CONNECTING LITERACY WITH DANCE IN THE CLASSROOM -
AN EXPLORATORY STUDY

A thesis submitted in partial fulfillment of the requirements
For the degree of Master of Science
In Kinesiology

By Shelby Curtis

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For my Great Grandma, Grandma, and Mom, who, rather than teaching me to see the world through their eyes, helped me to develop the character and intelligence to see the world through my own -

For my Dad, who taught me that the best investment is in my spare time -

For my children, Miles and Liv, who are a constant inspiration to contribute to evolutions in education that allow them to think outside of the box and color outside of the lines -

For Dr. Sweeting, Dr. Thomson, and Dr. Jaque, who created a learning environment that helped me grow as an educator, choreographer, student, and mom -

And for my husband, who is the music that I will dance to forever -
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ABSTRACT

Connecting Literacy with Dance in the Classroom - An Exploratory Study

By

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Master of Science in Kinesiology

The purpose of this qualitative, exploratory study was to investigate how three 6th-grade classroom teachers planned and taught an interdisciplinary dance and literacy lesson. The teachers were provided with quality instructional materials including two haiku poems, a listening map, and an excerpt of Saint-Saëns Aquarium. In addition, an instructional DVD illustrating a guided improvisation of a creative dance was provided. Data sources included videotapes of three interdisciplinary dance and literacy lessons, audio recordings of post-lesson teacher interviews, and written lesson plan templates. Videotaped data was transcribed, and teacher learning tasks were identified and coded using a task presentation coding system. The students’ movement responses were coded using a scoring rubric and a qualitative content analysis was conducted on the transcribed post-lesson teacher interviews and lesson plan templates. Findings revealed five themes: (1) The instructional materials, particularly the DVD, contributed to teacher confidence in their understanding of structured improvisation in creative dance; (2) Each of the teachers identified similar dance concepts as viewed on the DVD, specifically changes in levels, use of smooth/fluid dynamics, and mirror and shadow partner relationships; (3) The classroom teachers used the teaching materials, particularly the music and
haiku poems, to access their students’ prior knowledge; (4) The classroom teachers used scaffolded instructions, open-ended tasks, and task constraints as strategies to elicit diverse student movement responses. These strategies are identified in the research on creative dance instruction in schools; and (5) Student movement responses varied in the level of competency in four components: Musicality, spatial awareness, movement clarity, and integration of poetry themes.

*Keywords*: Creative dance, scaffolded instruction, interdisciplinary instruction, pedagogical content knowledge
INTRODUCTION

While the literature looks at the teaching strategies of expert dance teachers during creative dance lessons, there is little research examining the teaching strategies of classroom teachers during dance instruction. The justification for looking at experienced classroom teachers is investigating how they connect classroom content, including literacy, with dance during interdisciplinary instruction. Expert dance teachers have expertise in dance, however, they have less experience integrating subjects than experienced classroom teachers. With awareness of holistic learning, the value of integrating subject matter with the arts is more evident as the diversity of learning styles are taken into consideration. Also as arts specialists, including dance teachers, continue to be cut from school budgets interdisciplinary instruction is increasingly required of classroom teachers. Due to the unique link between dance and literacy, it was important to investigate how quality teaching materials specific to dance aided experienced classroom teachers to create and teach an interdisciplinary dance and literacy lesson.

This exploratory study focused on looking at experienced classroom teachers and how they connected classroom content, including literacy, with dance during interdisciplinary instruction. Therefore, teaching strategies specific to expert dance teachers and quality student movement responses as defined by Chen and Cone (2003) were used as theoretical frameworks. Chen and Cone (2003) found scaffolded instruction, open-ended learning cues, and task constraints to be teaching strategies employed by an expert dance teacher. Furthermore, Chen and Cone (2003) concluded that open-ended learning cues and task constraints were most effective at leading to divergent student responses within the context of sequential scaffolded instructional cues. Meyer (1993) linked pedagogical content knowledge (PCK) to scaffolded
instruction suggesting that teachers who implemented scaffolding possessed high levels of PCK. Therefore, the link in the literature between scaffolded instruction and high levels of PCK is also a theoretical framework to this study.

I am a dance teacher, choreographer, and dancer with 11 years of experience serving as dance faculty in higher-level education settings. I have strong influences from teachers I have studied with in the areas of classical ballet, modern dance, dance composition, dance pedagogy, and dance kinesiology. My teaching philosophy embraces learner centeredness and constructivist approaches in a classroom environment where students learn to understand fundamental dance techniques and the artistry of dance. It has been my experience that dance students at the college level arrive with a dance education that is rooted in competitive dance, or dance as a sport, rather than dance as an art form. Therefore, I was interested in investigating how to aid classroom teachers in presenting dance as an art form to their students within the context of interdisciplinary instruction. Dance teachers with high levels of PCK access their students’ prior knowledge and use that knowledge to facilitate personal and unique movement responses in their students. For this reason, I was interested in examining the teaching strategies experienced classroom teachers would implement while teaching dance, and if the teachers demonstrated high levels of PCK by accessing their students’ prior knowledge during dance instruction.

Because of my dance background, it was critical that I identify the awareness of my subjective bias. Through discussions with my thesis chair and CSUN dance faculty member, Dr. Sweeting, I was able to reveal these biases so that I could observe the film footage with minimal
subjective interference. By monitoring my bias, the validity of the scoring results were not compromised.
REVIEW OF LITERATURE

Introduction

There has been much discussion about the importance of the arts in K-12 education. Once a staple of early childhood and K-12 education, over the last half century there has been a trend where art in general, and dance in particular, have been slowly extinguished from the curriculum. Although dance is integrated into K-12 standards in most states, often it is pushed aside because it is not a tested standard. Also teachers are not familiar with the necessary tools and training to teach dance effectively (Mac Donald, Stodel, & Farres, 2001). Creative dance is a unique dance genre that has rich potential with interdisciplinary instruction (Nilges, 2004; Sweeting, 2011). Linking creative dance with language arts areas such as reading comprehension, vocabulary, and poetry, promotes simultaneous kinesthetic and cognitive engagement and allows students to explore ideas and concepts both concretely and abstractly within the same lesson.

With the awareness of holistic learning, the value of integrating subject matter with the arts, or co-equal integration, is more evident as the diversity of learning styles are taken into consideration (Burstein & Knotts, 2011). Also, co-equal integrated instruction is increasingly required of classroom teachers as specialists in music, art, and dance are being cut from school budgets. Co-equal integration elevates integrated instruction to a higher level of clarity because it requires both the classroom subject and arts discipline to be equally represented within the content of the lesson (Burstein & Knotts, 2011). In some forms of integrated instruction, for example, arts subjects are incorporated into a lesson plan at a surface level to further support the content of the classroom subject (Overby, Post, & Newman, 2005). The literature suggests that co-equal integrated instruction of the arts with classroom subjects can be an effective way to
target cognitive, affective, and social learning domains (Mac Donald, 1991; Mac Donald et al., 2001; Gilbert, 2006). However, classroom teachers often are not familiar with the necessary tools and training to fully integrate the arts, particularly dance, into core curriculum (Mac Donald et al., 2001).

An accomplished science teacher needs content knowledge (CK) specific to science, and pedagogical knowledge (PK) in order to successfully translate the CK to their students (Kanter & Konstantopoulos, 2010). The requirements of an effective dance educator are no different. A successful creative dance teacher needs a balance of CK specific to dance, as well as the pedagogical skills necessary to effectively deliver this knowledge to students. The melding of these two knowledges, CK and PK, is what Shulman (1986, 2002) defined as pedagogical content knowledge (PCK). Teachers with PCK are able to access the students’ prior knowledge while translating content in a way that promotes student learning (Shulman, 1986). While PCK is a critical knowledge base for effective teaching, more research is needed to identify how PCK is implemented by classroom teachers during interdisciplinary instruction. The following sections highlight the importance of creative dance in K-12 education, interdisciplinary instruction, and PCK as they relate to creative dance education.

The Importance of Creative Dance in K-12 Education

Research in the area of child development supports creative dance as a viable and beneficial subject area in K-12 education (Gilbert, 2006; Nilges, 2004; Sweeting, 2011; Chen & Cone, 2003). Creative dance lessons are an opportunity to create a learning environment where children feel safe, are given diverse means to explore and communicate ideas, and are encouraged to take academic risks, so that learning and memory development can flourish. This
idea aligns with Gardner’s (1993 & 1999) theory that each individual has nine intelligences: Verbal-linguistic, mathematical-logical, musical, visual-spatial, interpersonal, bodily-kinesthetic, intra-personal, naturalist, and existential. According to Gardner (1993), these intelligences can be developed and reinforced, or neglected and weakened. Because each person has a different intellectual composition, Gardner (1993) suggests that educational curricula are more effective when they address the multiple intelligences of students. Gardner (1999) further states that arts programs should have a significant role in K-12 curricula to ensure that all ranges of intelligence are addressed. Creative dance applies Gardner’s (1993) musical, visual-spatial, and bodily-kinesthetic intelligences, and should therefore be an integral part of school arts programs.

Creative dance is taught using various pedagogical methods that develop problem-solving skills, collaboration, confidence, self-awareness, and an appreciation for diversity, while addressing all of the learning domains in a child (Mac Donald, 1991; Mac Donald et al, 2001; Gilbert, 2006). During creative dance lessons, students learn about themselves and apply their personal experience to the content presented, which is why Nilges (2004) suggests dance as an effective subject area to guide students to access meaning. In a phenomenological study investigating the movement meanings of fifth-grade students during a creative dance unit, Nilges’ (2004) results provided five dimensions of movement meaning that were generated from the participants’ perspective during the lessons: Expressive, sensory, intersubjective, experimental, and competency. Nilges (2004) concluded that the dimensions of movement meaning offered in this study should be considered when developing creative dance and physical education (PE) curricula as a way to promote meaningful learning during PE lessons.
Creative Dance and Brain-Based Learning

The importance of holistic learning approaches and increasing research in neuroscience has melded to become what is known as brain-based learning. Brain-based learning is the dynamic implementation of purposeful teaching strategies founded on principles based on neuroscience (Jensen, 2008). Research in the areas of neuroscience, biology, and psychology have helped us to understand that the role of emotions, meaningfulness, environment, attitudes, stress, and gender play an integral role in learning processes (Jensen, 2008). All humans are creative and emotional with diverse experiences and backgrounds that must all be taken into consideration when generating an educational plan of action (Jensen, 2008).

The arts, and creative dance in particular, is a rich opportunity for brain-based learning. Using research on how the brain functions, Anne Green Gilbert (2006), a respected dance educator and scholar, created the brain-compatible approach to dance education which she defines as the integration of dance education and fundamental knowledge about how the brain learns. Gilbert’s (2006) brain-compatible approach consists of 10 principles designed to create the most effective learning environment: (1) present meaningful curriculum; (2) provide an enriched environment; (3) give meaningful feedback; (4) include opportunities for emotional engagement; (5) allow for social interaction; (6) present developmentally appropriate curriculum; (7) allow students to take charge of their learning; (8) provide both novel and repetitious experiences; (9) offer a holistic and sequential curriculum; and (10) provide information about proper nutrition. An example of brain-compatible dance education is a warm-up series Gilbert (2006) coined as the BrainDance. The BrainDance is based on the growth patterns of an infant and moves through 8 fundamental movement patterns in developmental order: breath, tactile,
core-distal, head-tail, upper-lower, body-side, cross-lateral, and vestibular. Gilbert (2006) suggests that the BrainDance serves as a warm-up activity while reorganizing the brain and integrating the mind and body. Through practicing the BrainDance, students become aware of how their body parts can move independently and co-dependently and become focused, motivated, and ready to engage in the learning process (Gilbert, 2006).

Creative Dance and Interdisciplinary Instruction

There is evidence in the literature that PE, and creative dance in particular, is an effective subject area to use for interdisciplinary instruction. Physical education is pertinent to interdisciplinary instruction because it offers many ways for an educator to link movement with ideas introduced in other academic areas (Chen, Cone, & Cone, 2007). While PE links movement to academic content areas, dance merges a third component: Art. Creative dance is a unique way to initiate interdisciplinary instruction and compliments existing academic and extracurricular programs (Mac Donald, 1991).

In a study investigating the collaboration of a physical education teacher and a second-grade teacher during the planning and presentation of an interdisciplinary unit, Chen et al. (2007) concluded that in order for interdisciplinary instruction to take place, PE teachers needed to initiate collaboration with classroom teachers, and take a pro-active, leadership role during the lesson-planning process. One of the interesting observations in Chen et al.’s (2007) study was that the two teachers involved were committed to their interdisciplinary lesson design because they created it themselves. This result translates directly to the role of dance in public education. To supplement a classroom teacher’s dance education, often dance specialists are brought in to deliver in-services that provide classroom teachers with creative dance techniques and pre-
constructed dance lesson plans. A more effective approach could be facilitating collaborations where dance educators guide and support classroom teachers in generating their own lesson plans that co-integrate dance with core subjects. In addition to collaborating with dance specialists, classroom teachers may also benefit from supplemental teaching materials such as lesson plan templates, music recordings, videos of applicable dance, and listening maps. Listening maps are an effective means of teaching musical concepts including compositional forms, rhythm, and tempo (Kassner, 2007) and therefore could be critical instructional aids for classroom teachers when they prepare interdisciplinary lessons inclusive of dance.

It is common for districts to hold in-services for teachers that introduce them to methods of integrating dance into their current curriculum, and it is even supported in research literature. In an investigation looking at student teacher attitudes toward teaching creative dance, Mac Donald et al. (2001) concluded that workshops offering teachers exposure to creative dance gave them the tools and confidence they needed to incorporate creative dance into their lesson planning. There were some limitations to this study, however, that are noteworthy. First, the participants of the study were student teachers, and did not carry the normal workload of a full-time teacher. Second, the surveys measuring teacher confidence in teaching dance were collected before and directly after the creative dance workshop. For these results to be more accurate, surveys needed to be filled out several weeks after the workshop to see if the teachers actually implemented the integration of creative dance into their lessons. Data collection could have been even more thorough by conducting observations of the teachers presenting creative dance lessons in the context of their own classrooms.

Interdisciplinary instruction is an effective way to present curricula, however it does have
limitations. Overby et al. (2005) suggest that problems can occur during integrated instruction when both disciplines are not equally addressed within the content of the lesson. Interdisciplinary instruction often results in a classroom teacher using an arts subject to further support the content of an academic subject, rather than equally merging an arts subject with an academic subject. This limitation of interdisciplinary instruction reinforces the value of co-equal integrated instruction. During co-equal integrated instruction a teacher partners classroom subjects with the arts, allowing both the classroom subject and art subject contents to have equal placement in the lesson (Burstein & Knotts, 2011). To insure that the integrity of the arts is maintained, it is critical that the full potential of arts subjects are realized and represented during integrated instruction.

Why Creative Dance Is Not Taught in K-12 Curriculum

Although dance is integrated into K-12 standards in most states, it is often pushed aside because it is not a tested standard. In Mac Donald et al.’s (2001) investigation of student teachers’ attitudes toward teaching creative dance, physical limitations, lack of dance knowledge, and little understanding of how to apply dance to curricular content were the key reasons why some teachers were not confident about teaching dance. In a similar study about science instruction, Appleton (2008) also found that elementary school teachers are resistant to teaching science curriculum due to lack of confidence and insufficient content knowledge (Appleton, 2008). These are the same issues that block teachers from including creative dance in their lesson planning.

Pedagogical Content Knowledge

Shulman (1986, 2002) defined pedagogy as a realm specific to teachers and content as a
realm specific to scholars. Pedagogical content knowledge was identified in Shulman’s (1986) theory as the realms of pedagogy and content meld in order for successful teaching to take place. Pedagogical content knowledge is the ability to explain one concept in a variety of different ways, some explanations pulling from research in a content area and other explanations drawing from knowledge and experience in a content area. A teacher who has PCK is also able to identify what elements of a topic are difficult for students to understand or relate to. During a creative dance lesson, a teacher with PCK will understand how to connect the student’s previous knowledge with dance context in meaningful and interesting ways.

Segall (2004) agrees with Shulman that pedagogy and content are co-dependent. Rather than examining how to merge CK and PK, Segall (2004) suggests that teachers examine how the two may already be related. Identifying how pedagogy exists within the context of a subject area is more effective than trying to apply pedagogical strategies to the content of a subject area (Segall, 2004). Creative dance is a subject area rich in pedagogical opportunities. For example, creative dance can be used to physically interpret prepositional phrases in language arts and thus help students understand the value of prepositions as a way of enhancing their writing skills.

Because imagery is an effective way to present learning cues (Chen & Cone, 2003), literacy PCK is often incorporated into creative dance lessons. In a study looking at how an expert teacher used constructivism while teaching creative dance (Chen, 2001), the lessons integrated literature by showing students illustrations in a book and asking them to translate those illustrations into movement shapes. During these lessons, the expert teacher used literacy PCK to access the students’ prior knowledge. Through interpreting an image into dance movements, the students experienced translating an idea from two dimensional to three
dimensional, and transferring a literal image into an interpretive dance movement. This study is an example of the rich potential for dance and literacy in co-equal integrated instruction.

Linking PCK to Constructivism

The constructivist approach to learning is based on the theory that students generate their own meaning, and that learning takes place when students associate knowledge with prior meaning or life experiences (Chen & Rovegno, 2000; Chen, 2001; Rushton & Larkin, 2001). Chen & Rovegno (2000) identified three components to the constructivist approach: Students generate their own meaning, associate knowledge with prior meaning or life experiences, and form meaning based on their society and culture. Constructivist oriented teaching is the basis of teaching strategies in creative dance, and therefore, teachers need exceptional pedagogical skill.

Shulman’s (2002) Table of Learning, an extension of Bloom’s Taxonomies (1956), categorized the processes of learning into six categories: Engagement and motivation, knowledge and understanding, performance and action, reflection and critique, judgments and design, and commitment and identity. The table is cyclical, meaning that once a student moves through the learning categories, the process starts again. Elements of Shulman’s (2002) Table of Learning parallel the constructivist approach. The engagement category of the table promotes the idea of active learning (Shulman, 2002), which is the foundation of constructivism. Another fundamental aspect of constructivism is the strategy of leading students to demonstrate concepts rather than relying on teacher demonstrations, which Shulman (2002) ties into the practice and action category of his learning table. The reflection and critique component to Shulman’s (2002) learning table implies the engagement of critical thinking through divergent inquiry and the opportunity for students to pull from their prior knowledge base, which are both key elements of
Constructivism and PCK share the fundamental theory that accessing students’ prior knowledge promotes successful learning. Constructivist strategies include problem-solving and inquiry-based activities that take place in a collaborative learning environment. An example of inquiry-based instruction is an open-ended learning cue, which is a strategy identified by Chen & Cone (2003) employed by an expert dance teacher. Open-ended learning cues create a task environment where the learner is asked to provide a solution where many solutions are possible (Rink, 2006). Kanter & Konstantopoulos (2010) suggest that teachers who successfully deliver inquiry-based strategies utilize PCK, supporting the idea that teachers who employ constructivist strategies likely have PCK.

In a study investigating nine urban teachers during project-based science lessons, Kanter & Konstantopoulos (2010) concluded that teachers with higher CK and PCK were successful at generating higher minority student achievement, but did not influence a change in minority students’ attitudes toward the content. Content knowledge and PCK combined with inquiry-based instruction initiated a positive change in minority student attitudes toward the content presented (Kanter & Konstantopoulos, 2010). It is important to note that it was not learning cues addressing diversity that were responsible for the positive change in minority student attitudes, but the implementation of social constructivism (Kanter & Konstantopoulos, 2010). The lessons were designed to allow students to conduct their own science investigations and therefore access prior knowledge, which lead to more meaningful learning for the students. The results of Kanter and Konstantopoulos’ (2010) study confirm that knowledge is formed based on prior knowledge and cultural and social backgrounds, and supports the proven effectiveness of constructivist-
How Does PCK Develop?

In his groundbreaking article, Shulman (1986) not only introduced the concept of PCK, but questioned how novice teachers transfer their knowledge in a subject area into teachable explanations. The literature supports that classroom experience (Chen & Rovegno, 2000; Lee et al., 2007) and teacher mentoring (Appleton, 2008) are the key factors that develop PCK. In a study looking at how beginning teachers use PCK, Lee et al. (2007) used pilot data from a larger study to create a rubric that identified how beginning science teachers use PCK. The participants were 24 beginning-level science teachers that were split into four groups. The groups included (1) teachers who received on-line mentoring; (2) intern teachers with no certification or pre-service teacher education; (3) general teachers in traditional mentoring programs; and (4) teachers that were part of science-specific professional development. Interviews and observations were conducted of each teacher in the classroom setting, and later coded using a PCK rubric. All of the teachers in this study demonstrated minimal levels of PCK. This study supports the theory that PCK is developed with classroom experience, but more research is necessary to determine whether additional variables factor into effective PCK development.

Linking PCK To Expert Teaching Strategies

The literature links high levels of PCK to expert teaching strategies including scaffolded instruction, open-ended teaching tasks, and task constraints (Chen & Cone, 2003; Meyer, 1993). In their study looking at how children use critical thinking skills in their movement responses when elicited by an expert teacher’s task design, task presentation, and instructional strategies, Chen and Cone (2003) found that sequential open-ended tasks and learning cues provided...
instructional scaffolding which lead students to generate divergent movement responses. Scaffolded instruction was a key element in successfully guiding students to generate original creative dance phrases (Chen & Cone, 2003). Diaz, Neal, and Amaya-Williams (1990) define scaffolded instruction as a teaching strategy during which the teacher’s position shifts from an instructional role to a supportive role as a student explores a task or concept on their own terms. The idea behind scaffolded instruction is that the teacher gradually reduces guidance as students generate personal meaning from information and self-regulate learning on their own terms (Roehler & Cantlon, 1997; Rovengo & Kirk, 1995). The literature suggests that providing instructional scaffolding is critical in helping children gain the knowledge and skills necessary for creating divergent and unique dance movement responses on their own (Chen, 2000, 2001; Cone, 2000; Rovengo, 2000). Chen and Cone (2003) define task constraints with regards to creative dance as limitations provided within a task to generate a refined, higher quality movement response. Chen and Cone (2003) found scaffolded instruction to be a key element in successfully guiding students to generate original creative dance phrases. They also found that open-ended tasks did not always prompt divergent movement responses and that children demonstrated clear, but limited movements in response to some constraint tasks. This finding suggests that open-ended learning tasks and task constraints are most effective within the context of instructional scaffolding. Meyer (1993) argues that a constructivist approach is essential for instructional scaffolding to be successful, and that CK and the context in which the content is presented are affected by the students’ interactions with their peers and prior knowledge. The essential components of instructional scaffolding as defined by Meyer (1993) are also the
foundation of PCK. Therefore, teachers who employ scaffolded instructional strategies, such as
the expert dance teacher in Chen & Cone’s (2003) study, likely possess high levels of PCK.

Conclusion

From child development and pedagogical perspectives, the literature supports that creative
dance is a valuable asset to K-12 education. However, classroom teachers often lack sufficient
dance knowledge (Mac Donald et al., 2001) and therefore do not teach dance because they do not
feel confident in their knowledge of the subject (Appleton, 2008). As awareness of holistic
learning develops, more value is placed on the importance of integrated instruction. Also,
interdisciplinary instruction is increasingly required of classroom teachers as education budget
cuts continue to eliminate funds for the arts. Creative dance is a rich instructional opportunity to
access prior knowledge, which is also a key component of PCK. Constructivist oriented
strategies are fundamental elements of teaching creative dance, and therefore teachers need
exceptional pedagogical skill including PCK to teach dance. The literature looks at the teaching
strategies of expert dance teachers during creative dance lessons, however an investigation
looking at experienced classroom teachers was necessary to give insight into how classroom
teachers connect classroom content, including literacy, with dance. The purpose of this
exploratory study was to investigate how three 6th-grade classroom teachers planned and taught
an interdisciplinary dance and literacy lesson.
METHODOLOGY

Participants

The participants in this investigation were 3 experienced 6th-grade classroom teachers at a K-6 public school in a suburban community near Los Angeles, CA. At the time of data collection the student population was 958, and 49% were female and 51% were male. The ethnic and racial backgrounds of the students were diverse (36% Hispanic, 26% Caucasian, 17% Asian, 13% African American, and 7% Other), and 9.5% of the population were students with a disability. The 6th grade had 149 students and 4 teachers. Experienced classroom teachers were defined as teachers credentialed in the State of California with a minimum of five years experience teaching grades K-6. Participants were also required to be teaching a 6th grade class at the time of data collection. Personal dance experience was not required of the participants, however they all had the desire to teach dance in their classrooms. Teacher 1 had 5 years experience teaching grades 5-6, a rounded athletic background with no dance experience, and played on a league softball team at the time of data collection. Teacher 2 had 6 years experience teaching grades 1-6 and some personal dance experience in ballet and jazz dance. Teacher 3 had 13 years of experience teaching grades 5-6 and a rounded background in dance education including ballet, modern, and creative dance.

Data Collection

One week prior to data collection, each participant was given the following teaching materials to create a 60-minute dance/poetry lesson to their 6th-grade class: (1) lesson plan templet that included National and California dance and literacy standards and student learning outcomes; (2) haiku poems; (3) listening maps; (4) 45-second recording of Saint-Saëns
Aquarium; (5) instructional dance DVD; and (6) an instruction sheet. The instructional dance DVD illustrated a guided improvisation of a creative dance and was designed by a dance education professor at CSU Northridge.

Prior to data collection, the researcher collaborated with the participants to decide a suitable time and location on the school campus for the lessons to take place. The location of the lessons was required to meet the following criteria: (1) clear of tables, benches, and chairs; (2) clean floor; and (3) reserved solely for the dance/poetry lesson with no other physical education classes taking place concurrently. The participants supplied their own sound system and MP3 player for the lesson. Data collection took place in one day and included the following instruments: (1) videotaping; (2) post-lesson teacher interviews; and (3) detailed teacher lesson plan templates. Each lesson was videotaped from one angle by the researcher and post-lesson teacher interviews were conducted with each participant the same day and audio-taped. The detailed teacher lesson plan templates were collected from each participant before they taught their lesson.

Process of Informed Consent

Participants in the project were given an informed consent packet which included a brief description of the project, information about the risks and benefits of the project, and information about how their confidentiality would be protected. The packet also included a consent form informing the participants that they would be videotaped while teaching their dance/poetry lesson and audio-taped during their post-lesson interview. The consent form also informed the teachers that duplication of the instructional materials were not permitted.
Students who participated in the dance/poetry lessons taught by the participants were required to turn in a video release form signed by their parent, as well as a student assent form prior to participating in the lesson. The video release and student assent forms included a description of the research project and informed the parent/participant that the lesson would be videotaped. The forms explained that the purpose of videotaping the lesson was strictly to observe the teaching strategies of the teacher and that the videotape would not be publicly viewed or circulated. The forms also notified the parents/students of the date the lesson took place, and explained that the participants could dance wearing normal clothes and street shoes.

Informed consent forms, parent video release forms, and student assent forms were all collected by the researcher on the day the lessons were taught. Students who did not turn in video release forms stayed in their classroom under the supervision of another teacher during the dance lesson.

**Data Analysis**

A qualitative approach was considered appropriate for drawing conclusions from the data collected. The videotapes were analyzed using Glaser and Strauss’ (1967) constant comparison technique, which involves coding data into categories and comparing instances within categories to generate themes. Each videotaped lesson was transcribed and learning tasks were identified. Each learning task was coded as an open-ended task or task constraint using the following system based on Chen and Cone’s (2003) task presentation coding system:

1. A task constraint with verbal cues for eliciting quality.
2. An open-ended task with verbal suggestions.
3. An open-ended task with verbal suggestions and questions.
4. An open-ended task with questions, body illustrations, and verbal suggestions.
5. An open-ended task with body illustrations and verbal suggestions. For example, the task, “I want you to move in some kind of turning form, it can be a small turn [demonstration] it can be a large turn [demonstration] and if you get dizzy you might stop and just have your hands turning [demonstration] anything circular,” was coded as “an open-ended task with body illustrations and verbal suggestions.” Another task, “A pose is very still, almost like a statue where you are not moving at all” was coded as “a task constraint with verbal cues for eliciting movement quality.”

The children’s movement responses were coded using a scoring rubric that looked at the degree to which the student showed competence in fundamental dance concepts. The rubric was designed by the researcher based on Chen and Cone’s (2003) finding that when teachers present students with learning cues and respond to students’ movement reactions, the students demonstrate refinements in their dance quality including: (1) holding body shapes with stillness; (2) making clear range of movements; (3) performing movements at varying levels and with clear contrast; and (4) using elements of effort in exaggeration. For this reason, these movement refinements were incorporated into the following rubric:
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<th>INTEGRATION OF POETRY THEMES</th>
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The movement responses of the children during the final performance of the choreographed dance sequences in each lesson were coded using the rubric. The researcher watched the final dance performance of each videotaped lesson and documented detailed notes of the movement responses of all of the children in the camera shot, as well as detailed notes of unique or
exceptional movement responses of individual children. A broad score was generated using the rubric based on the overall outcome of the movement responses of the children.

A qualitative content analysis was conducted on the post-lesson interviews and lesson plan templates. The lesson plan templates and audio recordings of the post-lesson interviews were transcribed. Meaning units of each participant’s post-lesson interviews and detailed lesson plan templates were identified and condensed into themes.
RESULTS

This qualitative investigation was exploratory in nature and the findings are preliminary, however five themes emerged from the analysis of the videos, post-lesson interviews, and lesson plain templets: (1) The instructional materials, particularly the DVD, contributed to teacher confidence in their understanding of structured improvisation in creative dance; (2) Each of the teachers identified similar dance concepts as viewed on the DVD, specifically changes in levels, use of smooth/fluid dynamics, and mirror and shadow partner relationships; (3) The classroom teachers used the teaching materials, particularly the music and haiku poems, to access their students’ prior knowledge; (4) The classroom teachers used scaffolded instructions, open-ended tasks, and task constraints as strategies to elicit diverse student movement responses; and (5) Student movement responses varied in the level of competency in four components: Musicality, spatial awareness, movement clarity, and integration of poetry themes.

First Theme: The instructional materials, particularly the DVD, contributed to teacher confidence in their understanding of structured improvisation in creative dance.

The results of the analysis of the post-lesson teacher interviews indicated that the participants found a majority of the instructional materials beneficial. While the participants did not use the listening maps, they found the lesson plan templet, music recording, haiku poem, and DVD to be helpful in planning and teaching their interdisciplinary dance and literacy lessons. The participants were able to apply the content of the instructional materials into a dance and literacy lesson, indicating that the instructional materials contributed to the participants’ confidence in their understanding of structured improvisation in creative dance.
1. Listening maps  All three participants did not use the listening maps, however they found the DVD to be a visual representation of the music. Teacher 2 stated, “I did not [use the listening maps]. The video was like a listening map for me,” and Teacher 3 explained, “I did not use the [listening] maps because I already felt comfortable counting music. The choreography video was a good interpretation of how to hear the music.” These results indicate that the DVD offered a visual interpretation of how to hear and count the music while simultaneously presenting fundamental dance content.

2. Music recording and lesson plan template  While the participants found the choreography video to be helpful in understanding the music, they all used the music recording independently from the DVD to prepare their lessons. Teacher 2 reported, “I used it [music recording] to practice the dance on my own ahead of time to count the beats of the music so I could teach the children the counts,” and Teacher 3 explained, “I listened to the music a bunch of times to figure out how many counts I wanted each section, and to solidify the counts that I was going to use.”

The participants reported the lesson plan templates as being beneficial in organizing the time frame of their lessons. Teacher 2 stated, “I used it [the lesson plan template] to plan out what I was going to do and in what order, what questions I was going to ask the students, and as a guideline for timing.” Teacher 1 reflected, “It [the lesson plan template] gave me an idea of pacing and how to break it [the lesson content] down, and Teacher 3 said, “I found it [the lesson plan template] most useful as far as organizing my time.”

3. DVD  The participants found the DVD helpful in preparing their lessons because it gave them visual examples of what to expect in the students’ movement outcomes and concrete
ideas to integrate into their lesson plans. Teacher 1 explained, “It [the choreography video] gave me an idea of what to do, a routine. I am a visual learner, so I got to see something in action before I tried it.” Teacher 2 stated, “It [the choreography video] gave me an idea of what to look for in the final product,” and Teacher 3 reported, “I got some ideas from the DVD as far as what I wanted to see my students do, what I could expect the kids to do.”

4. Haiku poems The participants reported the haiku poems useful in the preparation of their lessons. Teacher 3 reflected, “I used the haiku poems and I also wrote two other haiku poems because as part of the dance I wanted them [the students] to start and end sleeping in the silent sand, so I ended up with four haikus.” Teacher 1 stated, “I did [find the haiku poems useful]. It gave them [the students] an idea of what to think about without necessarily having to go into what they know about aquarium life. It [the haiku poems] gave me a starting point or a bouncing off point.”

Each participant also showed indications of connecting the dance content with literature through reference to the haikus. Teacher 3 incorporated two original haikus that she had written herself, serving as an example of how interdisciplinary teaching plays out in a classroom setting. Rather than using the haiku poem solely for the purpose of generating movement ideas, Teacher 2 analyzed the content of the poem in ways that promoted the students to access their prior knowledge:

Student: Like a small fish and he’s really hard to see.

Participant 1: What are they talking about with his shadow?

Student: The sun is shining and you can see his shadow on the floor.

Participant 2: Is the shadow bigger or smaller than him?
Student: Bigger.

Participant 2: So it kind of does what? What does it do?

Student: It gives him away.

Participant 2: What might happen to a small fish in the water?

Student: It’s like a bully, he’ll get eaten.

While an expert dance teacher may have used poetry strictly as stimulus to prompt students to generate movement responses, the classroom teachers took the time to analyze the poetry from a literacy perspective as a set induction to their dance and literacy lessons.

The participants had unique ideas as to how they would integrate this lesson in the future with other classroom subjects, suggesting that the lesson has the possibility of being integrated with subjects beyond language arts. Teacher 1 stated, “Yes [I would integrated this lesson again]. We do a Colonial Fair and I could teach period dances so each class learns a dance and incorporates it [into the Colonial Fair].” Teacher 3 explained, “This is something I could see easily integrating into my poetry unit, this is something that would be easy to do. I would like to see them [the students] maybe choreograph something to a haiku - I think that would be a really good transition and a very good use of this [lesson]. I would like to see them creating movement to the words, not necessarily to music.”

**Second Theme:** Each of the teachers identified similar dance concepts as viewed on the DVD, specifically changes in levels, use of smooth/fluid dynamics, and mirror and shadow partner relationships.
The results of the analysis of the lesson videos and lesson plan templates concluded that dance concepts as viewed on the DVD were integrated into both the lesson plan templates and lesson presentations. Although each participant taught the lesson and dance sequence differently, content from the DVD, including level changes, use of smooth/fluid dynamics, and mirror and shadow partner relationships were integrated into each participant’s lesson and lesson plan template. All 3 participants interpreted the structured creative dance improvisation in the DVD as a sample or guideline of how a dance could be structured. Ultimately, the participants took ownership of the content of the DVD and found a way to teach it to their students. There was a direct transfer of basic dance vocabulary from the DVD to the teacher’s lessons and lesson plan templates including low level, high level, traveling pathways, high/low shapes, mirror and shadow, and held poses.

The participants concluded that what they were looking to see by the end of their lessons was that the students reproduced movement tasks to the music counts they provided and incorporated their own creativity into their movement responses. Teacher 1 explained, “[I was looking to see] the different ways the kids moved and how they interpreted [the movement] at the beginning [of the lesson] verses the end, and how they went [moved] to the music verses on their own [in silence]. When they had to put it music, [I was looking to see] how they incorporated the music with the movement.” Teacher 2 stated, “I was hoping to see them [the students] counting to music, following my instructions and also adding their own creativity to the dance,” and Teacher 3 reflected, “I was hoping to see if they could take the counts of music that I had given them and do choreography specific to that task and then perform it.” All 3 participants
placed importance on encouraging the students to express themselves creatively through the content of their lessons.

Third theme: *The classroom teachers used the teaching materials, specifically the music and haiku poems, to access their students’ prior knowledge.*

The analysis of the lessons, teacher interviews, and templates indicated that the participants intentionally used the haiku poems as a means to access their students’ prior knowledge. For example, Teacher 1 used themes from the haiku poems to access the students’ prior knowledge during a movement improvisation task:

Move around, high, low, move around the room, don’t just stay in your little bubble, in your little area. Pretend this room is an aquarium pretend you’re fish who need to go from one end of the aquarium to the other and how are you going to do that? What you want might be on this side. Do you want to sit there in the same spot all day? No, it would be kind of boring. You want to move around, change the view.

Teacher 3 generated their own haiku poem, “Rising from the deep, the liquid creatures swim then, sink to silent sand,” and then used the poem in conjunction with open-ended questions to access the students’ prior knowledge:

Teacher 3: So tell me what you think, respond.

Student: Maybe they die?

Teacher 3: Well do they, do you actually think they die though?

Student: No.

Teacher 3: What do you think another alternative to dying on the bottom would be?
Student: Sleeping

Teacher 3: Sleeping, resting.

Student: Getting fixed. I read this book about the ocean there are these one creatures that repair their own body in the sand better than doctors.

Teacher 3: Okay so maybe resting and repairing, good.

Student: They fell asleep gently to the soft sand.

Teacher 3: Okay so they can be sleeping, resting.

Student: There is the one fish we [we studied] that can reset its structure.

After playing Saint-Saëns *Aquarium* for her students, Teacher 1 guided students through a series of questions to access their prior knowledge in order to better understand the music and its relationship to sea life:

Student: It reminds me of Beauty and the Beast.

Teacher 1: Is it a fast or slow tempo?

Student: A slow tempo.

Teacher 1: You know the word tempo from our Italian words. Is a slower tempo, absolutely. What does it make you think of?

Students: Home Alone 3; Harry Potter.

Teacher 1: Think of it in terms of sea life. What does it make you think of?

Students: The lost city of Atlantis; The Nutcracker; panoramic camera going from the top of the ocean to the bottom.

Teacher 1: Has anyone ever been scuba diving or snorkeling or been able to see a picture underneath the water first hand? How many of you have ever been on the ride at
Disneyland in the submarine where you are kind of descending and transforming down into the depths of the water?

Student: The Nemo one?

These findings suggest that teaching materials, particularly the music and haiku poems, facilitated the teachers to access their students’ prior knowledge during their dance and literacy lessons.

*Fourth Theme: The classroom teachers used scaffolded instructions, open-ended tasks, and task constraints as strategies to elicit diverse student movement responses.*

The DVD did not include examples of teaching refinements such as scaffolded learning tasks, open-ended learning tasks, or task constraints, suggesting that the supplied teaching materials facilitated classroom teachers to implement these types of tasks on their own.

1. **Scaffolding** Two of the three participants demonstrated sequential scaffolding tasks in their lessons. Teacher 3 employed scaffolded learning cues including movement improvisation, gliding with pathways, turning forms, and shadowing. After exploring these movement concepts, the students were asked to create their own dance choreography. Students were divided into partners and given sequential learning tasks via a paper handout that were based on the dance improvisation sequence in the DVD: (1) 16 counts to move from sinking sand up to finding partner; (2) 16 counts to move in same space with partner; (3) 16 counts to shadow/sun [shadowing partner] with your partner; (4) 16 counts to move apart and back together again; and (5) 16 counts to move back to your beginning place to sleep in the silent
sand. This suggests that Teacher 3 used the content in the DVD as scaffolding cues to generate original movement responses in the students.

Each group in Teacher 3’s lesson arranged their choreographed dance sequence in innovative ways. For example, Group 1 traveled on their knees and shuffled to each other, demonstrated torso curves, large arm circles and turning movements when shadowing each other, and moved back to their beginning positions with quick movements. Group 2 explored rolling floor movements to get to each other, incorporated fluid turning and torso movements that employed both low and high space when shadowing each other, and demonstrated slow, controlled movements inclusive of articulating specific body parts (wrist circles) when returning to the floor. Group 3 created detailed gliding foot movements to travel toward each other, and demonstrated cliché dance movements in the shadowing portion of their dance sequence. However Teacher 3 was able to use task constraint cues addressing the speed and quality of the students’ movements to guide them to transform their cliché dance movements into unique and original movements that were more reflective of the aquatic theme of the lesson. Teacher 3 was able to get some of her students to original movement responses that demonstrated content from the dance improvisation sequence in the DVD.

Teacher 1 also demonstrated use of sequential scaffolded learning tasks in the form of sea creature improvisations, a shadowing activity, music visualization, and improvisation with a partner. Within the context of these learning tasks, movement techniques were introduced including high and low levels, musical timing, traveling pathways, and movement dynamics. Through the use of the sequential scaffolded learning tasks students were guided to employ movement concepts they had explored to culminate in the performance of the choreographed
dance sequence. Teacher 1 continued to use scaffolded instructional cues to guide students through the process of employing movement concepts that they had explored to generate original and unique movement responses that reflected elements of the dance improvisation sequence in the DVD.

2. Learning Cues: Open-ended tasks and task constraints There were instances of open-ended learning tasks independent of scaffolded instruction that resulted in non-divergent student movement responses, and instances where they were effective in guiding students to create divergent movement responses. For example, Teacher 2 provided an open-ended cue with verbal suggestions and demonstrations to present a task exploring high shapes, low shapes, and shadowing:

I want you to move like a sea creature and we are going to practice a few things. I’m going to tell you to move high [demonstration of high shape] and I’m going to tell you to move low [demonstration of low shape] and then I’m going to tell you to mirror someone, so come stand with me [one student comes up to the front of the class and demonstrates mirroring with their teacher] I’m going to move this way and you are going to do exactly the same thing and then I’m going to turn and you’re going to turn like this.

This learning cue resulted in non-divergent movement responses from the students. The students were prone to imitating each other. All of the students’ high and low shapes were similar in form and they mimicked sea creature movement rather than using the theme of sea creatures to generate original movement responses. The students’ movement responses also demonstrated limited use of space or pathways in unique or innovative ways.
Teacher 3 used the following open-ended learning task with verbal cues and demonstrations to present a turning forms task:

This time [across the floor] I want you to move in some kind of turning form. It can be small [demonstration] it can be a large turn [demonstration] and if you get dizzy you might stop and just have your hands turning [demonstration] however you want to it, anything circular is okay.

This task resulted in dynamic and original student movement responses including hopping turns, full body spins, isolated body parts turning, and multi-directional turning. At one point when a student did imitate their peer’s movement response, Teacher 3 gave the task constraint, “Make it different, I want to see differences,” to promote students to produce original movements.

Teacher 1 presented an open-ended shadowing task with questions, verbal suggestions, and demonstrations that resulted in divergent student movement responses:

We’re going to do a mirror and shadow activity. When you think of a mirror, what happens when you stand in front of a mirror? What happens when I do this [moves arm] in the mirror what does your reflection do? If I jump up [jumps up] what happens?

We’re going to do an activity where we are going to mirror and shadow each other. We’re all going to get a chance to mirror, whether you’re facing your partner or your partner is next to you, whatever your partner does you have to do.”

This task resulted in unique student movement responses that demonstrated use of levels, pathways, dynamics, and focus, within the context of exploring mirror and shadow partner relationships. What may have lead to the tasks of Teacher’s 2 and 3 to result in divergent responses was that the tasks only addressed one main movement concept. The task of Teacher 3
addressed turning forms and the task of Teacher 2 explored shadowing. Because the tasks were simplistic, students were able to apply some of the other dance concepts that had been presented to them including spatial awareness and dynamics. The task of Teacher 1 presented a sequence of 3 tasks within the same activity: finding low levels, finding high levels, and shadowing. Therefore, students did not have the chance to explore applying dance concepts to generate unique movements because they were focused on remembering the sequence of tasks.

The results indicated a correlation between the number of task constraints within a lesson and the quality of the student movement responses within that same lesson, particularly in the performance of the dance sequence. The participants whose lessons resulted in higher quality student movement responses employed open-ended learning tasks and a limited number of task constraints within the context of sequential scaffolded learning cues. The following is an example of a task constraint Teacher 3 used near the beginning of the lesson to elicit movement quality, which ultimately lead to more dynamic and innovative movement responses in the students’ performance of the choreographed dance sequence at the end of the lesson:

We are going to go across the floor but I want you as low as you can go, when you get here [half-way across the floor] I want you to bring it [your movement] to another level, and then a higher level, until by the end you are all the way up.

Open-ended learning cues resulting in divergent responses were not limited to movement responses. Teacher 3 used learning cues with verbal suggestions and questions to generate verbal responses from the students about movement as it relates to water:

Teacher 3: Think about how creatures in the ocean move and how that’s different from how creatures on the land move. Raise your hand and somebody tell me a difference.
Student: They don’t have feet.

Teacher 3: They don’t have feet so how does that effect how they move?

Student: They can’t walk.

Teacher 3: They can’t walk so when you’re thinking about something in the ocean are you thinking about something that plods along?

Student: No like this [demonstrates linear swimming motion with hand].

Student: Its like zero gravity in the water.

Teacher 3: So they’re not tied to one straight line, they don’t have to be linear.

Student: They can fly.

Through this sequence of open-ended learning cues, Teacher 3 was able to guide students to meaningful realizations about how moving in water is different from moving on land.

Fifth Theme: Student movement responses varied in the level of competency in four components: Musicality, spatial awareness, movement clarity, and integration of poetry themes.

In the areas of musicality, spatial awareness, movement clarity, and integration of poetry themes, the scores of the student movement responses varied in levels of competency. The student movement responses of Teacher 2’s lesson did not demonstrate competency in any of the four areas. The students were more inclined to reproduce cliché dance steps than to generate unique movement responses. Select students who did demonstrate potential for generating original movement responses were not guided to develop their potential through teacher learning cues. The lessons of Teacher’s 1 and 3 both resulted in some competent student movement responses. Teacher 1 was able to generate some student movement responses that demonstrated
clarity and employed turns, unique gestures, mirror and shadow partner relationships, effective use of high and low space, and poses held with stillness. Some student movement responses of Teacher 3 included effective use of high and low space, clear mirror and shadow partner relationships, smooth and fluid dynamics, and clear, concise articulation of body parts including torso, neck, and wrists. While the student movement responses of Teacher 2 reflected sea creature themes in literal ways, Teachers 1 and 3 were able to guide some students to create movement responses that reflected the sea creature themes in more abstract ways. For example, a literal interpretation of a crab in the form of a movement response would be a student running around the room pinching his hands. An abstract interpretation of a crab would be a student incorporating the two-dimensional movement quality of a crab into their own unique movement response.
DISCUSSION

The purpose of this exploratory study was to investigate how classroom teachers used quality teaching materials to plan and teach an interdisciplinary dance and literacy lesson. The literature looks at the teaching strategies of expert dance teachers during creative dance lessons, however there is justification for looking at experienced classroom teachers and how they connect classroom content, including literacy, with dance during interdisciplinary instruction. While expert dance teachers have expertise in dance, they have less experience integrating subjects than experienced classroom teachers. The interest of this investigation was in drawing out how experienced classroom teachers used their knowledge and multi-subject expertise to generate and teach an interdisciplinary dance and literacy lesson. The analysis of lesson videos, post-lesson teacher interviews, and lesson plan templates gave insight as to how teaching materials specific to dance have the potential to facilitate interdisciplinary instruction. The results also supported teaching materials specific to dance as useful tools for classroom teachers in planning and teaching integrated dance/literacy lessons.

Results from this investigation indicated that quality teaching materials facilitated the experienced classroom teachers to demonstrate sequential scaffolded tasks. There was a correlation between sequential scaffolded instructional tasks by the teachers and higher quality movement responses in the children. This is in line with Chen and Cone’s (2003) finding that scaffolded sequential learning tasks guide students to explore specific dance concepts, and then apply those concepts to create their own dance sequences. The findings of this investigation also indicate that open-ended learning cues and task constraints that are not part of sequential scaffolded instructional cues generate lower-quality, less original student movement responses.
This supports Chen and Cone’s (2003) finding that open-ended learning cues do not always prompt children to produce divergent movement responses, and that task constraints can promote clear, but limited movement responses. Both the preliminary findings in this study and the findings of Chen and Cone (2003) indicate that open-ended learning cues and task constraints are most effective within the context of sequential scaffolded learning tasks. The literature supports that teachers who employ scaffolded instruction have high levels of PCK (Meyers, 1993), suggesting that some of the experienced classroom teachers in this investigation demonstrated moderate levels of dance and literacy PCK through the use of scaffolded learning cues.

Chen and Cone (2003) found that an expert dance teacher used imagery in the form of stories and poems with instructional scaffolding to generate personal meaning and present dance content. In line with Chen and Cone’s (2003) findings, the experienced classroom teachers in this study integrated the imagery of the haikus into their learning cues to access their students’ prior knowledge and guide students to think in creative ways. Like the expert dance teacher in Chen and Cone’s (2003) study, in some instances the experienced classroom teachers used imagery to promote divergent and unique student movement responses from the children.

Where some of the experienced classroom teachers differed from the expert dance teacher in Chen and Cone’s (2003) study was their ability to consistently generate student movement responses that demonstrated clarity and intent. The experienced classroom teachers were successful in facilitating their students to perform the dance sequence, however in some instances the clarity of the movements were less defined. In some of the tasks, the participants did not hold the students accountable for good quality movement responses in the same way as that of an experienced dance educator.
Overby et al., (2005) suggest that problems can occur during interdisciplinary instruction when both disciplines are not equally addressed within the content of the lesson. Interdisciplinary instruction can sometimes lead to a classroom teacher using an arts subject to further support the content of an academic subject, rather than equally merging an arts subject with an academic subject. Literacy, in the form of haiku poems, had a strong presence in the participants lessons, partially reflecting Burstein and Knotts (2011) theory of co-equal integrated instruction, or the equal pairing of an arts and academic subject. Participant 3 indicated that as an extension of this lesson she would have students write their own haiku poems and create dance studies to their poetry. Furthermore, she suggested that the students’ choreography could be set to their haiku poetry rather than to music. This would be a concrete example of what Burstein and Knotts (2011) define as co-equal integrated instruction. Although the lessons in this investigation only demonstrated partial co-equal integrated instruction, the results suggest that sequential lessons with the same teaching materials could result in concrete co-equal integrated instruction.

In their study looking at collaborative processes of a physical education and second grade teacher while planning an interdisciplinary unit, Chen et al., (2007) found that classroom teachers were more invested in the presentation of an interdisciplinary lesson when they created it themselves. This finding suggests that the teaching materials allowed the participants to generate an interdisciplinary lesson on their own, and therefore the lesson had more meaning to them when they presented it to their students. The literature supports listening maps as an effective means of teaching musical concepts including compositional forms, rhythm, and tempo (Kassner, 2007), which is why listening maps were included in the teaching materials. However,
the results of this study concluded that the participants did not use the listening maps to plan their lessons and found the DVD as a means to understand the rhythm and tempo of the music. This finding suggests that the DVD was not only beneficial in helping teachers to understand and teach a dance content, but also gave them an understanding of how to hear and count the music.

Gilbert’s (2006) brain-compatible approach consists of 10 principles that integrate dance education with fundamental knowledge about how the brain works. Through the use of the instructional materials, the classroom teachers were able to create learning environments that paralleled several principles of Gilbert’s (2006) brain-compatible approach such as: (1) providing an enriched environment; (2) offered meaning feedback; (3) including opportunities for emotional engagement; and (4) allowing for social interaction. It is a standard in education that enrichment programs be inclusive of the arts. The classroom teachers were able to create an enriched learning environment by integrating literacy content with dance. During the lessons, students were emotionally engaged by relating personal feelings about haiku poems into movement responses. Social interaction was promoted through improvisational explorations of mirror and shadow partner relationships, and meaningful feedback was provided by the classroom teachers in the form of task constraints.
CONCLUSION

The literature examines the teaching strategies of expert dance and physical education teachers in the areas of scaffolded instruction and interdisciplinary instruction. This exploratory study was unique because it looked at how experienced classroom teachers implemented teaching materials specific to dance to plan and teach an interdisciplinary dance and literacy lesson. With awareness of holistic learning, the value of integrating subject matter with the arts is more evident as the diversity of learning styles are taken into consideration. However, as arts specialists, including dance teachers, continue to be cut from school budgets, interdisciplinary instruction is increasingly required of classroom teachers. Due to the unique link between dance and literacy, it was important to investigate how quality teaching materials specific to dance aided experienced classroom teachers during an interdisciplinary dance and literacy lesson.

This investigation was limited in the number of participants and, therefore, generalized conclusions cannot be made until the study is replicated with a larger number of participants. Another limitation of this investigation was that all three participants taught at the same public school on the same 6th grade team. Including participants from differing public school campuses would result in more generalized data and eliminate the possibility of teachers collaborating to create their lessons. The scoring of the student movement responses was also a limitation in this study. Within the same video shot there were students performing quality, competent movement responses and some that were not. Also, some teachers had the students perform the final movement sequence as one group, and other teachers divided the class up into several groups to perform the final sequence. These limitations had an effect on the results of the student movement response scores.
The DVD with a guided improvisation of a creative dance was deemed by all three participants as a helpful planning and teaching aid. Future research might look at the thinking processes of the classroom teachers while they watch the DVD to determine which components of the DVD guide them in generating the type of dance sequence they ultimately teach to their students. While PCK requires teachers to merge CK and PK to convey information in meaningful ways, the nature of interdisciplinary instruction could result in teachers merging two content areas with PK in order to implement PCK. Recommendations for future study include investigating the potential for a hybrid PCK to develop as a result of interdisciplinary instruction.
REFERENCES


