricula in reading and math, there was anxiety permeating the school about whether student performance on the standardized tests would be high enough to maintain the school's status as a school exempt from the implementation of these new curricula. Fourth grade was a major testing grade in New York City and State. It was the grade I chose to work with in the study, by chance.

Participants in the study were chosen on the basis of interest. The reading-writing teacher wanted to remain involved in the study. She also recommended recruiting the fourth-grade teacher, a second-grade teacher in the pilot. Among her class's fourth-grade students were nine learners who had participated in the pilot as third graders with two other classroom teachers. It was reasoned that these students would help create enthusiasm among their peers and encourage everyone to agree to participate. I reasoned that in a large elementary school of twelve hundred students such as this, with so much resistance to, lack of experience in, and fear of the arts and dance, it was necessary to work with teachers and a bonus to work with students for a second year, who wanted to participate. The entire class of twenty-five students eventually joined the study. However, five students did not initially agree. Among the students not included in the study's pre-intervention nonverbal-kinaesthetic assessment were two boys from the pilot.

The study was initially assigned to a room next to the main entrance of the school. It was a small classroom that was filled with desks and chairs. In order to create space for each lesson, I broke down this arrangement of furniture and rearranged and stacked them as neatly as possible along the side of the room with the windows. After each lesson, I moved the furniture back to the original set-up. There was a CD player in the room that I was allowed to use, but it did not work. The classroom teacher then lent me her CD player. But it worked sporadically and the quality and volume were inadequate for the

range of music that I brought. However, I was already carrying so much equipment on the subway, including a digital camcorder, camera, CDs, portfolios of student work, papers to distribute, my field notebook, and other incidentals that I could not transport anything else. As the study progressed, one of the hottest springs on record unfolded that included weeks of temperatures in the high eighties and nineties. There were ozone alerts and warnings against physical activity. By this time we had already retreated to the fourth-graders' fourth-floor classroom in the brick building that retained heat like an oven because access to the originally assigned first-floor room was blocked by the delivery of one and a half tons of boxes of computer equipment. Even with two fans going, the heat and humidity in the un-air-conditioned classroom was unbearable. On several days students looked like they might faint.

The music teacher who had loaned us use of her room in the pilot was now only working part-time at the school. I never saw her that year until the day the study was completed. Unlike the pilot, that included ongoing working lunch meetings mandated by the administration, the teachers and I never met during the school day in the study. The interim-acting principal was unwilling or unable to arrange additional meetings for us. She refused and laughed when I asked her for them. I arranged one after-school meeting for us just after the study began. The two teachers and I walked to a café in the neighborhood and briefly discussed the study in general terms. The teachers talked with equal enthusiasm about school gossip and politics. Each of the teachers also met with me individually once or twice after school to discuss the study in the downstairs classroom or the lobby of the building. But we never met again as a group. There was never enough time or coordination between our schedules to do so. Nor was ongoing feedback required of the teachers by their supervisors, as in the pilot. The teachers in the study were not

expected to report on how they were integrating the dance work into their curricula beyond the ninety minutes of each lesson. They were not required to analyze how what they learned in the study would be used to benefit their students and colleagues.

The sudden and unexpected change of space required an accompanying change of pedagogical approach, as described in “Methods of Inquiry.” My response to the shift, without warning, to the inadequate classroom space was to use improvisation throughout each lesson. Until that point, the movement warm-up in the pilot and the study drew upon a traditional methodology recognized by the teachers as structured and challenging. The new context required a shift to a movement methodology that, because it was improvisation-based, was perceived by the teachers as random and unplanned. The teachers were unfamiliar with embodied improvisation as an arts-based methodology that was part of multiple communities-of-practice across the arts. The result was that they did not perceive its inherent learning challenges. They quickly concluded that the improvisational work was less challenging than the choreographed warm-up had been. It was easier for them to see whether a student could prolong a balance, for example, than to ascertain whether there was an increase in kinesthetic thinking and a broadening and deepening of embodied imagination.

Another difference contributed to the study’s increased contextual complexity. Starting within the first few minutes of the study, and unlike what occurred in the pilot, the teachers, asked to observe the students, began to randomly enter the dance space, physically manipulate the students, and call out to them, as they danced and improvised. Analysis indicated that these interventions were inhibiting factors for the students, many of whom were resistant to dance, unsure of themselves, constrained by the small space of the first room we used, and even more constrained by the even smaller space and

familiarity of the classroom. Analysis further indicated that these interventions by the teachers detracted from the creation of a safe improvisational space and demonstrated that the teachers did not see themselves as co-learners in, but co-directors of, the study.

The conditions in which the pilot unfolded were less complex than those of the study. The content and process of the arts-based pedagogy of the pilot were simpler than those required by the emergent complexity of the study. The methodological approach used during the pilot was differently and, ultimately, less demanding of student, teacher, and my own concentration, creativity, and capacity for self-directed learning. The model used in the pilot was closer to what critical literacy theorist Paulo Freire identified as “the banking concept of education” where information is deposited into the learner (58-63). Analysis indicated that this was the preferred pedagogical model of the school’s administration and teachers, working together to achieve high scores on standardized tests. Administrators and teachers were more supportive, positive, and participatory in the pilot. Analysis suggested that they seemed to recognize the pilot’s pedagogical methods as aligned with, and supportive of, their own.

The main study, by contrast, emerged as a case study in complexity. The context was Kafkaesque. Nothing preplanned was recognized as preplanned. Events did not unfold in the ways imagined. The preplanned or pre-envisioned elements of curriculum, space, participants’ reactions, and time of the year when the study would occur took on a life of their own. Although I planned to use the conservatory methods of the dance warm-up as I had throughout the pilot, the study’s rapidly changing context did not allow this to happen. My response to the emergent complexity was to improvise a pedagogical approach that was more similar to my own creative process than the pedagogy I used in the pilot. The pedagogy of the study was grounded in conditions of complexity,

ambiguity, and increased constraints. I began to emphasize a constructivist and discovery-based model of action and consciousness-raising education. Students and teachers were asked to become co-learners and co-creators of learning experiences along with, rather than provided by, me. An unexpected finding that emerged from comparative analysis of the pilot and the study was that the administrators, teachers, and students all participated in more openly transgressive-subversive behavioral patterns in the study than in the pilot. These behaviors were extant in the pilot. The analysis suggested that the conditions of increased complexity in the study exacerbated them.

The conditions of the study, as contrasted with the pilot, required different characteristics of student, teacher, and my own learning, including more highly adaptive problem-solving skills. These are the same characteristics that define artists: high levels of comfort with ambiguity, nonlinear analogical thinking, and flexibility or improvisational skill in responding with originality to complexity. Divergent rather than convergent thinking defines artistic creativity and was required by all learners, the teachers and I included, by the emergent conditions of complexity of the study. For example, lesson plans, no matter how eloquently written or precisely timed, if premised on use of a specific kind of space or consistent access to a working CD player, were now useless.

Performative improvisation, requiring use of originality or “creating out of nothing,” is an adaptive skill when encountering conditions of complexity. Performative improvisation is defined by quick and unplanned but imaginative solutions. The quickness and spontaneity is what creates the illusion that the creating is coming out of “nowhere” or “nothing.” But this is used in a magical or shamanic, not a literal sense. In the context of the study, *creatio ex nihilo*, ‘creating out of nothing’ involved kinesthetic



thinking revealed as embodied imagination by movement improvisation. However, creativity as a domain and embodied imagination as a construct were not known, understood, and taught as integral to the school's implicit and explicit curricula. In the study, adopting this kind of learner-directed constructivist and emancipatory discovery-based learning-through-embodied-improvisation confused, frightened, frustrated, made anxious, and sometimes even enraged the teachers.

### 3. Patterns of High Achievement

Despite these continually changing conditions and high complexity, patterns of high achievement emerged among the students who participated in both the pilot and the study. These patterns were indicated by the numeric configurations of the multimodal data. There were nine students, five girls and four boys in the study who participated in the pilot: *The Ballet Dancer*, *The combinator (aka The Hatred)*, *Courageous Person*, *crazy dancer*, *Harry*, *Martha*, *shy girl*, *Wild & Crazy Child*, and *wild beast*. Seven of the nine pilot students participated all five times the three instruments were used to collect data for the analytical crystallization for the study. *Crazy dancer* and *wild beast* participated in all but the pre-intervention nonverbal-kinesthetic assessment.

The nonverbal-kinaesthetic assessment called for demonstration of the student's embodied imagination using kinesthetic thinking skills in nineteen to twenty-one improvisations based on self-directed exploration of movement and movement qualities. Analysis of the pilot students' nonverbal-kinesthetic responses to these improvisational learning experiences revealed an increased ability to enter a state of creative kinesthetic continuity. They also demonstrated greater ability to maintain self-directed focus and concentration over an extended learning period than their peers without the benefit of the pilot. The analysis suggested that the students could more readily access, sustain contact

with and demonstrate embodied imagination.

Analysis of the patterns in the nonverbal-kinesthetic assessments suggested that participation in the pilot had a positive effect on the use and development of embodied imagination of the students. This learning effect was demonstrated through high achievement across the indicators of kinesthetic thinking used in the nineteen to twenty-one movement improvisations.

Five of ten (half) of the students in the pre-intervention, and six of twelve (half) of students in the post-intervention, nonverbal-kinesthetic assessments who scored above the median were pilot students. The five of the seven pilot students in the pre-intervention assessment were: *Wild & Crazy Child*, *Courageous Person*, *Harry*, *Martha*, and *The combinator (aka The Hatred)*. The six of the nine pilot students in the post-intervention assessment were: *Courageous Person*, *Wild & Crazy Child*, *crazy dancer*, *wild beast*, *Harry*, and *shy girl*.

Two of six (one third) of high-scoring students in the pre-intervention, and four of six (two thirds) of high-scoring students in the post-intervention, nonverbal-kinesthetic assessments were pilot students. Two of these four high-scoring post-intervention assessment students (*crazy dancer* and *wild beast*) who had been in the pilot, did not participate in the pre-intervention assessment. Pilot students were more likely than non-pilot students to achieve above-the-median scores in the pre-intervention and post-intervention nonverbal kinesthetic assessments, and to be disproportionately represented among high-achieving students in the post-intervention nonverbal-kinesthetic assessment.

*Wild & Crazy Child* and *Courageous Person* were the students in the class who achieved the two highest scores in the pre-intervention and post-intervention assessments.

*Wild & Crazy Child* scored in first place (of twenty students) in the pre-intervention assessment and *Courageous Person* was the second highest-scoring student. *Courageous Person* scored first place (of twenty-three students) in the post-intervention assessment and *Wild & Crazy Child* was tied for second place with *Balancesir*, a non-pilot student.

Analysis of the nonverbal-kinesthetic assessment indicated that both students showed high-level access to embodied imagination through improvisational learning. Both had previous experiences learning and performing the traditional dance and music forms of their cultural heritages. *Wild & Crazy Child* learned and performed cultural dances at her Croatian culture school. *Courageous Person* learned Bengali *natch* (dance) and *gan* (song) from friends and performed them at family picnics. But neither student reported experiencing performative movement improvisation before the pilot.

Each of their teachers made a point to tell me individually that both of these girls were overly self-conscious of the effect they had on adults. The teachers rarely, if ever, complimented these students on their emerging dance skills, improvisational creativity, and stage presences. The research analysis indicated that these girls were the highest achievers in relation to their pilot and non-pilot peers, in the application of creative process-oriented kinesthetic thinking skills through embodied improvisation. Yet, their teachers did not perceive the students' increased access to, and greater use than their peers of embodied imagination, as positive learning attributes in the study. The teachers, instead, perceived the students' consistent demonstrations of embodied imagination in multiple learning contexts in the study as negative characteristics requiring behavior modification.

The numeric configurations of the data from the pre-intervention and post-intervention questionnaires suggested that having participated in the pilot also had

positive effects on high achievement on the questionnaires. The patterns indicated that participation in the pilot had greater effects on the pre-intervention, than the post-intervention, questionnaire. But positive effects on high achievement were evident in the results of both pre-intervention and post-intervention questionnaires. Learning was demonstrated on the questionnaires through descriptive responses to open-ended questions about dance and definitions of specific vocabulary used during the study.

Six of twelve (half) of twenty-three students participating in the pre-intervention, and four of twelve (one third) of twenty-five students participating in the post-intervention questionnaires, who scored above the median were pilot students. The six pilot students in the pre-intervention questionnaire were: *The Ballet Dancer*, *Wild & Crazy Child*, *The combinator (aka The Hatred)*, *shy girl*, *Courageous Person*, and *Harry*. The four pilot students in the post-intervention questionnaire were: *Harry*, *The Ballet Dancer*, *crazy dancer*, and *Courageous Person*.

Four of six (two thirds) of high-scoring students on the pre-intervention, and two of six (one third) of high-scoring students on the post-intervention questionnaire were pilot students. Two pilot students (*The Ballet Dancer* and *Wild & Crazy Child*) were among the three highest-scoring students tied for first place of the twenty-three students taking the pre-intervention questionnaire. *Harry*, the highest scoring of twenty-five students on the post-intervention questionnaire, was a pilot student. *The Ballet Dancer* was one of the three students tied for second place on the post-intervention questionnaire.

The interview demonstrated learning through spontaneous responses to content and process-based open-ended questions as well as to questions asking for specific definitions of vocabulary from the study. Analysis of the interviews indicated that the students who were high-achieving students in the interviews were those who provided the most

content-rich responses sustained over the longest amount of time with the greatest amount of ease. Using these criteria for assessment, four of six (two thirds) of high-achieving students of the twenty-five students interviewed participated in the pilot. These students were: *The Ballet Dancer*, *Courageous Person*, *Wild & Crazy Child*, and *crazy dancer* (see appendix C, section 2, pp. 183-88).

Striving to locate the characteristics of reflective responses particular to improvisation-based embodied learning experiences among students in the study led to the use of a finely focused analytical lens. The following criteria were used to analyze, describe, and present the results of the multimodal forms of data: a) participation in the pilot, b) participation in all five administrations of the three data collection instruments, c) scoring at least above the median in both nonverbal-kinesthetic assessments, and d) scoring in first place in at least one of the four administrations of the nonverbal-kinesthetic assessments and the questionnaires. Use of this sharpened lens indicated that three students most consistently demonstrated the characteristics of the reflective responses under study. The analysis indicated that these three students, two girls and a boy, were: *Courageous Person*, *Harry*, and *Wild & Crazy Child* (see appendix C, sections 1-4, pp. 181-90).

*Wild & Crazy Child* and *Courageous Person* were the highest-scoring students in the nonverbal-kinesthetic assessments. *Harry*, although consistently scoring above the median, was not one of the six high-scoring students in the nonverbal-kinesthetic assessments. He was, however, the student in the study with the most reported athletic activity outside of school. In his interview, *Harry* said that he played games of basketball, soccer, football, baseball, and volleyball organized with friends, and did something physical “almost every day” for “three or five hours” a day. Analysis indicated that *Harry*

and *Wild & Crazy Child* were the two students in the study who exercised outside of school most consistently and rigorously using a variety of cross-training methods. *Wild & Crazy Child* had studied Croatian dance, jogged with both parents, including her father who was training her to run track, and planned to enter a dance school to study concert dance techniques in the fall.

In one of twenty-one dimensions or criteria in the pre-intervention nonverbal-kinesthetic assessment, the reflective responses of these students overlapped as a demonstration of all of the movement or movement quality assessed. This overlap occurred in their Sustained use of Time. In six of nineteen dimensions or criteria in the post-intervention nonverbal-kinesthetic assessment, the reflective responses of these students overlapped as a demonstration of all of the movement or movement quality assessed. These overlaps occurred in their use of: Narrow dimension in the Horizontal plane in Space; Forward and Backward dimensions in the Sagittal plane in Space; Single Focus in and Direct use of Space; Quick use of Time; and Bound Energy-Force-Weight.

Analysis of the multimodal (verbal and nonverbal) reflective responses of these three students in the study indicated the following shared characteristics: exercise of embodied imagination as evidenced through practice of kinesthetic thinking, including dance, sports, and play; direct focus and quick and sustained use of time; attention to detail, also suggested in learning outside of school through formal and informal means about their cultural heritages, including spoken and written language, dance, music, and tutored study of the Koran (*Harry*); and capacity for self-directed learning, demonstrated by working constructively, alone and with others. Developing a synthesis of these characteristics provides additional data that contribute to answering the research questions. The results indicate that the characteristics of reflective responses particular to

improvisation-based embodied learning experiences are: physically informed, spontaneous, focused, imaginative-artistic, self-directed and inclusive of others (see appendix C, pp. 181-92).

#### 4. Summary

In one year the context in which the research unfolded at the school changed rapidly and unexpectedly. Stable conditions and relative calm were provided by the presence of one insider-advocate administrator during the pilot study. This allowed a movement pedagogy to unfold that focused on dance technique with highly controlled and limited movement improvisation. Rapidly changing conditions, complexity, and new supervisors characterized the context of the main study. Adequate conditions in the pilot study were not present in the main study. The movement pedagogy in the main study demonstrated responsiveness to the conditions and complexity through greater use of improvisation and increased opportunities for student discovery and student-directed movement and decision-making within the group. Despite the context and high complexity, patterns of high achievement were evident among students who had been in the pilot, relative to other students.

The purpose in this chapter has been to answer the research questions: What are the characteristics of reflective responses particular to improvisation-based embodied-learning experiences? Are these responses teachable? What would constitute their pedagogy? Analyzing the descriptive presentation of this chapter results in a crystallization of its findings and answers to the research questions as follows. The characteristics of reflective responses particular to improvisation-based embodied-learning experiences are: physically informed and felt, multimodal (verbal and nonverbal), nonlinear-analogical, spontaneous, focused, and unique. Reflective

responses, defined as thinking about one's embodied knowing (thinking and learning) can be taught. Their pedagogy would combine movement improvisation and reflective methods. The objective of the pedagogy would be to access embodied imagination. The answers to the questions are findings that will serve as the basis for "Interpretation of the Data."



## Chapter Five

### Interpretation of the Data

This chapter introduces the framework used in the following interpretation of the data. The objective of this chapter is to use the findings, including the responses to the research questions presented in “Descriptive Presentation of the Results,” as the basis for “Interpretation of the Data.” The rationale is to develop theoretical and practical understanding of the findings in improvisational movement and embodied learning.

Conceptual leverage for the methods used in the interpretation comes from Norman K. Denzin and Yvonna S. Lincoln’s characterization of the field of qualitative research as “endlessly creative and interpretive.” For Denzin and Lincoln, “The interpretive practice of making sense of one’s findings is both artistic and political. [. . .] There is no single interpretive truth” (Sage 26). Their assessment is that the larger qualitative research purpose evoked in “the eighth [and ninth] moment[s]” (as they describe development of qualitative research), defined as from 2005 and into the future, is “to help create and imagine a free democratic society” (x, 20). The purpose of this study was to construct a theory of accessing embodied knowing through use of movement improvisation and reflection as an approach to experiential learning. The complexity of research problems is the central rationale for the selection of methods.

Denzin and Lincoln and other qualitative research theorists, philosophers, artist-scholars, and transdisciplinary practitioners challenge objectivist research paradigms as incongruent with qualitative research’s substantial and documented history, theory, and practice (Charmaz, “Twenty-first Century”; Denzin; Denzin and Lincoln Sage, pref., introd.; Fosnot; Greene, “Constructivist”; Kincheloe and Berry; Kincheloe and McLaren; Smith and Hodkinson). Their combined theoretical critique includes the argument that

these objectivist paradigms are constructed on restricted ontological, epistemological, methodological, and interpretive premises and assumptions.

Fundamental to the critique of objectivist theory is its insistence on the existence of externalized truth independent of human perception and participation in the research process. Another critique of objectivism involves the methodological possibility of “discovering” essential knowledge through reductivist means. Reductivism maintains the Cartesian subject-object divide. It posits the possibility of gaining “objectivity” through removal of the researcher from the object of study. Qualitative research paradigms maintain that the irreducible presence of the researcher throughout the knowledge construction process is part of the research project. Critical to the methodological and interpretive approach of constructivism is making explicit the researcher’s situated presence. Accepting that the embodied human researcher participates in the context through which the research process unfolds is congruent with an ontological and epistemological perspective that knowledge is humanly constructed. Objectivists maintain that occlusion of the researcher’s presence and participation in all aspects of research, including interpretation, is possible. Constructivists dispute this claim. The researcher’s irreducible presence in all aspects of the research process, including interpretation is part of the central theoretical critique of objectivist research by constructivists—such as theorists Norman K. Denzin, Yvonna S. Lincoln, Joe L. Kincheloe, and Kathleen S. Berry.

Interpretation involves explaining why something turned out the way it did. Assessing and analyzing the results of the data by using what qualitative research scholar Michael Quinn Patton identifies as different interpretive frameworks and theoretical perspectives (“Inside”) is one approach to interpretation. The rationale for this approach

is the goal of achieving a transdisciplinary interpretation through use of multiple perspective-taking by overlapping and superimposing their frameworks on the data.

Interpretation involves, as do the other phases of naturalistic, transdisciplinary, and qualitative-artistic research, achieving balance and interactivity among rigor, creativity, reflexivity, and transdisciplinarity. Patton highlights boundary crossing by explaining that why something occurs “goes beyond” the data itself (“Inside”). The concept of the imagination provides support for going beyond the “known” (the data) in a process of transdisciplinary knowledge construction toward the “not yet known” (an interpretation of the data). Degrees of rigor (discipline), transdisciplinarity (boundary crossing), reflexivity (reflective self-awareness), and creativity (originality for the individual participant), are therefore posited as the criteria for evaluating the interpretation in this chapter.

### 1. Origins of Accessing Embodied Imagination through Movement Improvisation

The preliminary interpretive thinking for this chapter began with the conceptual origins of movement improvisation and its role in embodied creativity and learning. Theorist Maxine Sheets-Johnstone’s transdisciplinary research focus on phenomenological hermeneutics in the domain of paleoanthropology provided a core concept for interpretation of the findings. The upright, forward-facing, two-legged orientation of the hominid allowed experiencing and exploration of three-dimensional space. This paleoanthropologic phenomenological space emerged through “binary periodicities” (regularly recurring felt rhythms) (ch. 3).

Sheets-Johnstone’s phenomenological hermeneutics posits hominid (kinesthetic) thinking as interconnected with the definition of hominid frontal-bipedal binary space. Movement improvisation emerges as the central effect and concept of defining

frontal-bipedal binary space by moving freely in it. Contemporary examples of this effect include the phenomenon of krumping, a recent development of hip-hop (LaChapelle; Paggett). Improvisation-based embodied learning experiences involve a feedback loop of doing and reflecting in which there is a temporal gap while experience is converted to linguistic form. This gap begets body-mind separation (a mind that thinks and a body that does) reconstituting the mind/body Cartesian divide. However, movement improvisation involves a temporal continuum; the temporal gap is collapsed when improvisation is done freely without cognitive oversight, i.e., from spontaneous action rather than premeditative action and ongoing analysis.

Improvisation then appears—as a result of its element of heightened spontaneity—as instantaneous, without premeditation, planning, or (cognitivist) thinking. Collapsing the temporal continuum, as in improvisational behavior, reveals the phenomenon of kinesthetic thinking (thinking by doing).

Kinesthetic thinking, understood through a descriptive framework of improvisation and an interpretive framework of paleoanthropological hermeneutics, is the basis for *creatio ex nihilo*, ‘creating out of nothing’ (paleoanthropological creativity in an undeveloped environment). Using these two frameworks, the capacity and the facility for human embodied imagination is stimulated by kinesthetic thinking and accessed through integrative movement improvisation. A phenomenological hermeneutic of hominid space provides a core concept for embodied imagination in which fundamental movements are constrained by and directed by environmental conditions, which is to say, the conditions of survival and the unceasing manipulation and innovation required. Embodied imagination demonstrated through movement improvisation can be posited as the origin of embodied creativity and learning.

## 2. Contextual Contrasts: Blocking or Accessing Embodied Imagination?

The underlying conditions for the ongoing contextual and behavioral challenges of the main study were already present in the facilitative conditions experienced in the pilot study. One overarching condition arose from the philosophical orientation of the school culture and determined the operational conditions for the entire research project. The administrators, teachers, and the researcher brought differing ontological, epistemological, methodological, and interpretive lenses to the research project. This awareness of differing lenses was unexpected insofar as previous teaching had been conducted at the school without a concurrent research focus and the need for a rigorous qualitative analysis. These differences were not made evident until the analysis phase of the research study when they were made explicit as a result of the crystallization of data collection methods. The roles these differences played in the research provided the basis for the findings and development of the constructivist grounded theory.

The methods of the pedagogy used during the pilot study superficially converged with and more closely mirrored the positivist underpinnings of the school's philosophical premises and assumptions than the pedagogical methods of the main study. The stable organizational conditions and relative calm during the pilot study allowed emphasis on a conservatory methodology to continue undisturbed. The school maintained an emphasis on clarity, modeling and repetition, highly controlled and limited experimentation, and preconceived outcomes for student work. Teacher and teaching artist-imposed behavioral modification techniques were used when student behavior fell outside school expectations for their behavior.

Conducting the learning experiences fit neatly within the allotted forty-five minute timeframes. The expectations of the teachers, students, and the pilot study were met but

not energetically challenged beyond what we already assumed we knew or might know after fifteen forty-five-minute lessons. Student, teacher, and the pilot study's definitions of dance were not challenged beyond our assumptions of what comprised a movement experience in dance. Improvisation was introduced but not emphasized. Student participation and success were defined as those actions meeting the teachers' and the research expectations. Creativity was defined by teachers as pre-structured problem-solving. Creativity was allowed to unfold within strict boundaries through highly structured activities defined by cooperation requiring convergent but not divergent thinking. A high level of concrete thinking and a low level of abstract thinking were required of and evident among teachers and students. Analysis of the written data, including student journals, poetry, and dance research reports showed less rigor and creativity (divergence and originality) than was initially envisioned would emerge in the pilot study.

Despite the success of the pedagogy, questions remained. What conditions would create a school-wide arts curriculum? What other behavioral management methods would encourage the worst behaving class in the school to meet the school's expectations for behavior? How would greater creativity and deeper reflexivity (including teachers and students) be fostered? How could embodied imagination be accessed for learning and teaching purposes?

The main study began with the intention to increase pedagogical emphasis on creativity and creative process. There was also an intention to develop a pedagogy in response to the actual conditions as they unfolded and learning as it was observed. The researcher's assumption was that my own learning, teaching, and creative processes would be fully but differently engaged and challenged than during the pilot. A

constructivist orientation was implicit in the premises, assumptions, and methods used in the main study.

One teacher was familiar with constructivism through professional development regarding learning theories provided by the Department of Education. The other teacher knew of the theory from recent undergraduate college courses. But the actual context of the fourth-grade class during the main study included yearlong emphasis on preparation for standardized tests. Focus on testing led to school-based prescription of curricula, methods, and assessments. Tests were external factors fostering a classroom atmosphere charged with competition, fear, and pressure to work quickly and efficiently. In this context, including rapidly changing conditions and complexity, improvisation was perceived by the teachers in its vernacular sense as a short-cut to problem-solving required by inadequate conditions and unexpected change. Short-cuts were viewed as a survival tactic. Improvisation was seen as a necessary but never preferred way of perceiving, thinking, and working. It was not experienced, understood, or defined by the teachers as higher-order (cognitive) thinking or as a methodology to access creativity and originality for the individual learner.

Contrast emerged in the main study between the methodological and interpretive approaches that the teachers and I used involving the framing of behavior and mistakes that further revealed the contrast in our ontological and epistemological orientations. This contrast underscored the differences between our philosophical orientations to theory and practice.

Literacy and mathematics testing strategies were a pedagogical focus of the teachers' curriculum. The teachers discussed behavior and mistakes with students during the main study in testing and grading terms such as subtracting points from scores and

lowering grades for poor behavior during movement lessons. The teachers viewed student behavior as requiring ongoing external hyper-vigilance. The teachers did not use behavior modification strategies that incorporated structures and processes to encourage internalization of self-direction, self-correction, and peer mediation through practice. I witnessed these practices elsewhere, including a fourth-grade classroom courtroom designed to develop behavioral guidelines and mediate infractions and penalties. At the school research site mistakes were seen as lapses of focus, concentration, discipline, and incorrect acquisition or application of information rather than as possibilities for learning and new meaning-making.

Analysis revealed the teachers socializing students to experience mistakes as limiting rather than expanding opportunities for new learning. Mistakes became shameful and punishable lapses in the context of standardized norms of predetermined behaviors and required logo-centric learning outcomes. Mistakes were also used in ways, particularly evident in the main study, to classify and separate students and teachers from each other rather than to build a community-of-learners. One result of this emphasis on externalization of behavior modification and the logo-centric fear of error was that creativity was effectively stifled.

Improvisational movement strategies were a focus of embodied-learning pedagogy. From the improvisational dancer, actor, musician, clown, poet, performance artist, playwright, composer, choreographer, and director's perspectives, disciplined behavior is self-directed and group-and-peer-determined and mediated. Mistakes are opportunities for new ways of perceiving and also openings to previously unimagined movements, directions, and possibilities otherwise foreclosed by the logo-centric ego. Without physical transitions and kinesthetically felt shifts of understanding there is no dance, no



risk, no learning, and no breakthroughs to new forms. A pedagogy that is process and discovery-oriented requires movement and action for its implementation. Movement that is discovery-based becomes transgressive in an otherwise static learning environment.

This perspective falls within the domain of constructivism (Fosnot ix). For Dewey, experience involves doing and undergoing (Art 44). In movement therapy the essential therapeutic element is “the sensation of moving and being moved” (Pallaro, Essays, Moving; Whitehouse 243). Without mistakes there can be no movement and no change through improvisation. Without the need to shift and adjust one’s meaning-making in response to error everything is already decided and completed. Teaching and learning then require imitating someone else’s form. Teaching to the test overrules the teachable moment. Creativity is suspected as distraction from, rather than essential to, the individual’s learning process.

From the constructivist perspective, teachers provide opportunities for students to confront limitations and challenges in order to adjust and readjust their assumptions and premises. Mistakes create dynamism, define learning, and stimulate creativity. Disciplined, multimodal reflective practice integrates mistakes into the experience of breaking through to new learning and new meanings.

Disequilibrium facilitates learning. “Errors” need to be perceived as a result of learners’ conceptions, and therefore not minimized or avoided. Challenging, open-ended investigations in realistic, meaningful contexts need to be offered which allow learners to explore and generate many possibilities, both affirming and contradictory. Contradictions, in particular, need to be illuminated, explored, and discussed. (Fosnot and Perry 34)

The role of the teaching artist is facilitator of experiential, arts-based, and aesthetic learning. Use of imagination and development of positive group dynamics emerge from the learning processes released through kinesthetic arts practices grounded in substantial

history and theory. Movement and process are essential elements of discovery-based human development (learning) through dance. In the main study an objective emerged to facilitate opportunities for greater self-direction, discovery, and empowerment for students.

This emergent objective corresponded with Maxine Greene's observation, consonant with constructivism that, "In many respects, teaching and learning are matters of breaking through barriers—of expectation, of boredom, of predefinition. To teach, at least in one dimension, is to provide persons with the knacks and know-how they need in order to teach themselves" (Releasing 14). The educational objective that Greene identifies defines the role of the teaching artist as constructivist teacher-as-facilitator of new learning.

The school culture emphasized teaching and learning to build the individual's competitive skills at the expense of developing the individual as part of a community-of-learners working to create shared meanings and support each other's arcs of discovery. Self-direction was not as important as following direction. Meaning was already "out there" as an external reality to be acquired from the expert (teacher or teaching artist). The emphasis was on producing high scores and polished learning products, including routinized dance sequences rather than encouraging students to discover their own voices, individualized meanings, and inner necessities for movement.

This positivist approach was presented as the US and New York City teaching and learning norm in a highly multicultural school in a neighborhood of recent immigrants and low to middle socioeconomic status. All of the students in the class brought prior learning and experiences of embodied learning, knowing, improvising but they were being socialized to accept the dominant US cultural values including competition,

commercialism, and complacency.

The arts, dance, movement, and embodied imagination were revealed by contextual contrasts as tolerated but considered extraneous and dispensable in what the Department of Education considered an exemplary school. The contents and processes of creativity were not perceived as integral to supervisor, teacher, staff, parent, and student learning and becoming. The arts, when present, were expected to serve improvement on standardized test scores. All pedagogies deployed by the school were expected to perpetuate the underlying positivist premises, assumptions, and methods of the school's personnel and culture, and never bring them, even unwittingly, into question. Interpretation of the underlying positivist philosophical and conceptual orientation of the school culture indicated that the ideal outcomes for student behavior and achievement would be conformity, convergence, passivity, and replication. Freedom of movement was discouraged; access to all ways of learning was denied.

### 3. Contrasts in Achieving Access to Embodied Imagination

Observation of *Wild & Crazy Child* over two years showed that she demonstrated a high-level kinesthetic intelligence. She could learn and demonstrate dance exercises quickly and with ease. She said in her interview that she wanted to be a modern dancer. Yet she seemed in the study to coast on her kinesthetic abilities and did not push herself toward higher accomplishment. Her teachers said in critique that they also observed *Courageous Person* as self-consciously aware of the effect she was having on others, especially adults. In alignment with the literature the teachers made negative assessments of all four of the students who scored highest in the post-intervention nonverbal-kinesthetic assessment. These negative assessments resulted from the students' consistently high-level demonstrations, the "acting out," of creative kinesthetic thinking

that was divergent, independent, and analogical (Oreck, Baum, and McCartney).

This is not to say that the teachers exclusively assessed the creative improvisations of these students negatively or that the teachers' comments conflicted with all the rest of the data (see appendix C, sections 5-6, pp. 190-92). But the other patterns that were revealed through the crystallization and analysis of the multimodal data, (i.e., the role of context, transgressive-subversive behaviors, teacher resistance, gender differences, and anomalies) indicated that there was a conflict between the perceptions of the teachers and my own regarding our assessment of the creative movement-improvisation work-in-process and reflection-in-action that took place. Analysis of the patterns that emerged from the multimodal data was the determining factor for posing the teachers' comments as conflictual with my appraisal of the strength of the creative movement-improvisation work-in-process and reflection-in-action that took place for certain students.

Analysis of *Courageous Person*'s ability to gain attention while improvising indicates that this self-conscious (metacognitive) awareness, made salient through her movement, is part of the matrix of kinesthetic thinking abilities accessed by movement improvisers. This analysis suggests that a metacognitive (reflective) aspect to kinesthetic thinking can be developed while improvising. All four of the highest achieving of twenty-three students completing the post-intervention nonverbal-kinesthetic assessment displayed this ability to access and demonstrate the embodied imagination, although in different ways throughout the study. These students were *Courageous Person* (highest score), *Wild & Crazy Child* (tied for second-highest score with *Balancesir*), and *crazy dancer* (third highest score). Three of these four were students who had participated in the pilot. *Balancesir* had not. But like the students who had been in the pilot he also had previous experience with movement improvisation, supporting the finding that reflection

on embodied learning can be taught.

The objective of the pedagogical intervention in both movement learning-modules in the pilot study and the main study was to change the relationship between physicality and cognition. Rather than positing that thinking precedes action, the accepted teaching and learning practice at the school, the movement learning-module reversed this sequence. The movement improvisation pedagogy required moving first then thinking about one's thinking through reflection.

The rationale for this pedagogical reversal of accepted sequence was to gain access to embodied knowing through embodied imagination. The literature and personal experience regarding embodied imagination indicated that this process does not involve collapsing the temporal gap, no matter how reduced, which still leaves a time lag between thought and action. This gap perpetuates the experience of fragmentation stemming from the Cartesian divide of an otherwise integrated body/mind. Letting go of the cogni-centric learning sequence promoted by the dominant culture and pedagogy of the school as the only one possible, required learners to work directly from physical sensory perception and to allow decentralized or embodied knowing to occur. Movement experienced as embodied knowing is integrative, healing, and an exemplar of constructivist process-based learning as described by educators such as Maxine Greene ("Constructivist"), Richard L. Hopkins, and Shaun McNiff (Art Heals).

Some students were not as readily able to access this embodied learning sequence and self-direct their movement improvisation as others. An interpretation of this finding is that these individuals continued using and could not yet let go of the dominant learning approach of the school. This persistence blocked access to the non-logo-centric (creative and cognitively decentralized) approach of the movement improvisation pedagogy.

Students who had participated in the pilot were more likely to demonstrate high achievement through reflective responses than others. Students from the pilot study found the pedagogy of the main study more challenging than that of the pilot. And they demonstrated greater use of this embodied learning approach than other students.

The disproportionate high achievement among students from the pilot study in relation to others is interpreted as a cumulative effect of embodied learning through movement improvisation. Once the embodied imagination was accessed through experience, subsequent embodied learning was more likely to appear as high achievement through nonverbal and verbal reflection. But opportunity for access was key.

From the interpretive perspective of transdisciplinarity, these high-achieving kinesthetic learners were breaking personal boundaries through their demonstrations of movement improvisation in a school without deep commitment to arts teaching and learning. This was a transgressive act in the context of a school emphasizing high achievement on standardized tests and behavior modification through reductivist methods often leading to convergent thinking, conformity, and passivity. From the perspective of a paleoanthropological interpretive framework, disproportionate high achievement among students participating in the pilot study indicated heightened access to embodied imagination through movement improvisation.

#### 4. Toward a Theory of Accessing Embodied Imagination

Constructing a theory grounded in the data involved crystallizing the findings, including the answers to the research questions from “Descriptive Presentation of Results” with the interpretation presented thus far in this chapter. Crystallization is a transdisciplinary metaphor for an interpretation that includes boundary crossing by uncovering data previously occluded by competing ontological, epistemological,

methodological, and interpretive frameworks. Crystallization also provides a transdisciplinary metaphor for knowledge construction and theory development. It is a conceptual tool for crossing from the known (the interpretation) to the unknown (the theory).

The rationale for presenting this theory of Accessing Embodied Imagination is that it offers the possibility to broaden conceptualization of learning and thinking to include embodied learning and knowing. The rationale is also to broaden conceptualization of creativity as an adaptive, fundamental, and accessible human characteristic. This broadening of the concept of creativity through embodied imagination also expands the definitions of achievement and genius beyond a small logo-centric minority to include creativity and genius accessed and demonstrated in other modalities, including embodied ways of knowing. The process of developing this theory of Accessing Embodied Imagination derived yet departed from the constructivist grounded theory approach to theory development. The theory is meant to be a framework and tool for approaching understanding of embodied knowing emerging through a transdisciplinary knowledge construction and theory development process.

Accessing Embodied Imagination requires a non-logo-centric learning sequence that includes moving freely in frontal-bipedal binary space then thinking about one's experiences through multimodal reflection. Frontal-bipedal binary space is phenomenological space experienced in 3-dimensionality, i.e., Laban's three planes combined, and experienced through direct and indirect use of space. This learning sequence represents a reversal of the learning sequence demonstrating and supporting logo-centric ways of knowing. The reflection portion of the learning sequence includes savoring the experience through multimodal reflection and by verbalization, naming the

experience using descriptors and definitions, and interpreting the experience by any mode. Accessing Embodied Imagination reverses the relationship between cognition (thinking) first and movement following. This reversal allows access to embodied knowing. Accessing Embodied Imagination becomes a self-empowerment event for nonlinear children and adults through the experience of embodied learning. Additional benefits to the learner result from the integrative element of movement with collapsed temporal continuum that emerges through moving freely in frontal-bipedal binary space. These benefits are healing that accrue through creating by decentralizing (letting go of) and reversing fragmentation. The integrative element of movement connects embodied knowing and bio-consciousness, which, according to Antonio Damasio, is the neurological basis for cognition linked with emotion through the body. The degree to which Accessing Embodied Imagination has been accomplished can be assessed using the criteria that were grounded in the multimodal data of this research project. Answering the research questions resulted in a set of criteria, the characteristics of reflective responses particular to improvisation-based embodied learning experiences. The criteria are the degree to which the multimodal reflective responses to the movement improvisation experiences are: physically informed and felt, multimodal, nonlinear-analogical, spontaneous, focused, and unique.

## 5. Summary

Conceptual leverage for positing embodied imagination demonstrated through movement improvisation as the origin of creativity and learning came from the domain of paleoanthropology. Accessing embodied imagination, grounded in kinesthetic thinking, was shown to occur through movement improvisation. Contextual contrasts indicated underlying positivist and constructivist learning sequences. Highest-achieving students in



the main study had disproportionately been in the pilot study. Highest-achieving students displayed a metacognitive (reflective) aspect to their movement (kinesthetic thinking) while improvising. Their increased access to and demonstration of embodied imagination was interpreted as a cumulative and integrative effect of movement improvisation. In both the pilot study and the main study there was a movement-learning sequence of moving first then reflecting on the movement event. This non-logo-centric pedagogical approach reversed the prescribed logo-centric pedagogy of the school. The rationale for the embodied-learning pedagogy was gaining access to embodied imagination. In the context of the school culture, accessing the movement-learning sequence was interpreted as boundary crossing and transgressive (transdisciplinary) learning. Throughout this chapter, the Accessing Embodied Imagination Theory was constructed by integrating a constructivist grounded theory approach with a theory development process of transdisciplinary crystallization.

## 6. Conclusions

This interpretation indicated an embodied, kinesthetically felt imagination distinct from imagination defined as thinking in visual images. This construct of an embodied imagination required a conceptual shift from a visual and linguistic to a kinesthetic and embodied orientation. While this connecting of the visual to thinking through the imagination is a historic privileging of the visual over the other senses, the kinesthetic is increasingly posited as the basis for human cognition. Maxine Greene's definition of the imagination as thinking of things "as if they could be otherwise," might be reformulated to encompass this concept of the embodied imagination: feeling and acting as if things were otherwise ("Teaching" 1).

A theory of Accessing Embodied Imagination explains the characteristics of

reflective responses particular to improvisation-based embodied learning described in “Descriptive Presentation of the Results” as physically informed and felt, multimodal, nonlinear-analogical, spontaneous, focused, and unique. It offers the possibility to broaden conceptualization of learning and thinking to include embodied knowing through movement improvisation. This broadening would serve to expand notions of learner success to include nonlinear, experiential, and kinesthetic learners with associated learning styles. And reciprocally, accessing embodied imagination through embodied learning would provide new experiential channels for individuals to explore who are otherwise not, yet, able to access and make explicit their embodied knowing and imagining.

## **Chapter Six**

### **Recommendations for Future Research**

The purpose of this chapter is to make recommendations for future research that emerged as a result of this study. The basis for these recommendations comes from analysis of the opportunities and openings created by this research project. The rationale for the recommendations is to identify areas suggested by the research for further investigation, analysis, and interpretation. Analysis revealed that research opportunities created by this study include the domains of theory and practice. The criteria for inclusion of recommendations in this chapter are that they involve transdisciplinary research with the potential for making a meaningful and socially relevant contribution to knowledge construction.

Areas of future research suggested by this study are: 1) descriptive presentation and interpretation of the emergent themes from the study not included in this Project Demonstrating Excellence, i.e., transgressive-subversive behaviors, teacher resistance, gender differences, and anomalies; 2) broadening and deepening conceptualization of transdisciplinary knowledge construction; 3) contributing to the conceptualization and development of the domain of qualitative-artistic research from the perspectives of embodied imagination, movement improvisation, embodied learning, and uses of technology for data collection, coding, analysis, and interpretation; 4) refining use of the nonverbal-kinesthetic instrument developed for assessing movement improvisation and embodied learning; 5) inquiry into embodied imagination as a source of connectivity between the domains of embodied learning, literacy, and mathematical thinking for nonlinear, kinesthetic, and experiential learners; 6) analyzing the contexts and conditions for sustaining partnership models of arts-based learning and teaching in public schools

that include the participation of arts and culture organizations; and 7) intercultural transdisciplinary inquiry into movement as embodied imagination using the theory of Accessing Embodied Imagination to examine perspectives of varied forms of movement, consciousness, learning, teaching, and creating in different cultural contexts.

### 1. Emergent Themes

The data set for this research included more data than could be considered for descriptive presentation and interpretation in this Project Demonstrating Excellence. The themes that emerged during analysis provided a basis for continuing research, analysis, and future publication. Patterns were revealed through crystallization and analysis of the numeric configurations of the data in the study. These patterns included the emergent themes of the role of context, high achievement, transgressive-subversive behaviors, teacher resistance, gender differences, and anomalies. Analysis and interpretation of the role of context and high achievement provided the basis for “Descriptive Presentation of the Results” and “Interpretation of the Data” and the development of a theory of Accessing Embodied Imagination. The themes of transgressive-subversive behaviors, teacher resistance, and gender differences each suggest openings for further analysis, interpretation, and future research.

### 2. Transdisciplinary Knowledge Construction

This study contributed to opportunities for research by broadening and deepening conceptualization of transdisciplinary knowledge construction to include embodied imagination, knowing, and learning; movement improvisation; and the arts. This study would contribute to future investigations in the history, theory, and practice of transdisciplinary studies and the scope and limitations of transdisciplinary knowledge construction. This study offers an example of a doctoral research project at one end of a

typology of interdisciplinarity, as developed by artist-scholar Jose H. Cedillos in “Interdisciplinary Design: A Typology,” by including higher levels of abstraction and integration of creativity, movement, improvisation, and complexity. The study provided opportunities for additional inquiry in development of the crystallization metaphor for transdisciplinary theoretical, methodological, and interpretive frameworks. The crystal provides a transdisciplinary metaphor for construction of knowledge and theory development through multiple perspectives. The rationale for this recommendation is the complexity of research problems and the challenges in coordinating competing ontological, epistemological, methodological, and interpretive viewpoints.

### 3. Qualitative-Artistic Research

This transdisciplinary study provided openings for additional inquiry into conceptualization and development of qualitative-artistic research for studying non-logo-centric experience. This research project provided a methodology for studying subtle, fleeting, and transient qualitative phenomena. The Accessing Embodied Imagination Theory that was developed as a result of this research provided a foundation for continuing study of embodied knowing, creating, learning, and teaching. Another context for expanding the boundaries of qualitative-artistic research is through the perspective of transdisciplinary arts and science investigations. These approaches would include uses of technology within the context of transdisciplinary and intercultural investigation.

There are openings for development of qualitative-artistic research methodologies with a focus on movement improvisation, embodied learning, and digital technologies. There are opportunities for arts-based embodied-learning data collection, coding, analysis, interpretation, and theory development through use of qualitative data analysis computer software programs. These programs offer possibilities for multimodal data

collection, coding, and analysis of videotaped, photographed, audio-taped, and text-based data. Producing DVDs of multimodal data examples to accompany future published reports, articles, books, and conference presentations, is an area for further investigation.

The rationale for this recommendation is that developing new models for rigorous qualitative-artistic research continues to broaden the definition of what constitutes research. It is an opportunity for investigating ways of knowing that are not yet known to the US cultural and academic mainstream. Another rationale is that qualitative-artistic research provides approaches to knowledge construction and theory development that might lead to new practices within the domains of research, scholarship, and pedagogy. Applied qualitative-artistic research would make contributions to the fields and domains of aesthetics, the arts, arts and aesthetic education, creativity and creative process studies, dance and dance education, educational studies and leadership, experiential learning and education, transdisciplinary studies, philosophy of education, and qualitative research.

#### 4. Nonverbal-Kinesthetic Assessment Instrument

Continuing to explore and refine use of the nonverbal-kinesthetic assessment instrument for data collection, analysis, and interpretation of movement improvisation and embodied learning in group settings is an opportunity suggested by the study. The complexity presented by the amount of nonverbal data collected by the instrument makes its practical application for analysis and interpretation a challenge when working in settings with hundreds of students in an embodied-learning program. Its use in higher education as part of a training program for qualitative-artistic researchers is one possible application for its refinement and dissemination.

#### 5. Embodied Imagination and Connectivity across Knowledge Domains

Future research might investigate effects of integrative movement and embodied

imagination on multimodal verbal and nonverbal knowledge domains. Arts-based embodied learning methods might be compared with non-arts learning methods for effects on literacy development and mathematical thinking. Such research might study the effects of pedagogies connecting embodied learning, reflective writing, and visual arts on the literacy and mathematical thinking of experiential, kinesthetic, and nonlinear learners. The rationale is to create new openings for success for learners not currently served by logo-centric pedagogies promoting learning sequences that are only one way of accessing knowing and learning.

#### 6. Public-School Arts Partnerships

Another area of potential research supported by this study is inquiry into the development, nurturing, and sustainability of transdisciplinary arts and dance partnerships in public schools over long-term (yearlong and multiyear) relationships in New York City, the US, and internationally. I recommend examining the characteristics of these partnerships and whether long-term models exist in New York City, the US, and internationally that survive the tenure of the specific personnel that planned, developed, and implemented them. Another recommendation is to study the effects on learning of the transdisciplinary qualitative-artistic pedagogical practices involved.

The rationale of this recommendation is that this work would further contribute to understanding of embodied knowing, an under-theorized knowledge domain. It might also contribute to understanding and advocacy for increased support for in-depth transdisciplinary study of the arts and dance throughout the Pre-K to higher education continuum. Another recommendation is to conduct a longitudinal study into the effects of movement improvisation and embodied learning through a cycle of learning from early childhood through higher education.

## 7. Intercultural Transdisciplinary Inquiry

Another area of inquiry suggested by this study is exploration of movement improvisation and creativity from an intercultural transdisciplinary perspective. For example, investigation of teaching, learning, creating, and performing contexts with students, teachers, and artists from various intercultural and international classical, traditional, and contemporary arts traditions could be compared to construct knowledge of experience and understanding of movement, improvisation, embodied knowing, and embodied imagination. This inquiry would also include transdisciplinary collaboration with arts and science researchers interested in investigation of embodied knowledge, nonverbal learning, and improvisation.



## **Appendix A**

### **Journal, Questionnaire, and Interview Questions**

#### **I. Journal Questions**

A. Instructions for the journal entries for students: Please respond to the following using writing and illustration.

1. What did you do in dance?
2. How did you feel (through your emotions) during dance?
3. What did you think while you danced?
4. How did you behave during class?
5. Please create and respond to one of your own questions.

B. Instructions for the journal entries for teachers: Please respond to the following as stream of consciousness in order to capture as many of your thoughts as possible about the learning, dancing, and improvising you observed today.

1. What did students do in dance today?
2. How did students feel (through their emotions) during dance today?  
(Please substantiate with evidence.)
3. How did students demonstrate their thinking processes during and after dance class today?
4. How was student behavior today?
5. What reflective methods did you use with students to analyze their learning from dance since my last dance class?
6. How is learning being facilitated through reflection during and after dance class?

## II. Questionnaire Questions

Instructions for the pre-intervention and post-intervention questionnaires for students and teachers: Use the back of the page and additional pages as needed to expand your writing and illustrations.

### A. Descriptive Writing

1. What is dance?
2. Why do people dance?
3. What kind of dancing do you know best?
4. What do you feel (through your emotions) when you dance?
5. What do you think while you dance?
6. What do you learn when you dance?
7. What do you learn when you reflect on your dancing?

### B. Vocabulary Definitions

Instructions: Do not repeat the word you are defining in your definition.

Respond to each in a “definition form” in order to reflect on your dance experience this year and how dance relates to other areas of your learning.

1. Listening
2. Questions
3. Reflection
4. Metaphor
5. Choreography
6. Improvisation
7. Notation
8. Imagination

9. Working Together
10. Elements of Dance
11. Reflective Thinking
12. Personal Space
13. Pattern
14. Rhythm
15. Pause
16. Muscle Memory
17. Energy
18. Kinesthetic Thinking
19. Reflective Methods
20. Connections

### III. Interview Questions

#### A. Original Interview Questions for Students and Teachers

1. What is improvisation?
2. Do you know how to improvise?
3. If you answered yes, to #2, please answer: How is it that you know how to improvise?
4. How do people improvise in dance?
5. What are you doing when you improvise in dance?
6. What are you feeling (through your emotions) while you are improvising in dance?
7. What are you thinking while you improvise in dance?
8. Why do people improvise in dance?

9. Where else does improvisation take place?
10. How is this similar to improvisation in dance?
11. How is this different from improvisation in dance?
12. How does improvisation take place in your classroom?
13. How does improvisation take place in school?
14. How does improvisation take place in your life?
15. What do you learn by dancing?
16. What do you learn by improvising?
17. What is reflection?
18. What do you learn by reflecting about your dancing?
19. What do you learn by reflecting about your improvising?
20. Is there anything else you want to add or talk about your dance experience?

B. Additional Questions Prepared as a Result of Emergent Themes in the Data

21. What are your favorite subjects in school?
22. Why are they your favorites?
23. What are your least favorite subjects in school?
24. Why are they your least favorite?
25. What are your hobbies?
26. What physical activities do you do on your own or with your family after school and on weekends? (e.g., exercise, sports, dancing, etc.)
27. Have you seen dance performances before?
28. If so, what were they?

29. If you used one word to summarize (sum up) the movement (dance) experience we have had together, what would it be?
30. What has been easy about the experience for you?
31. Why has it been easy?
32. What has been hard about the experience for you?
33. Why has it been hard?
34. What has been challenging about the experience for you?
35. Why has it been challenging?
36. Have you ever danced before?
37. If so, where, when, what kind of dance?
38. What countries does your family come from?
39. What languages do you speak at home?
40. Is there anything else you want to add?

C. Questions that Emerged During the Interview Process and Were Asked in Subsequent Interviews

41. What is the difference between dancing and improvising for you?
42. Why?
43. What's been your favorite part of the dance experience?
44. What been your least favorite part of the dance experience?
45. Why is it your favorite?
46. Why is it your least favorite?

## **Appendix B**

### **Sample Informed Consent Forms**

#### **1. Child's Parent or Guardian**

Your child is being asked to participate as part of a movement session along with his or her classmates and classroom teacher \_\_\_\_\_ at (school named) in a research project conducted by Mark DeGarmo, as part of a Ph.D. program at Union Institute & University in Cincinnati, Ohio. I am doing this study as part of a requirement of a doctoral degree. The purpose of the study is to analyze student responses to a dance curriculum. Movement sessions are part of a statewide curriculum that is a regular classroom activity that I will study. The results of the research are intended to help improve and integrate the use of creativity and movement in education. The results of the research will be summarized and distributed to the New York State and New York City Departments of Education including the Chancellor, Special Assistants for Arts and Culture, regional and school-based supervisors and arts coordinators, and (school named) principal and staff. The research may be used in publications, articles, or presentations in addition to my dissertation. A summary of the research results will be sent to you, if you provide your mailing address below.

As a member of this study, your child will be asked to participate in, and then respond to, these movement sessions through journal writing and illustration, poetry, a writing project, questionnaires, and interview. The movement class will be videotaped/photographed while students participate in movement and discuss their experiences. Students will be asked to journal and illustrate what they did in movement, what they felt during movement, and what they were thinking while they were moving. I will ask them general questions about their experience of movement.

Everything your child says will be kept confidential and her/his name will not be used. Nothing he or she says will be directly attributed to her or him. Children will not be identified. All records will be kept confidential.

Sample photographs or video excerpts of your child may be included in my dissertation (and any later publication), but his or her name will not be used. This form serves as a written consent for use of photographs/video. I will use sample photos/videos only with your written consent. Signing this document is a written consent that I may use photos/videos of your child.

Your decision for your child to participate is completely voluntary. You can withdraw your approval for your child to participate at any time. Your child will not be penalized for refusing to participate in the study as a whole or in any aspect of the study and can remain in the class whether she or he takes part or not. Your child will not be penalized for withdrawing from the study or for refusing to participate in any aspect of the study such as journal writing and illustration, poetry, written questionnaires, and interview.

There are no foreseeable risks to your child from participation in this study.

If you have any questions about this study, please contact Mark DeGarmo at (telephone number included) or email: (email address included). Concerns about this research project may also be addressed directly to Jose Cedillos, Ph.D., Union Institute and University Core Faculty at (telephone number included) or (email address included).

I have read and understood the Consent Form and agree that my child may participate in the study.

---

Your Child's Name (Please Print)

---

Your (Child's Parent or Guardian's) Name (Please Print)

---

Your (Child's Parent or Guardian's) Signature

---

Date

Mailing address (to receive a copy of the Research Summary)

---

Street

Apt.

City

State

Zip



## 2. Child

You are being asked to participate as part of a movement session along with your classmates, teacher \_\_\_\_\_, and reading-writing teacher \_\_\_\_\_ at (school named) in a research project conducted by Mark DeGarmo, as part of a Ph.D. program at Union Institute & University in Cincinnati, Ohio. I am doing this research project as part of my Ph.D.

The purpose of my research project is to look at and understand student responses to a regular dance program taking place during school hours. Movement sessions are part of arts experiences that all children must have in New York State before graduating from school and are a regular classroom activity that I will study. The goal of the results of the research project is to help teachers use creativity and movement regularly in public schools.

The results of the research will be written in a summary and sent to the New York State and New York City Departments of Education in Albany and New York City. I will send the summary to the Chancellor and other people involved with arts in education. I may use this research in publications, articles, or presentations, as well as my dissertation. A summary of the research results will be sent to you, if you provide your mailing address below.

As part of this research project, you will be asked to participate in my movement classes. You will then be asked to discuss, think, and write about your experiences of movement class. Your classmates, two teachers, and you will participate in journal writing, a writing project, poetry, questionnaires, and an interview.

I will not use your name anywhere in what I write about this project and your name will not be used. No one will be allowed to see the records of this research project. The records, in other words, will be kept confidential.

The movement class will be videotaped and photographed while you participate with other students in your class and discuss your experiences. Sample photographs or video excerpts may be included of you in my dissertation (or any later publication) but your name will not be used.

This form serves as a written consent form for use of video/photographs. I will use sample photos/videos only with your written consent. Signing this form is your written consent that I may use photos/videos of you.

Your decision to participate is completely voluntary. Think about what I have told you and decide whether you want to do it or not. You do not have to do it if you do not want to. If you are not sure about what I might ask you to do, then let me know right away. You can decide not to continue to participate at any time. You do not have to be part of the research project and can remain in the class. If you decide you do not want to do this, it will not make any difference in your grade in the class. This includes if you decide not to participate in the research project or for if you refuse to participate in any aspect of the research project such as journal writing and illustration, poetry, written questionnaires, and interview.

Speak with (name included), Assistant Principal if you decide to withdraw from the research project as a whole or any part of the research project. Speak with your classroom teacher (name included) at any time if you are uncomfortable with any of the activities of the study.

There are no foreseeable risks to you from participation in this study.

If you have any questions about this study, please contact Mark DeGarmo at (telephone number included) or email: (email address included). Concerns about this research project may also be addressed directly to Jose Cedillos, Ph.D., Union Institute and University Core Faculty at (telephone number included) or (email address included).

I have read and understood the Consent Form and agree to participate in the study.

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Your (Child's) Name (Please Print)

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Your (Child's) Signature

Date

### 3. School Principal

One of your school's fourth grade classes, \_\_\_\_\_, taught by \_\_\_\_\_ and served by reading-writing teacher \_\_\_\_\_, is being asked to participate as part of a movement session at (school named) in a research project conducted by Mark DeGarmo, as part of a Ph.D. program at The Union Institute and University in Cincinnati, Ohio. I am conducting this study as part of a doctoral degree requirement. As participants, this class and their regular classroom and reading-writing teachers will be asked to participate in and respond to these movement sessions through journal writing and illustration, poetry, an extended writing project, two written questionnaires, and an interview. Students-participants will be videotaped/photographed while participating in movement class and in discussion about their experiences. Student-participants will be asked to journal and illustrate what they did in movement, what they felt during movement, and what they were thinking while they were moving. I will ask them general questions about their experience of movement. Movement sessions are part of a statewide curriculum that is a regular classroom activity that I will study.

The purpose of the study is to analyze student responses to a dance curriculum. The results of the research are intended to help improve the use of creativity and movement in education. The results of the research will be summarized and distributed to the New York State and New York City Departments of Education including the Chancellor, Special Assistants for Arts and Culture, regional and school-based supervisors and arts coordinators, and (school named) principal and staff. The research may be used in publications, articles, or presentations in addition to my dissertation. A summary of the research results will be sent to you, if you provide your mailing address below.

Everything children and teachers say will be kept confidential. Nothing they say will be directly attributed to them. Children and teachers will not be identified. All records will be kept confidential. Sample photographs or video excerpts may be included in my dissertation (and any later publication).

I will use sample photos/videos only with subjects' and parents/guardians' written consent. Signing the Informed Consent Form is a written consent for use of photos/videos.

Parental decision for their child's participation is completely voluntary. Parents can revoke their approval for their children to participate at any time. Children will not be penalized for refusing to participate in the study and can remain in the class. Children will not be penalized for withdrawing from the study or for refusing to participate in any aspect of the study such as journal writing and illustration, extended writing poetry, written questionnaires, and interview.

There are no foreseeable risks to children or teachers from participation in this study.

If you have any questions about this study, please contact Mark DeGarmo at (telephone number included) or email: (email address included). Concerns about this research project may be addressed directly to Jose Cedillos, Ph.D., Union Institute and University Core Faculty at (telephone number included) or (email address included).

I have read the Consent Form and agree that fourth grade class \_\_\_\_\_ may participate in the study.

---

Your Name (Please Print)

---

Your Signature

---

Date

Mailing address (to receive a copy of the Research Summary):

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Street

Apt.

City

State

Zip

#### 4. Classroom Teacher

Your fourth grade class, \_\_\_\_\_, served by reading-writing teacher \_\_\_\_\_, is being asked to participate as part of a movement session along with you at (school named), in a research project conducted by Mark DeGarmo, as part of a Ph.D. program at The Union Institute and University in Cincinnati, Ohio. I am conducting this study as part of a doctoral degree requirement. As participants, your students will be asked to participate in and respond to these movement sessions through journal writing and illustration, poetry, an extended writing project, two written questionnaires, and an interview. Students will be videotaped/photographed while participating in movement class and in discussion about their experiences. Students will be asked to journal and illustrate what they did in movement, what they felt during movement, and what they were thinking while they were moving. I will ask them general questions about their experience of movement. Movement sessions are part of a statewide curriculum that is a regular classroom activity that I will study. You will be asked to participate and to keep a written and illustrated journal of student change and growth along with their reading-writing teacher and me.

The purpose of the study is to analyze student responses to a dance curriculum. The results of the research are intended to help improve the use of creativity and movement in education. The results of the research will be summarized and distributed to the New York State and New York City Departments of Education including the Chancellor, Special Assistants for Arts and Culture, regional and school-based supervisors and arts coordinators, and (school named) principal and staff. The research may be used in publications, articles, or presentations in addition to a dissertation document. A summary of the research results will be sent to you, if you provide your mailing address below.

Nothing you say or write as part of this study will be attributed to you. I will not identify you by name or in any other way in any papers or reports that will result. All records will be kept confidential. You should be aware, however, that because you are one of two teachers participating in the study, it is likely that the other participating teacher will be able to identify your responses, just as you will be able to identify her responses. As part of your agreement to participate, you also agree not to discuss, outside of the study, your own responses or those of your co-worker.

Sample photographs or video excerpts may be included in my dissertation (and any later publication). I will use sample photos/videos of you only with your written consent. Signing this form is your written consent that I may use photos/videos of you.

Parental decision for their child's participation is completely voluntary. Parents can revoke their approval for their children to participate at any time. Children will not be penalized for refusing to participate in the study and can remain in the class. Children will not be penalized for withdrawing from the study or for refusing to participate in any aspect of the study such as journal writing and illustration, extended writing poetry, written questionnaires, and interview. Likewise your decision to participate is completely voluntary. You are free to decline to answer any questions or parts of questions you feel uncomfortable with or to participate in any movement activities that you feel uncomfortable with. You may stop the interview or withdraw from the research at any time and your information will not be used.

There are no foreseeable risks to children or teachers from participation in this study.

If you have any questions about this study, please contact Mark DeGarmo at (telephone number included) or email: (email address included). Concerns about this



research project may be addressed directly to Jose Cedillos, Ph.D., Union Institute and University Core Faculty at (telephone number included) or (email address included).

I have read the Consent Form and agree to participate in the study.

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Research Participant's (Classroom Teacher's) Name (Please Print)

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Research Participant's (Classroom Teacher's) Signature

---

Date

Mailing address (to receive a copy of the Research Summary):

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Street

Apt.

City

State

Zip

## 5. Reading-Writing Teacher

Fourth grade class, \_\_\_\_\_, along with their classroom teacher \_\_\_\_\_, are being asked to participate as part of a movement session along with you at (school named) in a research project conducted by Mark DeGarmo, as part of a Ph.D. program at The Union Institute and University in Cincinnati, Ohio. I am conducting this study as part of a doctoral degree requirement. As participants, students will be asked to participate in and respond to these movement sessions through journal writing and illustration, poetry, an extended writing project, two written questionnaires, and an interview. Students will be videotaped/photographed while participating in movement class and in discussion about their experiences. Students will be asked to journal and illustrate what they did in movement, what they felt during movement, and what they were thinking while they were moving. I will ask them general questions about their experience of movement. Movement sessions are part of a statewide curriculum that is a regular classroom activity that I will study. You will be asked to participate and to keep a written and illustrated journal of student change and growth along with their classroom teacher and me.

The purpose of the study is to analyze student responses to a dance curriculum. The results of the research are intended to help improve the use of creativity and movement in education. The results of the research will be summarized and distributed to the New York State and New York City Departments of Education including the Chancellor, Special Assistants for Arts and Culture, regional and school-based supervisors and arts coordinators, and (school named) principal and staff. The research may be used in publications, articles, or presentations in addition to my dissertation. A summary of the research results will be sent to you, if you provide your mailing address below.

Nothing you say or write as part of this study will be attributed to you. I will not identify you by name or in any other way in any papers or reports that will result. All records will be kept confidential. You should be aware, however, that because you are one of two teachers participating in the study, it is likely that the other participating teacher will be able to identify your responses, just as you will be able to identify her responses. As part of your agreement to participate, you also agree not to discuss, outside of the study, your own responses or those of your co-worker.

Sample photographs or video excerpts may be included in my dissertation (and any later publication). I will use sample photos/videos of you only with your written consent. Signing this form is your written consent that I may use photos/videos of you.

Parental decision for their child's participation is completely voluntary. Parents can revoke their approval for their children to participate at any time. Children will not be penalized for refusing to participate in the study or in any aspect of the study and can remain in the class. Children will not be penalized for withdrawing from the study or for refusing to participate in any aspect of the study such as journal writing and illustration, extended writing poetry, written questionnaires, and interview.

Likewise your decision to participate is completely voluntary. You are free to decline to answer any questions or parts of questions you feel uncomfortable with or to participate in any movement activities that you feel uncomfortable with. You may stop the interview or withdraw from the research at any time and your information will not be used.

There are no foreseeable risks to children or teachers from participation in this study.

If you have any questions about this study, please contact Mark DeGarmo at (telephone number included) or email: (email address included). Concerns about this research project may be addressed directly to Jose Cedillos, Ph.D., Union Institute and University Core Faculty at (telephone number included) or (email address included).

I have read the Consent Form and agree to participate in the study.

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Research Participant's (Reading-Writing Teacher's) Name (Please Print)

---

Research Participant's (Reading-Writing Teacher's) Signature

---

Date

Mailing address (to receive a copy of the Research Summary):

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Street

Apt.

City

State

Zip

## Appendix C

### Excerpts from *Wild & Crazy Child's* and *Harry's* Interviews and Dance Journals, and from Teachers' Interviews Regarding Student Learning

This appendix includes excerpts from the interviews with students *Harry* and *Wild & Crazy Child* and with the two project teachers, including excerpts from the two students' dance journals. These excerpts provide a sense of the participants' voices regarding student learning as they reflected on what they experienced or observed.

#### 1. Excerpt from *Harry's* Interview

Mr. DeGarmo: "What is improvisation?" *Harry*: "When somebody dance[s] and somebody upstairs [upstages] them or something like that. It could be any kind of dancing—like moving around and stuff, up and down, high, middle, low." Mr. DeGarmo: "What kind of choices would people make when they're improvising?" *Harry*: "To take risks or to not take risk." Mr. DeGarmo: "What does it mean to take a risk?" *Harry*: "Like you don't know how to do a move and stuff. And then you try doing it again, you fall down and you try, you keep on trying again." Mr. DeGarmo: "Can you think of another kind of risk that you've experienced with the dance?" *Harry*: "I have to go somewhere or not go somewhere."

Mr. DeGarmo: "Do you know how to improvise?" *Harry*: "A little." Mr. DeGarmo: "And why is that?" *Harry*: "Cause I've been seeing people dance for like, a few weeks from now. And we did audience and performance so I seen people doing a lot of different kind of dancing, different movements and stuff." Mr. DeGarmo: "What things do people do when they improvise in dance?" *Harry*: "They think if they want to do the same thing like that. And stuff like that."

Mr. DeGarmo: "What are you doing when you improvise in dance?" *Harry*: "I

keep on thinking that if I go and dance they think the same thing.” Mr. DeGarmo: “What are you feeling in your emotions when you improvise in dance?” *Harry*: “Sometimes embarrassed and sometimes, like, I’m enjoying it. I don’t care what’s happening.”

Mr. DeGarmo: “Do you feel both things at the same time?” *Harry*: “No it’s like, first time I’m dancing I feel sort of embarrassed, like people laugh and stuff at me. The other time I know they’re not laughing at me, they’re laughing with me.” Mr. DeGarmo: “How long has it been that you’re feeling that people are not laughing at you, but with you?”

*Harry*: “A few weeks [. . .] three weeks or something.” Mr. DeGarmo: “What are you thinking while you’re improvising in dance?” *Harry*: “What I should do in dance or— should I still stand still. [. . .] What should I do the next time I dance?”

Mr. DeGarmo: “Why do people improvise in dance?” *Harry*: “To know how, to dance like them or something. To know how to dance the same way they do.”

Mr. DeGarmo: “Where else does improvisation take place?” *Harry*: “Almost everywhere [. . .] countries, states, cities.” Mr. DeGarmo: “What other kinds of things might

improvisation be?” *Harry*: “People that express their feelings.” Mr. DeGarmo: “What do you learn by dancing?” *Harry*: “I learn how to make choices and do choices, the right choices and, the right moves other people can follow [. . .] like no flipping and stuff.”

Mr. DeGarmo: “Is there a difference between dancing and improvising?” *Harry*: “I don’t think there is anything different.” Mr. DeGarmo: “How does improvisation take place in your life?” *Harry*: “When I’m like playing basketball somebody does a cool move like I try copying it. When I watch TV I see sports channel and I want to be the same thing like them. I try to do the same thing. [. . .] I play basketball, soccer, football, baseball, volleyball.”

Mr. DeGarmo: “What is reflection?” *Harry*: “When you look back like a two [i.e.,

a second] time and stuff.” Mr. DeGarmo: “What do you learn by reflecting about your dancing?” *Harry*: “I learn if I do something different I don’t keep on doing the same stuff over again.”

Mr. DeGarmo: “If you had to use just one word to summarize the whole dance experience we’ve had together, what would it be?” *Harry*: “Fantastic.” Mr. DeGarmo: “Why?” *Harry*: “Because I has a lot of fun in dancing. I had it last year—it was fun too.” Mr. DeGarmo: “What was the difference between this year and last year for you?” *Harry*: “Last year we, we had a different class being the audience for us and this year we didn’t have the audience, the different class.” Mr. DeGarmo: “Did you like having the audience last year?” *Harry*: “Yeah.” Mr. DeGarmo: “Did you want to have an audience this year?” *Harry*: “Yeah.” Mr. DeGarmo: “Why?” *Harry*: “Cause I learned them to be happy and smiling.”

Mr. DeGarmo: “What was your favorite part of the dance experience?” *Harry*: “When we did performance and audience [i.e., an activity involving the students taking turns improvising and observing each other’s improvisational groups in the same class].” Mr. DeGarmo: “Why?” *Harry*: “Cause then we get to perform and be an audience and we could tell them what we did and stuff.” Mr. DeGarmo: “What’s been easy about it for you?” *Harry*: “The warm-up cause the warm-up’s like the same thing in my Tae Kwon Do.” Mr. DeGarmo: “And what’s been hard?” *Harry*: “Follow the other people.” Mr. DeGarmo: “Why?” *Harry*: “Trying to do the other moves that I don’t know how to do.”

## 2. Excerpt from *Wild & Crazy Child*’s Interview

Mr. DeGarmo: “What is improvisation?” *Wild & Crazy Child*: “Improvisation is a dance that you just do very quickly—you don’t think what you’re doing—you[’re] just

making-up movements.” Mr. DeGarmo: “Do you know how to improvise?”

*Wild & Crazy Child*: “Yes.” Mr. DeGarmo: “And why is that?” *Wild & Crazy Child*:

“Because I didn’t know before, but now I know because Mr. DeGarmo explained it to us and now I know much more better what’s it’s about.” Mr. DeGarmo: “Did you know last year what was improvisation?” *Wild & Crazy Child*: “Not that much, just a little bit.”

Mr. DeGarmo: “What do you think the difference is this year?” *Wild & Crazy Child*: “I learned much more harder things than last year. Last year was a little bit hard, but this year it’s good, kind of hard.” Mr. DeGarmo: “What things do people do when they improvise in dance?” *Wild & Crazy Child*: “They make up a movement that comes in their head and they just like let it go, let it flow, out of their body.” Mr. DeGarmo: “What are you doing when you improvise in dance?” *Wild & Crazy Child*: “I try to stay calm, not move that much around. Like, try to just stay in my place, and do some movements.”

Mr. DeGarmo: “What are you feeling in your emotions while you are improvising in dance?” *Wild & Crazy Child*: “I feel good. Cause sometimes, I like to, when I’m at home I like to express myself when I’m dancing. When I’m happy I like to jump around and scream and stuff like that. And sometimes when I’m angry I like show it with my dancing. Cause sometimes I don’t want to talk to people when I’m angry. And when I’m happy I like to dance and calm down and stuff like that.” Mr. DeGarmo: “What things do you do in order to show anger in dance, for example?” *Wild & Crazy Child*: “Well, I show my strength and mad faces and then I just put those together and then I dance.”

Mr. DeGarmo: “What other kinds of emotions do you show in dance?”

*Wild & Crazy Child*: “I show, when I’m in school, how, how it feels to be around ch-, uh like kids because sometimes I’m a little bit shy when I’m around, when I’m around people. So I try to do my best.”



Mr. DeGarmo: "What are you thinking while you improvise in dance?"

*Wild & Crazy Child*: "Like doing the things that people taught me. [. . .] like how to do it." Mr. DeGarmo: "Why do people improvise in dance?" *Wild & Crazy Child*: "They improvise because they just want to show what they think and what dance is and what they feel they want to do." Mr. DeGarmo: "Where else does improvisation take place?" *Wild & Crazy Child*: "Um, probably, I think every day. Probably every day because every day is just something new in your life and that's good." Mr. DeGarmo: "Can you give me some examples?" *Wild & Crazy Child*: "Like, sometimes people, they don't do the same thing. Sometimes people walk. Sometimes people run. Sometimes people just stand in the [same] place and do something around. Sometimes people feel very happy and they want to like, go around and stuff like that."

Mr. DeGarmo: "How else does improvisation take place in your life?"

*Wild & Crazy Child*: "Improvisation takes place in my life because sometimes I do different things at different moments without thinking when I'm doing and stuff like that. I don't like, stop and think what I'm doing. I just like do it." Mr. DeGarmo: "Can you give me some examples?" *Wild & Crazy Child*: "Like when, when I'm like trying, I thinking of two things at once. And then I do something else and I'm like, 'Wait. I didn't want to do this. I wanted to do something else.' So then I just like go around the house and think I'm going to do next."

Mr. DeGarmo: "What do you learn by dancing?" *Wild & Crazy Child*: "I learn some new vocabulary words and some new movements. And I also learn from other children about what they're doing." Mr. DeGarmo: "Can you expand on that idea?"

*Wild & Crazy Child*: "Like some children do this movement that I've never seen before [. . .] one child did this movement that I think does in ballet. I didn't see that before

because my sister used to take ballet. I didn't see that then. So, it was sort of weird."

Mr. DeGarmo: "What do you learn by improvising?" *Wild & Crazy Child*: "I learn some things that I thought I could never do before. Like, some movements, like, stretching, on my feet. I never knew that I can get so close to the floor when I do a split. When, I dance, when I improvise I learn things that other people are doing too. And I sort of compare with what they're doing and with what I'm doing and then I'm like, 'Hey! I did that too!'"

Mr. DeGarmo: "What is the difference between dancing and improvising?" *Wild & Crazy Child*: "I think dance is like you first think what you're doing and you first listen to the music and you sort of stop at some moments to see if this goes together, if it's not. But improvising you just do whatever you want, whichever movement you want to do." Mr. DeGarmo: "Do you prefer dancing or do you prefer improvising?" *Wild & Crazy Child*: "I can't choose. Sometimes I want to do dance. Sometimes I want to do improvising." Mr. DeGarmo: "What determines whether you want to do one or the other?" *Wild & Crazy Child*: "Sometimes I want to do dance because I really don't understand the music. So then I just stop and think about and sometimes when I improvise I listen, I know what the music is about, and then I just do whatever I want." Mr. DeGarmo: "And what makes you know what the music's about?" *Wild & Crazy Child*: "I usually listen to my cultural music. And sometimes I don't understand the words because when I listen to music I usually do movements that go with the words. I like, sort of don't do like, the stuff that don't go with the words so much." Mr. DeGarmo: "When we put on music and there are no words, do you know what to do? Does it speak to you in some way?" *Wild & Crazy Child*: "Yeah like what instruments you're using. If you're using maracas, I sort of wanna do improvising. Because I really don't know what

to do for dancing that time. But when it's like calm music and nice music then I like to do dance. Cause like—I know it the best.”

Mr. DeGarmo: “What is reflection?” *Wild & Crazy Child*: “Reflection is probably a way to like don't do so much jumpy movements, just like to take it a little bit slower, not as fast as you run and jump. You like sort of do slow movements.” Mr. DeGarmo: “Can you think of another meaning that reflection has?” *Wild & Crazy Child*: “Taking back some answers from before to know your answers from now. How you wanna find out something that happened past. That you think [about what] happened in the past and you're trying to figure out what's going to happen in the future, what's going on right now.”

Mr. DeGarmo: “What do you learn when you reflect on your dancing?” *Wild & Crazy Child*: “I learned I also compare and that like about the past. I think I'm going to do it in the future. I just like predict. [. . .] like doing the movements that I did before and now about to do in the future.” Mr. DeGarmo: “What do you learn when you reflect or you think back about your improvising?” *Wild & Crazy Child*: “When I think back on my improvising I think about what I'm going to do next because sometimes when I'm improvising I also think back about what I did before, like last session.”

Mr. DeGarmo: “If you had to use one word to summarize the movement experience that we've had together this year, what would it be?” *Wild & Crazy Child*: “Excellent.” Mr. DeGarmo: “Why?” *Wild & Crazy Child*: “Because I like the things, I like how you teach us. And I like how we do some things that some of my friends' dance teachers never done before. And then it's sort of cool to learn something new and some other way.” Mr. DeGarmo: “What things do you like that I do in my teaching?”

*Wild & Crazy Child*: “Like the French that you were teaching us. It was a good way to

explain, to make us listen. And also how you write your notes on the board and how we can see and how we can look back at the stuff what we did.”

Mr. DeGarmo: “What was your favorite part of the experience?”

*Wild & Crazy Child*: “At the beginning I knew you, but I sort of still felt shy around my classmates and the teachers. But then after that I worked hard and tried to show my real side. Like not being shy and that—just like showing what I really wanna do. Cause I really wanted to dance, but I felt shy that people would laugh at me when I’m trying to do. But now I like to dance.” Mr. DeGarmo: “What’s been hard about the experience?”

*Wild & Crazy Child*: Learning new vocabulary words because I didn’t understand some of them. I didn’t know what improvisation was—and reflection—and locomotor.”

### 3. Excerpts from *Harry*’s Dance Journal

#### A. First Dance Journal Entry — after Session Two

1. First I stretched then I danced  
taking turns with every one.
2. At first I felt nervous[.] When my  
turn was over I started saying I  
should have done that or that.
3. I thought everyone was going  
to laugh at every thing I  
do.
4. I behaved a little silly and  
A little normal.
5. What did You learn in dance class?  
I learned what Koda [Coda] means.  
I also learned how to stretch  
differently. I learned another  
way to dance.

#### B. Final Dance Journal Entry — after the Post-intervention Nonverbal-Kinesthetic

Assessment

Hard Headed

Audience

Risky

Roller Skater  
Youthful

4. Excerpts from *Wild & Crazy Child's* Dance Journal

A. First Dance Journal Entry — after Session Two

My Journal

What I did in dance today  
 is we did a warm up. Also we  
 take turns making up a dance. That  
 is called improvising. We did warm  
 ups for legs, spin, and for  
 almost all the parts of your body.  
 Then we also played a game  
 called follow the leder [leader] with  
 dance. It was fun.

I felt relived [relieved] about all the  
 worries and anger and just let  
 it out. This is a great way  
 to end a nice tuesday [Tuesday]. I  
 felt like all my body parts  
 are calm and relased [relaxed].  
 I thought about what my  
 classmates were doing and how  
 I can use some of there [their]  
 moves to help me. It's weird  
 how fast they can think  
 about great moves.

[page 2 of 2:]

I tried to not act silly.  
 I think I did a great job  
 at that.

B. Final Dance Journal Entry — after the Post-intervention

Nonverbal-Kinesthetic Assessment

When I just started dance, I felt very shy infront [in front] of my  
 classmates. It was very embaresing [embarrassing] for me so I named  
 mysels [myself] "Shygirl." This name sated [suited] me great. The best  
 part of it was I liked the name. While everyone around me were dancing  
 [was dancing] I was standing still.

Later my name became "Grace Face" because I use[d] to dance to  
 nice music. I loved ballay [ballet]. All I talked about was ballay, ballay,

ballay. I got tired of that name and ballay, so I gave it up.

Now I call myself “Wld [*Wild*] & *Crazy Child*. This is my name and it suits [suits] me too! I like to do all the thing [things] that are wild and a little crazy. I like to climb and jump and [do] wild things.

##### 5. Excerpt from Classroom Teacher’s Interview

Mark DeGarmo: “What things did you see this year with certain children?”

Classroom Teacher: “See to me, most of the things I saw were stereotypical of the child.

Like [names a student] and *Harry* are the class clown kind of like they’re very extroverted, they’re the cool ones so they’re not too worried what other people are going to think because they already think that they’re cool. I already knew that *Wild & Crazy Child* was like the—not that I want to say she was, you know, kissing up or anything, but she’s always this—she’s sophisticated. She’s, likes to know the right answer. She feels pride in knowing that. [Names a student] doesn’t care. *Wild & Crazy Child* does. *Wild & Crazy Child* would be mortified if you called on her and she didn’t know.”

Mark DeGarmo: “So with *Wild & Crazy Child*, for example, what might have scaffolded more learning?” Classroom Teacher: “I think that *Wild & Crazy Child* did learn a lot. I think that a lot of them learned a lot.” Mark DeGarmo: “What do you think they learned?” Classroom Teacher: “I think that they learned a lot of vocabulary in terms of the academic part of it.”

##### 6. Excerpt from Reading-Writing Teacher’s Interview

Mark DeGarmo: “What’s been your favorite part of the experience?”

Reading-Writing Teacher: “Always watching the children. I mean, you know, this is for them, in the end. And to watch them and listen to them [. . .]; it’s just interesting to watch the process with them. I enjoy that. I like to see where they start, where they end up. With a couple of our kids from last year in particular where there’s been an ongoing experience

you really see a lot of change in the way they move. And, if I had to single out a child, I would say it's *U.S. Angel*. [. . .] I've watched her make very mature choices." Mark DeGarmo: "Is there anybody else?" Reading-Writing Teacher: "*Wild & Crazy Child*. I watch her all the time. And *Courageous Person*. *Wild & Crazy Child*'s [. . .] very aware of us also, and she's very performance-based but she's also very introspective. And *Wild & Crazy Child*'s the one person who I've watched actually go home and do some of this stuff and come back and try different, like, phases of what she's learned."

Mark DeGarmo: "How would you describe that final improvisation, [i.e., the post-intervention nonverbal-kinesthetic assessment]?" Reading-Writing Teacher: "[. . .] I thought on the whole there was a lot of progress." Mark DeGarmo: "And how would you describe that progress?" Reading-Writing Teacher: "It was really nice to watch them."

Mark DeGarmo: "Is there anything else you'd like to add, or say, or any other children you noticed?" Reading-Writing Teacher: "Well you know you notice them all in one way or another. But, you, as, usual, you notice the more remarkable ones in either direction. And that in itself can be a little troubling because there's that vast little middle. You know, that does just enough or maybe aren't as creative or maybe aren't as—and they're the ones who really, you know, in a sense get left behind." Mark DeGarmo: "The middle children?" Reading-Writing Teacher: "Yeah. In a sense. In a family middle children complain of that and I think in school middle children often get the worst rap. But I think here the middle was addressed." Mark DeGarmo: "You do think it was through the program?" Reading-Writing Teacher: "Yeah." Mark DeGarmo: "Why or how was that?" Reading-Writing Teacher: "Because I think the middle children also showed progress. You know and they enjoyed themselves. It was really the kids who refused to participate like [names a student]—be it physically or emotionally—who get left behind."

But that's by their own choice. The middle children came along. They had fun."



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