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An Investigation of California Classroom Teachers' Beliefs and Ratings of Creativity in Dance

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AN INVESTIGATION OF CALIFORNIA CLASSROOM TEACHERS' BELIEFS AND RATINGS OF CREATIVITY IN DANCE

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Dissertation Abstract

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Creativity is a fundamental aim of art education. Because classroom teachers are responsible for teaching the arts at the elementary-school level, how they perceive and recognize creativity effects the quality of art education their students receive. This study investigated California teachers' beliefs about creativity in dance and the relationship of their beliefs to their ratings of student dance compositions. It also investigated the extent of agreement in creativity ratings across teachers and between teachers and dance experts. Classroom teachers' beliefs were collected through a research-constructed questionnaire, and classroom teachers (n=74) and dance experts (n=35) rated students' creative-dance products using a variation of Amabile's (1982) Consensual Assessment Technique (CAT).

The findings show that classroom teachers value creativity and adhere to the belief that all children can be creative. They do not believe that creativity disrupts learning. Classroom teachers identified high, medium, and low levels of creativity with good interrater agreement (ICC=.84), and no statistically significant differences were found when compared with dance experts' ratings.

Statistically significant positive associations were found between teachers' creativity ratings and their beliefs about creativity (r=.26), and medium-to-large associations were found between their creativity ratings and three individual belief items: *It is important that students have free expression assignments in dance* (η^2=.15), *All children can express themselves creatively in dance* (η^2=.19), and *Improvisation is vital in school dance programs* (η^2=.11).

Stepwise multiple regression was used to examine teacher characteristics as possible explanations for differences in ratings. The *amount of dance offered* at the teachers' schools was the only variable with a statistically significant correlation. Teachers answered three open-response questions defining creativity and describing their embodied experiences in dance. The majority of responses were psychosocial.

The results of this study show that teachers' beliefs are related to their recognition of creativity and to the extent that they witness their students participating in dance, they increase that recognition. The study reveals a need for increased dance programs at the elementary-school level and professional development for teachers in dance education. This study is the first known application of CAT to dance.

This dissertation, written under the direction of the candidate's dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of the School of Education in partial fulfillment of the requirements for the degree of Doctor of Education. The content and research methodologies presented in this work represent the work of the candidate alone.

Patricia R. Reedy	April 29, 2020
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CHAPTER I
STATEMENT OF THE PROBLEM

In January 2016, California legislators passed SB916, known as the Theater and Dance Act, reestablishing a single-subject teaching credential in theater and dance. The corresponding revised California Arts Standards, modeled after the National Core Arts Standards, were adopted January 2019. At the elementary-school level, classroom teachers likely will remain responsible for implementing standards-based art curriculum in all four disciplines for the foreseeable future. The last time California legislators established visual- and performing-arts standards, meeting arts-education goals at the elementary-school level became the responsibility of the classroom teacher. California experienced a decimation of arts-education programs at the elementary-school level and in teacher education, creating a spiral of diminishing opportunity for California students, particularly in low-performing schools and schools in low-income communities (California Department of Education, 2019a; Guha, Woodworth, Kim, Malin, & Park, 2008; Woodworth, Gallagher, & Guha, 2007).

The reasons reported for the reduction in arts education at the elementary-school level included insufficient instructional time, focus on improving academic test scores, lack of support from district leaders, and lack of professional development or training (Guha et al., 2008). Already overwhelmed with curricular mandates and lack of support, classroom teachers were forced to neglect teaching art content, particularly content that they feel ill-prepared to teach, like dance.

California's crisis in arts education coincided with a renewed emphasis on creativity as an essential 21st-century learning skill (Deasy, 2002). At the elementary-school level, classroom teachers are expected to teach students creatively and improve students' creative

thinking. In teaching the arts, they are expected to teach four processes: creating, performing, responding, and connecting. The literature suggests that classroom teachers recognize that they are responsible for creativity but, in addition to the aforementioned environmental pressures, lack the capacity to develop creativity in their students (Craft, Cremin, Burnard, & Chappell, 2007; Gralewski & Karwowski, 2016; Mullet, Wilkerson, Lamb, & Kettler, 2016; Rubenstein, Ridgley, Callan, Karami, & Ehlinger, 2018).

Without proper teacher education about how to teach for creativity, teachers may resort to instructional methods that do not foster creativity based on their experience and implicit beliefs (Aljughaiman & Mowrer-Reynolds, 2005; Connell, 2009; Cuellar-Moreno, 2016; Fang, 1996; Melchoir, 2011; Pajares, 1992; Warburton, 2008). Studies that examine teachers' creativity beliefs are plentiful and suggest that teachers hold misperceptions about creativity (Andiliou & Murphy, 2010; Bereczi & Kápáti, 2018; Mullet et al., 2016). Of the few studies of teachers' perceptions of dance, most investigate attitudes toward dance teaching generally. Generalist classroom teachers say that they do not teach dance in elementary school due to lack of confidence, lack of training, lack of experience with dance, and fear of losing control (Alter, Hayes, & O'Hara, 2009; MacDonald, 1991; MacDonald, Stodel & Farres, 2001; Rolfe, 2001; Russell-Bowie, 2013).

Time pressures are reported as barriers to realizing most goals in modern education but have an indirect influence on creativity development. Teachers come to view students' unexpected ideas as disruptive or distracting from their instructional plans (Beghetto, 2010; Guilford, 1968; Reeve, 2009). Although an unexpected idea is not equivalent to a creative idea, an unexpected or surprising idea is often critical to the creative process than ends in a novel or original idea or product (Beghetto, 2010). Teachers fear chaos, and the creative

process, particularly in dance, can be filled with unanticipated, bewildering behaviors that are perceived as messy and out of control (Glăveanu, 2015; Leonard, 2014; Melchoir, 2011; Oreck, 2004a; Reedy, 2015).

In addition to fearing potential disruption, classroom teachers might not recognize surprising ideas as creative because they hold misperceptions about creativity due to implicit theories or beliefs. There is evidence that teachers hold implicit theories or beliefs that include the definition of creativity, the importance of creativity in school, the extent to which creativity can be developed, and how creativity appears in student behavior and products (Aljughaiman & Mowrer-Reynolds, 2005; Bereczi & Kápáti, 2018; Fryer & Collings, 1991). Implicit theories of creativity are related to the recognition and assessment of it (Gralewski & Karwowski, 2016) and teachers cite not being able to assess creativity as one reason they do not teach it (Bereczi & Kápáti, 2018, Rubenstein et al., 2018).

The Consensual Assessment Technique (CAT) is considered a reliable way of evaluating creative products by acknowledging the subjective nature of creativity (Amabile, 1996; Baer & McKool, 2009). Studies of creative works by adults and children in the domains of visual art (collage, painting), language (poetry, essays), and music (composition, improvisation) have found CAT to be a reliable measurement tool with interrater reliabilities among expert judges ranging consistently between .70 to .90 using Cronbach coefficient alpha (Amabile, 1996; Baer & McKool, 2009; Dollinger & Shafran, 2005; Hennessey, 1994; Hennessey, Amabile, & Mueller, 2011; Hickey, 2001; Kaufman, Baer, Cole, & Sexton, 2008; Priest, 2006). To date, however, no study has used CAT to evaluate the creativity of dance compositional studies in children or adults.

The CAT methodology was designed to be used by raters with expertise in a specific domain; however, many studies have examined the nature of expertise when rating creativity using CAT with mixed results (Caroff & Besançon, 2008; Cropley & Kaufman, 2012; Dollinger & Shafran, 2005; Hickey, 2001; Kaufman et al., 2008; Kaufman, Baer, & Cole, 2009; Plucker, Kaufman, Temple, & Qian, 2009). Although classroom teachers report they lack the confidence to teach dance and to assess creativity, there is some evidence that they can evaluate dance with explicit criteria and training (Oreck, Owen, & Baum, 2003). It is unknown whether classroom teachers' subjective understanding of creativity results in recognizing it in students' dance products.

Even with the results of studies of teachers' perceptions of creativity or teachers' perceptions of teaching dance, there is a gap in the literature about teachers' perceptions about creativity in dance. As the California Department of Education prepares to roll out the new California Arts Standards and frameworks, there will be a need to establish teacher-education programs that help teachers identify and cultivate creativity in dance in their students. Identifying gaps in teacher perceptions or misperceptions of creativity in dance is a step toward understanding the pedagogical content needed in future teacher education programs. For the creating process of the dance standards to be realized in California-school dance programs, teachers will need to be able to recognize, assess, and cultivate creativity in students.

Purpose of the Study

This study had multiple-related purposes toward understanding how classroom teachers perceive and recognize creativity in dance. The first and second purposes were to investigate classroom teachers' beliefs about creativity in dance and the relationship between

teachers' beliefs about creativity in dance and their ratings of student creative-dance products. The third purpose was to examine the extent to which classroom teachers and dance experts agree when rating creative-dance products.

This study used a researcher-constructed questionnaire to investigate teachers' perceptions of creativity and embodiment in dance. The Teacher Perceptions of Creativity in Dance Instrument (TPCDI) is a three-part instrument that included a Creativity Beliefs Questionnaire, a section where participants rated students' dance compositions using CAT, and a demographic questionnaire.

The results of the creativity ratings were compared with ratings by dance experts who utilized CAT to rate children's dance products in a pilot study for this research. In this study, classroom teachers comprise the participant group, and dance experts are defined as dance teachers with more than 5 years' teaching experience and artistic experience as choreographers or performers.

Educational Significance

This study is relevant because it sheds light on teachers' perceptions of creativity in dance at a critical time in California dance education history. In January 2016, California legislators passed SB916, also known as the Theater and Dance Act, reestablishing a single-subject teaching credential in theater and dance. Three years later, new California Arts Standards were adopted based on the National Core Arts Standards (January, 2019). Since the late 1970s when theater and dance were omitted from the single-subject arts credential renewal, college and university education departments have eliminated dance and theater from their preservice curriculum, dance departments have cut pedagogy courses, and California students have had diminished access to dance education (Guha et al., 2008). As

institutes of higher learning rebuild teacher education programs to include dance, they will need data about the knowledge and skills most needed by teachers to meet the national- and state-dance standards effectively.

As an art form, creating is expected in dance, but teachers often avoid facilitating creativity in their classes because they believe they are unprepared (Cuellar-Moreno, 2016; Rolfe, 2001). Discovering how teachers perceive creativity in dance and recognize it in student dance works will provide valuable information for California teacher-preparation programs as they develop new art-education pedagogy courses for elementary-level teachers and prepare for the new certification in dance. Any misperceptions of creativity found in this study will need to be addressed so that teachers can learn to recognize, assess, and facilitate creativity and realize the goals of the California Arts Standards for dance.

This study advances research literature in educational psychology and dance education. First, it adds the domain of dance to the collection of creativity research in the educational psychology literature, specifically, rating creativity using CAT and investigating classroom teachers' beliefs of creativity. With a few exceptions, dance is missing from the literature investigating these aspects of creativity. This study is the first use of CAT in dance. Second, the field of dance education has few published quantitative studies (Bonbright, Bradley, & Dooling, 2013; Winner, Goldstein, & Vincent-Lancrin, 2013). This study fills a gap in the dance education literature as it provides empirical data on how teachers perceive and recognize creativity in dance.

Theoretical Framework

Theories from several knowledge areas comprise the theoretical underpinnings of this study, including theories of creativity, the neuroscience of embodiment, and the nature of belief systems.

Creativity

Creating is the first of the four core artistic processes of the new California Arts Standards and the National Core Arts Standards on which they were based. In dance, creating is described as exploring multiple movement ideas, then organizing those ideas into works of embodied art (Dance at a Glance handbook, NCCAS, 2014). The anchor standards at each grade level further define creating as generating and conceptualizing; improvising and developing; and refining, completing, and interpreting (Dance at a Glance handbook, NCCAS, 2014). These creative activities involve divergent and convergent cognitive processes that have been linked with creativity since Guilford's early seminal works (Guilford, 1956, 1968).

Within a cognitive framework, improvisation has been found to enhance divergent thinking and develop skills associated with creative thinking, such as flexibility, problem posing, and putting things together in new and unusual ways (Glăveneau, 2015; Nachmanovich, 1990; Sowden, Clements, Redlich, & Lewis, 2015). Divergent-thinking and improvisation are related to the creative *process*--one of the four Ps in the Four Ps construct of creativity. The Four Ps (Person, Press, Process, or Product) is a multifaceted framework that has been used to focus creativity research (Keller-Mathers & Murdock, 1999; Kozbelt, Beghetto, & Runco, 2010). Researchers might take a psychological approach and study the creative *person* or personality or take a sociopsychological perspective to study the creative

press, or environment for creativity. Others might take a developmental view and study creative *process* or seek to evaluate creative *products*. In this study, students have used divergent and convergent cognitive processes to compose creative-dance products that will be rated by teachers. When responding to questions about their perceptions of creativity, classroom teachers may have used any of the Four Ps to relate their implicit understanding of creativity. The confluence approach to creativity, therefore, is a useful theoretical construct for interpreting the results of this research.

The confluence approach posits that multiple components converge in creativity, including intrinsic motivation, domain-relevant knowledge, and certain cognitive and personality elements (Amabile, 1996; Csikszentmihalyi, 1997, 1999; Runco, 2007; Sternberg, 2012). An alternative to studying creative persons, creative products, environments, or creative personality factors separately, the confluence approach considers creativity from a systems perspective. According to the confluence approach, creativity within a domain reveals itself by the generation of novel ideas, the exploration of new cognitive pathways, freedom from control, and in personal characteristics such as risk-taking, ambiguity tolerance, persistence, and openness (Amabile, 1996; Csikszentmihalyi, 1997; Maslow, 2014; Sternberg & Lubart, 1999). The ability to differentiate creative thinking from critical thinking relies on the confluence of these characteristics (Sternberg & Lubart, 1999).

In addition to investigating classroom teachers' creativity beliefs, this study is concerned with teachers' ratings of creative products. The standard definition of creativity used by researchers is a two-criterion view that products must be novel and appropriate to be considered creative (Runco & Jaeger, 2012). CAT, developed by Amabile (1996), is an interjudge assessment of creative products. Products are judged on creativity-relevant skills

and domain-relevant skills, along with task motivation. Creativity-relevant skills are the raters' implicit understanding of creativity, often represented by the elements described in the confluence approach. Domain-relevant skills are specific knowledge or technical skills required by the domain of interest. Novelty and appropriateness (also called effectiveness or usefulness) are applied to determine creativity in relation to a task within a specific domain. In this study, CAT was used by teachers in their ratings of students' creative-dance products.

In this study, a *little c* or everyday creativity perspective was used when asking teachers to rate students' creative-dance products relative to similar dances produced by students of a similar population rather than to outstanding masterworks of choreography. Distinguishing *Big C* or eminent creativity from little c or everyday creativity is essential in education because a Big C bias can lead to creativity seen as a rare trait that belongs in programs for gifted and talented students, rather than a skill to be developed in all (Beghetto, 2010; Craft, 2000). In examining classroom teachers' beliefs about creativity, this research posed questions about how teachers value creativity, the extent to which they believe everyone is creative, and whether creativity can be developed. Classroom teachers were asked these questions about creativity in dance. The extent to which classroom teachers hold implicit Big C biases, equating creativity with extreme levels of artistic accomplishment, might have influenced their ratings of students' creative-dance products.

Embodiment

Theories of embodiment are foundational to dance education. Beyond a medium for existing in the world, the dancing body elaborates movement with meaning and significance (Bresler, 2004; Root-Bernstein & Root-Bernstein, 2005; Warburton, 2011). Embodiment most commonly is associated with the field of somatics (Chappell, 2007; Green, 2007) as a

way of perceiving oneself from the inside out (Green, 2007, p. 1120; Stinson, 1995, 2004). Somatics is a useful framework to understand the dancer or choreographer experience, but it is inadequate for explaining what a teacher might perceive when viewing students' creativity in dance.

Warburton (2011) used the phrase *dance enaction* as an alternative to embodiment. He referred to the cognitive-science literature in applying the concept of enaction, which emphasizes the emotional and relational nature of thought in action, to dance. Dancers know and create using somatic, kinesthetic, and mimetic abilities. They use these abilities when they sense movement in the here and now, locate their bodies in space, or position their bodies and movements in unison with other dancers (Warburton, 2011). Researchers have theorized that viewers of dance can experience similar sensations due to mirror neurons (Berrol, 2006; Calvo-Merino, 2010).

When animals observe action in others, specific neurons fire in the observers' brain as if the viewer were performing the actions himself or herself, in effect, mirroring the activity. Since the discovery and investigations of mirror neurons in the 1990s, neuroscientists' research of dance has resulted in studies of perception (Calvo-Merino, 2010; Jola, 2010), mental representation (Bläsing, 2010; Schack, 2010), and neuroaesthetics (Calvo-Merino, 2010; Chatterjee, 2011; Zöllig, 2010). Neuroaesthetics concerns itself with activity in the human brain when watching dance. Studies have found an influence of motor expertise in the perception of dance where humans are likely to activate the mirror neurons when viewing actions they have performed in the past (Calvo-Merino, 2006; Cross, 2010; Warburton, 2011). The current study examined differences between classroom teachers' and dance experts' ability to recognize creativity in children's dances. Dance experts are likely to have

performed many of the movements being viewed for this study; therefore, the theory of neuroaesthetics might explain any differences found between classroom teachers' and dance experts' recognition of creativity in children's dance.

Belief systems

People develop implicit theories to explain different types of phenomena. Implicit means that individuals are unaware that they are constructing theories that form their general-knowledge system and that influence perception and action (Karwowski & Brzeski, 2017; Sternberg, 1985). Belief systems theory suggests that beliefs (also referred to as implicit theories, ideology, values, or perceptions) operate independently of other cognitive processes due to strong affective and evaluative components (Nespor, 1985; Pajares, 1992). The four components of belief theory are existential presumption, alternativity, affect and evaluation, and episodic memory. These components influence teachers' behaviors in the classroom (Abelson, 1979; Nespor, 1985).

Existential presumptions are personal, immutable beliefs about reality (Pajares, 1992). A belief or nonbelief in God, for example, is an existential presumption; however, student characteristics such as creative ability or laziness can be conceptualized as entities by teachers and seen as absolute reality instead of behaviors in context. The affective and evaluative component includes feelings, moods, and personal likes and dislikes. Teachers have recognized and unrecognized feelings about students that influence the way they perceive and treat them. Affect also is a consideration in teachers' approaches to subject matter and is related to the amount of time and energy expended on certain course content, such as developing creativity skills (Nespor, 1985).

The complexity of teachers' work can create what Nespor (1985) called an entangled domain. These are conditions where a teacher is unable to make sense of a particular situation, or the rules of a particular subject or domain are unclear and ambiguous. During entangled domain encounters, cognitive and information-processing strategies are difficult to access, and beliefs act to make quick decisions (Fang, 1996; Pajares, 1992).

Beliefs are part of teachers' general knowledge and act as a filter in their daily work (Fang, 1996). There is evidence that teachers' beliefs are associated with their perceptions about students, subjects, teaching, and learning even as other studies reveal that teachers' stated beliefs do not always correspond to their actions in the classroom (Calderhead, 1996; Karwowski & Brzeski, 2017). With hundreds of uncertain moments and personal interactions each day, teachers' beliefs play an active role in shaping their students' experience.

Teachers' hold implicit theories or beliefs about creativity, such as the definition of creativity, the importance of creativity in schools, who is creative, how creativity appears in student behavior and products, the extent to which creativity can be nurtured, and how creativity is developed (Aljughaiman & Mowrer-Reynolds, 2005; Bereczi & Kápáti, 2018; Craft et al., 2007; Diakidoy & Phtiaka, 2002; Fryer & Collings, 1991; Mullet et al., 2016; Rubenstein, McCoach, & Siegle, 2013; Rubenstein et al., 2018; Turner, 2013). Implicit theories of creativity make a difference to teachers' ability to recognize creativity in their students (Gralewski & Karwowski, 2016; Kettler, Lamb, Willerson, & Mullet, 2018; Paek, Sumners, & Sharpe, 2019). In the current study, classroom teachers rated the creativity of students' dance products. Belief systems theory suggests that teachers' implicit or explicit beliefs might influence the very perception of viewing the dances. Further, the implicit or explicit beliefs held by teachers might influence their ability to recognize creativity in dance.

The extent to which classroom teachers' beliefs of creativity in dance is related to their ability to recognize it when rating students' dance products was the focus of this research.

Background and Need

Dance education has a long history in the United States, coming in and out of favor as trends move toward and away from notions of holistic education (Reedy, 2009). Dewey (1934) was one educational reformer who spoke of the importance of the arts in education as examples of learning through experience, including the body. With the recent passage of California's Theater and Dance Act and the 2019 adopted content standards aligned with the National Core Arts Standards, there is a renewed opportunity for students to learn through the embodied experiences offered in dance.

The Professional Teaching Standards for Dance Arts (2018) established industry standards for all individuals teaching dance as an art form. An essential expectation in the Professional Teaching Standards for Dance Arts is for teachers to have the capacity to rate mastery of the four artistic processes covered in the National Core Arts Standards: creating, performing, responding, and connecting. Teachers of dance are expected to "engage students in purposeful dance-making by using compositional and choreographic tools that foster skills in creating and communicating intent" and assess those skills (Bonbright, Bradley, Cohen, Faber, Gibb, McGreevy-Nichols, & Posey, 2018, p. 11). Unfortunately, fewer than half of those who teach dance adequately address the creating aspect of the art form (Cuellar-Moreno, 2016; Rolfe, 2001), and many report having difficulty assessing the expressive or creative aspects of dance (Connell, 2009; MacLean, 2018). Of the many responsible for teaching dance, such as generalist and physical-education teachers, few are providing any

dance experiences for their students (Connell, 2009; Guha et al., 2008; MacLean, 2018; Oreck, 2004a; Rolfe, 2001; Russell-Bowie, 2013; Woodworth et al., 2007).

The reasons generalist teachers and physical-education teachers do not teach dance are limited confidence, insufficient preparation in their credential programs or professional development, and lack of self-efficacy related to creativity (Connell, 2009; Guha et al., 2008; MacDonald, 1991; MacLean, 2018; Oreck, 2004a; Rolfe, 2001). Dance educators, too, shy away from teaching creativity in dance because they are not comfortable with their knowledge and skills in teaching creativity or because they perceive creativity as a complex construct and resort to teaching more traditional methods instead (Chappell, 2007; Connell, 2009; Cuellar-Moreno, 2016; Melchoir, 2011; Warburton, 2008).

Classroom teachers and those who teach dance in schools are responsible for developing student creativity and yet are not doing so. Multiple studies have attempted to understand more about why this is so by investigating teachers' perceptions of and teaching practices toward creativity. These studies generally find that teachers hold implicit theories of creativity that reveal they do not understand what creativity is, they confuse creativity with intelligence and other student characteristics, and they are unable to recognize and evaluate creativity when they see it (Aljughaiman & Mowrer-Reynolds, 2005; Bereczi & Kápáti, 2018; Craft et al., 2007; Gralewski & Karwowski, 2016; Kettler et al., 2018; Mullet et al., 2016; Rubenstein et al., 2018).

In a study of 131 teachers in Poland, Gralewski and Karwowski (2016) tested the hypothesis that teachers' implicit theories of creativity affect accuracy while rating students' creativity. Implicit theory is a phrase sometimes used synonymously with beliefs, perceptions, or attitudes. In their 2016 study, Gralewski and Karwowski developed the 42-

item Creative Student Characteristics Questionnaire to ascertain teachers' characterizations of a creative student. The teachers also were asked to rate the creativity of students (n = 508) without an explicit definition of creativity or criteria characterizing creative students. Each teacher evaluated 18 students on average, and two to seven teachers evaluated each student.

Gralewski and Karwowski (2016) measured student creativity in multiple ways, including testing creative abilities, creative attitudes, and creative activity in the art and science domains. Intelligence test results and grade-point average also were collected. After using exploratory factor analysis to identify the structure of teachers' implicit theories of creativity and latent classes of teachers, a regression analysis was used to examine the accuracy of ratings of students' creativity with different classes of teachers.

A latent class analysis revealed four classes of teachers. The first two classes did not perceive creative students by any of the standard definitions of creativity. Instead of perceiving creativity, they identified students as disciplined and self-controlled. Additionally, there was no relationship between students' characteristics and teachers' ratings. Teachers in the third class perceived students' creativity in terms of gender, and the fourth class described creative students in terms of innovative and radical creativity. In all classes, except class two, teachers' ratings were related positively to students' grade point average and were related inconsistently and weaker with intelligence.

Gralewski and Karwowski (2016) found that teachers in the study held implicit theories of creativity somewhat consistent with the creativity literature; however, they varied greatly and held different ideas of how creativity reveals itself in their students moderated by gender. Many teachers did not understand what creativity was about and could not recognize it in students at all. Others identified creativity in students in very different ways and were

biased in their perceptions. Gralewski and Karwowski concluded that teachers' implicit theories of creativity might influence who is recognized as creative, and overall, teachers are poor judges of creativity in their students.

Other studies on teachers' beliefs, perceptions, attitudes, or implicit theories of creativity indicate a disparity between what teachers say they believe or value and what they teach (Aljughaiman & Mowrer-Reynolds, 2005; Andiliou & Murphy, 2010; Bereczi & Kápáti, 2018; Craft et al., 2007; Mullet et al., 2016). When questioned about creativity, teachers generally endorse democratic views of creativity and believe it can be fostered, but their understanding of creativity is unclear, and there is an inconsistency between teachers' stated beliefs about creativity and their classroom practices (Bereczi & Kápáti, 2018; Rubenstein et al., 2018).

In a survey of 335 teachers responsible for teaching dance, Connell (2009) found that creativity was valued overwhelmingly by the participants, yet the teachers lacked the content and pedagogical knowledge to teach creative skills. Like Cuellar-Moreno (2016), Rolfe (2001), and others, Connell (2009) advocated for more professional development in how to teach dance creatively. Professional development might help, but for training to be effective in increasing teaching for creativity, there is a need to understand better what creativity looks like in dance.

Teachers report that not knowing how to assess the arts is one obstacle to providing creative experiences for students (Bresler, 1992; Craft et al., 2007; Englebright & Mahoney, 2012; MacDonald, 1991; Ross, 1994). Assessing creativity in the arts is complex and challenging and a relatively new endeavor. In dance education, assessment has been a focus since the National Assessment of Educational Progress (NAEP) first sought to include dance

in its national “report card” as a means for dance to join the ranks of music and visual arts as a subject that students learn in school (Bonbright & McGreevy-Nichols, 1999; National Center for Educational Statistics (NCES), 1998; Ross, 1994). Assessment is integral to creating and performing in dance as dancers assess naturally in order to assure their expressive intention. The most successful performance assessments in dance to date, however, fail to evaluate the creating process of the arts adequately (Englebright & Mahoney, 2012; King, 2009; NCCAS, 2014; NCES, 1998; Oreck, Owen, & Baum, 2003).

The NAEP field test of students' creating ability in dance defined creating as generating original art through such forms as movement, choreography, or improvisation (NCES, 1998). However, the performance task devised to measure the creating process required no objective or subjective measurement of originality. Instead, only task-oriented criteria such as *did one movement travel at least halfway across the performance space?* was required. Similarly, the exemplar Model Core Arts Assessments offered in the National Core Arts Standards call for an evaluation of students' completion of a task rather than originality (NCCAS, 2014). The standard definition of creativity indicates novelty (or originality) and appropriateness (or effectiveness) are required (Runco & Jaeger, 2012). Thus, the criteria provided by experts in national assessments are insufficient for assessing creativity as they judge appropriateness but not novelty.

Creativity researchers insist that appropriate assessments of creativity require methods that address the complexities and nuances found in creative acts (Csikszentmihalyi, 1997; Ross, 1994; Schmid, 2003). Two examples of valid instruments for assessing artistic creativity are found in the literature. The Consensual Assessment Technique (CAT) and the Talent Assessment Process (TAP) offer extensive evidence for content and construct validity

(Amabile, 1996; Hennessey, 1994; Oreck et al., 2003). These two creativity measurement tools are considered more appropriate for assessing the arts than pen-and-pencil tests that do not incorporate specific characteristics of the domain (Baer & McKool, 2009; Hennessey, 1994; Hickey, 2001). These assessments rely on interrater reliability on subjective measures of creativity by experts (CAT) or by a combination of experts and nonexperts (TAP).

CAT offers a reliable way of evaluating creative products by acknowledging the subjective nature of creativity (Amabile, 1996; Baer & McKool, 2009; Hennessey et al., 2011). Studies of creative works by adults and children in domains of visual art (collage, painting), language (poetry, essays), and music (composition, improvisation) have found the CAT to be a reliable measurement tool with interrater reliabilities among expert judges consistently ranging between .70 to .90 using Cronbach coefficient alpha (Amabile, 1996; Baer & McKool, 2009; Dollinger & Shafran, 2005; Hennesey, 1994; Hennessey et al., 2011; Hickey, 2001; Kaufman et al., 2008; Priest, 2006).

Unlike other techniques for creativity assessment, CAT is not tied to a particular theory of creativity and, therefore, is useful regardless of changes in definitions or standards of the day. This strength of CAT is also a limitation as no standard scoring using CAT is possible given the reliance on contemporary comparisons of levels of creativity within a particular group. CAT defines creativity as the extent to which observers familiar with the domain agree that a product or response is creative (Hennessey et al., 2011). Defining creativity in this way aligns with Amabile's (1982) conceptual definition of creativity as "a product or idea is creative to the extent that it is a novel and appropriate response to a heuristic task" (Hennessey et al., 2011, p. 255).

The validity of the CAT is reliant on its specific methodology. Experts must have some experience with the domain in question, they must work independently, creative works are to be rated in relation to one another and not to an absolute or Big C standard, each judge is given the artworks in a different random order, and judges must rate other dimensions as well (Hennessey et al., 2011). At a minimum, judges should also rate the technical aspects of the art product and the degree to which they like the work, or the work's aesthetic appeal (Amabile, 1996; Hennessey et al., 2011).

CAT rarely has been used to evaluate the performing arts with a few exceptions using CAT to measure creativity in musical compositions. Stefanic and Randles (2015) examined the reliability of CAT in the measurement of individual and small-group creativity in compositions of preservice music teachers, Hickey (2001) applied CAT to rate children's musical compositions, and Priest (2006) compared experts' and nonexperts' ratings of musical compositions using audio, score, or audio and score combined.

In addition to testing the reliability of CAT on children's musical compositions, Hickey's (2001) research aimed to investigate which group of judges provided the most reliable ratings of creativity of music: teachers, composers, theorists, older children, or younger children. Participants in Hickey's (2001) study were five groups of judges: music teachers (n = 17), composers (n = 3), theorists (n = 4), seventh-grade children (n = 14), and second-grade children (n = 24) who used CAT to rate 12 compositions composed by fourth- and fifth-grade students. Although craftsmanship and aesthetic quality also were measured, only creativity was used for comparison. Statistically significant correlations of mean creativity ratings were found within the groups of music teachers (.64), music theorists (.73), seventh-grade children (.61), and second-grade children (.50) and between the music teachers

and music theorists (.90) and the two groups of children (.83). There was a lack of strong correlation among composers (.04) and very weak or negative correlations between composers and other groups (-.26 to .07). Excluding the composers, interreliability for all groups was .78. Hickey (2001) concluded that the most reliable judges of children's musical compositions in this study were music teachers who actually teach children and that children's original music compositions could be judged reliably using the CAT.

CAT has been used extensively to assess creative products (Amabile, 1996; Baer & McKool, 2009; Birney, Beckmann, & Seah, 2106; Dollinger & Shafran, 2005; Hennessey, 1994; Hennessey et al., 2011; Hickey, 2001; Kaufman et al., 2008; Priest, 2006). To date, however, no study has used CAT to evaluate the creativity of dance compositional studies in children or adults.

Creativity researchers have investigated Amabile's (1982) original claim that appropriate raters of creativity are experts in the specific domain in question. Most studies support the requirement that raters must at least have experience in the domain (Hickey, 2001; Kaufman et al., 2008; Kaufman et al., 2009). Others, however, found that with training or explicit criteria, nonexperts can become reliable judges of creative products. In a study measuring functional creativity, Cropley and Kaufman (2012) found that nonexpert judges can reliably assess the creativity of products using a highly differentiated, explicit scale with no formal training. In a study rating visual-art products, Dollinger and Shafran (2005) provided nonexperts a 4-minute pretraining before applying CAT and found the expert and nonexpert groups highly correlated (.87 for details and .90 for overall Gestalt). The findings of Plucker et al. (2009) proposed a middle category of *amateur* situated between laypeople

(novices) and professional critics (experts) suggesting that a continuum of experience might provide reliable ratings.

Oreck et al. (2003) designed and tested TAP to allow a range of teachers experienced in the disciplines of dance, music, and theater to identify potential performing-arts talent among elementary-school students in New York and Ohio. TAP was administered to a total of 1,406 students grades two through six by a team of two trained art instructors over a 5-class series. These instructors, along with a classroom teacher or specialist, completed the assessments using a rating checklist of 10 items in the dance discipline that included five items involving dance skills, two items of motivation, and three of creativity. Creativity was rated by expressiveness (performs with energy and intensity), movement qualities (displays a range of dynamics and moves fully), and improvisation (responds spontaneously, shows details, and gives surprising or unusual answers). Although these criteria are valid for dance performance, only the description of improvisation is congruent with the literature defining creativity.

Potential assessors participated in a 4-day training process on the criteria and assessment framework. The results showed content and construct validity through working with a panel of experienced art experts and conducting an exploratory principal component analysis on the ratings. TAP results were successful in predicting future group membership in the talented class by 65% in dance. Convergent evidence was found as the teachers' predictions of talent correlated with TAP results. Interrater reliability coefficients among the artists and teachers improved with each session, ranging from .65 to .84 for dance. Seven sessions were conducted, but interrater reliability peaked by the fourth session, and 98% of the students eventually selected for advanced instruction were identified at that point. Blind

ratings of matched pairs of selected and nonselected students performed 2 years after the study completion supported the accuracy of the original selection. Informal supplementary data suggested long-term effects with approximately one-half of the graduating elementary-school students eventually receiving scholarships to the Martha Graham School, Alvin Ailey American Dance Center, Dance Theater of Harlem, Ballet Hispanico, Julliard, and more.

The work of Oreck et al. (2003) suggests that dance specialists and classroom teachers can evaluate dance reliably with some training and explicit criteria. At the same time, studies that aim to rank students for future placement, although common in the performing arts, are not necessarily appropriate for public school use. The goal of assessing dance creativity in schools is to inform and improve the teaching practice of dance, as well as expand the number of students who can experience creativity in dance. Also, the TAP criteria used to evaluate creativity included many items that might better assess performance. The National Core Arts Standards (2014) consider creativity and performance two distinct artistic processes, but they were mingled in this study. It remains necessary to distinguish the criteria for assessing creativity in dance.

There is a need to examine the viability of tools such as CAT in the study of creativity in children's dance compositions. For teachers to nurture the creativity of students in dance, they need professional development and need to be able to recognize creativity when they see it. Professional development that aims to highlight the creative aspects of dance requires understanding the beliefs and perceptions of creativity teachers hold so that misperceptions can be addressed. This study investigated the extent to which classroom teachers can reliably judge original compositions made by nongifted children as part of their

dance-education programs and to understand the relationship between teachers' perceptions of creativity and their recognition of it in students' dance works.

Research Questions

1. What are classroom teachers' beliefs about creativity in dance?
2. To what extent do classroom teachers agree in their creativity ratings of student dance products, and to what extent do classroom teacher ratings agree with the creativity ratings of dance experts?
3. To what extent do classroom teachers' creativity ratings of students' dance products relate to their beliefs about creativity in dance?

In addition to rating creativity, participants rated the student dance products for technique and aesthetics per the CAT rules that seek to distinguish the dimensions of creativity, technique, and aesthetics.

Definition of Terms

Although there may be other definitions for the words listed, the definitions that are provided are the ones used in this study.

Aesthetics. Aesthetics is intended as a construct distinct from creativity so that judges of creativity can differentiate what might be found to be creative from what might be found to be beautiful, enjoyable, likable, or pleasing (Amabile, 1996). For this study, aesthetics or aesthetic appeal was defined as a subjective idea of what is found to be beautiful, enjoyable, likable, or pleasing. When rating the videos of student compositions, classroom teachers and dance experts were instructed to indicate *the extent to which they liked or enjoyed the dance*.

Choreography. The processes and skills involved in the creation of dance works are called choreography. Choreography also refers to a completed dance composition (McCutchen, 2006).

Composing. The act or process of organizing movements to form a whole is composing in dance (McCutchen, 2006). In this document, a **composition** referred to a completed dance study that is considered a creative product in dance.

Creativity. The focus of the current study was evaluating creative products and thus used Runco and Jaeger's (2012) standard definition of creativity that a product or response is creative to the extent that it is novel and appropriate. As a two-criterion definition, both novelty (also referred to as originality or surprise) and appropriateness (also referred to as usefulness or effectiveness) are required for a thing, an idea, or an action to be considered creative. In this study, classroom teachers and dance experts rated student creative-dance products using a 6-point scale based on their implicit understanding of the definition provided in the Teacher Perceptions of Creativity in Dance Instrument (TPCDI): *a product or response will be judged as creative to the extent that it is both a novel and appropriate, useful, correct, or valuable response to the task*.

Embodiment. The National Core Arts Standards for Dance (2014) defined embodiment as the physicalization of a movement, concept, or idea through the body. Embodied knowing is an awareness of one's feelings, movements, and intention from the inside out (Stinson, 2004). The current study assumed that creativity is embodied in dance and that composing dances requires embodied knowing.

Expert. In the context of this study, dance experts are dance teachers with more than 5 years' experience choreographing, performing, and teaching dance.

Four Ps is a multifaceted framework that has been used to focus creativity research (Keller-Mathers & Murdock, 1999; Kozbelt, Beghetto, & Runco, 2010). The four Ps include creative *process*, creative *products*, create *persons* or creative *press*, which is an environment for creativity.

Improvisation. In dance, improvisation is the act of spontaneously creating movement while alone or in a group (McCutchen, 2006). It is considered essential to the creative process. In this study, classroom teachers indicated their level of agreement with the statement *Improvisation is vital in school dance programs* as one of 14 belief statements in the TPCDI.

Ratings of dance products. In this study, classroom teachers and dance experts rated student dance compositions using the Consensual Assessment Technique (CAT) that stated, "a product or response is creative to the extent that appropriate observers independently agree it is creative" (Amabile, 1982, p. 33). Two assumptions that underlie CAT are that people can recognize and often agree upon creativity without explicit criteria or definition and that creativity is recognized on a continuum. Classroom teachers and dance experts rated videos of student dances on a continuum of 1 (*least*) to 6 (*most*) creative. Classroom teachers and dance experts also rated the videos on the same continuum for aesthetics and technique per the required CAT procedure.

Standards. Three sets of dance standards are relevant to this study: the California Arts Standards, the National Core Arts Standards, and the Professional Teaching Standards for Dance. The California Arts Standards were adopted in 2019 based on a committee revision of the National Core Arts Standards (NCCAS, 2014). The processes of creating, performing, responding, and connecting are identical in the state and national versions, as are the 11 anchor standards for dance. The California versions were being written and adopted during

the duration of this research study, so the National Core Arts Standards were used as a point of reference. The Professional Teaching Standards for Dance established industry standards for all individuals teaching dance as an art form and were revised at the national level in 2018. They are used in university dance education courses and professional-development programs.

Teacher beliefs about creativity. For this study, teacher beliefs about creativity was used as a general term to describe conscious, unconscious, implied, or explicit theories about specific aspects of creativity. Teacher perception was used when referring to an attitude or understanding about creativity or dance based on a cluster of beliefs. Using the TPCDI, classroom teachers responded to 14 statement items regarding creativity using a 5-point scale of *strongly agree* to *strongly disagree*. The instrument included statements about the social value of creativity in dance and the extent of creativity in dance. Classroom teachers defined creativity in their own words, as well.

Technique. The National Core Arts Standards (2014) defined technical dance skills as the degree of physical proficiency within a dance style or genre. Nondance creativity literature also used the terms craftsmanship or technical skill as dimensions that describe proficiency within a domain (Amabile, 1996; Stefanic & Randles, 2015). In the current study, classroom teachers and dance experts rated technique as a dimension distinct from creativity when rating student dance videos. The instructions provided on the rating portion of the TPCDI defined technique as *the extent to which the dance is performed using technical skills as understood by the rater to be appropriate for dance*.

Summary

The aim of this research was to identify gaps in teachers' perceptions or misperceptions of creativity in dance as a step toward understanding the pedagogical needs of future teacher education programs in light of the expectation that classroom teachers are responsible for arts education at the elementary-school level. Studies that examine teachers' beliefs about creativity are found in the research literature, and their findings suggest that classroom teachers recognize that they are responsible for creativity but lack the capacity to develop it in their students in part due to misperceptions based on implicit theories or beliefs. The few studies of classroom teachers' attitudes toward teaching dance suggest that teachers do not teach dance in elementary school due to lack of confidence, lack of training, and fear of losing control. Even with the results of these studies of teachers' perceptions of creativity or teachers' perceptions of teaching dance, there is a gap in the literature about teachers' perceptions about creativity in dance. This research attempted to address the gap by investigating classroom teachers' beliefs about creativity in dance and the relationship between their beliefs about creativity in dance and their ratings of student creative-dance products.

Three theoretical frameworks inform this study: creativity, embodiment, and belief systems. A review of the literature on teacher beliefs about creativity, assessment of creativity, assessing dance, and the Consensual Assessment Technique is found in chapter II. Chapter III contains a description of the methods and tools used in this research, including two pilot studies. The results of the data analyses are presented in chapter IV, and in chapter V is a discussion of the findings and implications for research and practice.

CHAPTER II
REVIEW OF THE LITERATURE

This study had multiple-related purposes toward understanding how classroom teachers perceive and recognize creativity in dance. The first and second purposes were to investigate classroom teachers' beliefs about creativity in dance and the relationship between teachers' beliefs about creativity in dance and their ratings of student creative-dance products. The third purpose was to examine the extent to which classroom teachers and dance experts agree when rating creative-dance products. The literature is organized along the two main categories of teacher beliefs and creativity assessment. The teacher-beliefs' sections are teacher beliefs about creativity and dance teacher views of creativity. The creativity-assessment sections are comprised of studies of teacher assessment of creativity, assessing dance, evaluating creativity with the Consensual Assessment Technique, and defining and assessing creativity in dance. The chapter concludes with a summary.

Teacher Beliefs About Creativity

Students' experiences are influenced by the implicit theories, beliefs, values, and attitudes of their teachers (Duckworth, 1996; Dweck, 2012; Fang, 1996; Nespor, 1985; Pajares, 1992). Teachers hold implicit theories or beliefs about creativity including the definition of creativity, the importance of creativity in schools, the characteristics of a creative person, and whether and how creativity can be developed (Aljughaiman & Mowrer-Reynolds, 2005; Andiliou & Murphy, 2010; Bereczi & Kápáti, 2018; Fryer & Collings, 1991; Mullet, Willerson, Lamb, & Kettler, 2016; Rubenstein, McCoach, & Siegle, 2013; Rubenstein, Ridgley, Callan, Karami, & Ehlinger, 2018; Turner, 2013). Teachers also hold beliefs about the behavior and products of creative students (Diakidoy & Phtiaka, 2002; Gralewski & Karwowski, 2016; Hass, Reiter-Palmon, & Katz-Buonincontro, 2017; Kettler,

Lamb, Willerson, & Mullet, 2018). This section contains a description of the seminal study of teachers' views of creativity by Fryer and Collings (1991) and a review of comparative themes found in more contemporary research.

Fryer and Collings: Seminal study

One of the first and most cited studies of teachers' views about creativity was Fryer and Collings' (1991) investigation of 1,028 teachers from England and Wales. Although a few studies of teachers' views of creativity previously had been published (Bjerstedt, 1976; Torrance, 1965, 1975; Treffinger, 1968) Fryer and Collings sought to ascertain how British teachers viewed creativity, particularly because it was newly required in the national curriculum. They specifically were interested in how teacher views about creativity vary according to teachers' sociobiographical characteristics and teaching preferences. Although Fryer and Collings perceived the United States to be ahead of Britain in creativity research, their study has influenced many studies of teachers' perceptions of creativity due to the thoroughness of the methodology.

The purposeful sample of educators included 797 school teachers and 207 individuals working in other educational roles from diverse geographies, school-types, and socio-biographical characteristics. Teachers' views were collected using a beliefs questionnaire, a biography questionnaire, and semistructured interviews with a subsample of 31 teachers. The beliefs questionnaire was comprised of 54 Likert-type items as well as an opportunity for free response. Using principal component analyses, Fryer and Collings (1991) created 11 summated scales from the data: four scales on teaching preferences, two on pupil-oriented learning, and five on aspects of creativity. Of relevance to this study are the creativity scales: (a) democratic view of creativity, (b) perception of uniformity of creativity, (c) creativity

assessment preference, (d) perceived links between creativity and other competencies, and (e) perception of creativity in the young.

Using a checklist of potential characteristics of creativity, most teachers defined creativity in terms of imagination (89%), originality (80%), and self-expression (74%). Few teachers rated creativity as mysterious, unconscious, or convergent. An inconsistency was revealed in teachers' views about the democratic view of creativity; 71% viewed creativity as a rare gift, yet 90% thought creativity could be developed. Two-thirds of the teachers thought creativity is limitless and most teachers perceived it as distinct from intelligence. Teachers were united in what assists creativity: building confidence (99%), encouraging pupils to ask questions (97%), having a creative teacher (94%), and free choice at home (89%) or in the classroom (70%). Although only 48% of teachers thought a permissive teaching environment was helpful, 83% thought a constrained environment would hinder creativity.

Applying Torrance's (1975) personality checklist, Fryer and Collings' (1991) results indicated that teachers did not hold accurate perceptions of creative people. Less than one-third of the sample singled out the three aspects identified as typical of creative people: independent in thinking, curious, and self-confident. The two most highly-rated student characteristics were related to social skills, not creativity. Teachers identified creative students as considerate and socially well-adjusted. Also, very few teachers rated themselves as having the characteristics typical of creative individuals.

Fryer and Collings (1991) primarily were concerned with the relationships between teachers' approaches to teaching and their views of creativity. Using discriminant analyses of the 54-item teacher questionnaire, Fryer and Collings selected criteria indicative of teachers

most oriented and least oriented to creativity. Twelve variables that correlated greater than .30 with the function were analyzed.

Teachers most oriented to creativity (n = 176) when responding to the Torrance Ideal Pupil checklist would have agreed that courageousness in convictions, curiosity, and independent of thinking should be encouraged in pupils. Questionnaire responses of teachers most oriented to creativity would indicate agreement that discovery learning is important and creativity can be developed and disagree that the most imaginative children are the most ineffectual. Teachers least oriented to creativity (n = 94) would not fit the criteria of the most oriented to creativity group. Indicating how student creativity is developed, the most-oriented group agreed with the statements that creativity is fostered by a creative teacher, building confidence, encouraging pupils to ask questions, asking provocative questions, setting unassessed tasks, and a home environment with freedom of choice. The least-oriented to creativity group agreed that they would not encourage students' guessing or hypothesizing, emotional sensitivity, or strong emotions.

The results of the interview portion of the study supported the results of the questionnaire. Fryer and Collings (1991) concluded that there appeared to be a coherent value system of perceptions of creativity, orientation to creativity, and teaching-style preferences. They framed their findings in a *person* orientation, defined as "a preference for dealing with or involving oneself in, emotional, social, or interpersonal issues" (p. 217). Their findings suggest that what distinguishes teachers highly oriented to creativity is a pupil-oriented approach to teaching.

When assessing creativity, 75% of teachers did not think test scores were helpful. Teachers based their assessments on the work pupils produce, reporting the most popular

criteria as imaginative (88%) and original for the pupil (85%). Less popular were appropriate (23%), useful (14%), and elegant (6%). Although elegant has been dropped from the standard definition of creativity since the Fryer and Collings (1991) study, the findings that teachers recognize characteristics as novel and original but not appropriate or useful is consistent with the research literature on teachers' views of creativity since. Most teachers only identify the novelty aspect of the two-part definition of creativity as novel and appropriate (Mullet et al., 2016).

At the time of the Fryer and Collings (1991) study, divergence was the most widely used operational definition of creativity (Hocevar, 1981). The teachers participating in Fryer and Collings' study, however, did not identify divergence with creativity highlighting that it cannot be taken for granted that teachers' and researchers' share similar perceptions of creativity. The findings of Fryer and Collings differed from the general view suggesting that teachers lack confidence in developing creativity. They found that teachers were confident in their views about what promotes creativity and suggested that perhaps the pervasiveness of confidence in the creativity literature was unfounded.

Comparative themes in contemporary studies

Studies on teachers' views or perceptions of creativity generally support the Fryer and Collings (1991) findings. In a systematic review of literature from 1999 to 2015, Mullet et al. (2016) uncovered several related themes. Mullet et al. used a 15-criteria quality rubric to judge research studies, synthesizing a final sample of 18 articles. A thematic analysis resulted in 10 major themes; the five related to this study are presented below.

1. Researchers and teachers have different definitions and conceptions of creativity and creative behaviors in students. Teachers struggled to define creativity, and when they did

recognize that innovative products are part of the creative process, they did not define them as useful or appropriate. This finding is consistent with Fryer and Collings' (1991) as well as the more recent findings of Bereczi and Kápáti (2018) and Rubenstein et al. (2018). The current study investigated classroom teachers' beliefs about the nature of creativity in dance.

2. Creativity can be cultivated in all students, to a point. Many studies found that teachers overall agreed that creativity could be developed in all students; however, several reported qualifications to the democratic view. Teachers in one study believed one can learn strategies for creativity but cannot be taught creativity (Myhill & Wilson, 2013), and in another study, Greek music teachers' believed that teachers could motivate students to think creatively up to a point (Zbainos & Anastasopoulou, 2012). These findings are similar to the inconsistency found by Fryer and Collings (1991) wherein high percentages of teachers viewed creativity as a rare gift yet thought it could be developed. Mullet et al. (2016) and Bereczi and Kápáti (2018) reviewed a few of the same studies (Myhill & Wilson, 2013; Zbainos & Anastasopoulou, 2012), however, as the most recent review of literature on teachers' perceptions of creativity, Bereczi and Kápáti's findings agree with those of Fryer and Collings and Mullet et al. that teachers held inconsistent beliefs about the universality of creativity and the extent to which it can be taught. In contrast, teachers studied by Rubenstein et al. (2018) believed that students have the potential to grow in their creativity. The current study investigated teachers' beliefs about the extent of creativity; that is, whether creativity is a general or rare trait and whether it can be developed. Despite their beliefs about the extent to which creativity can be developed, teachers generally perceive themselves as unprepared to design creative curriculum, teach creative strategies, or recognize creativity in their students (Aljughaiman & Mowrer-Reynolds, 2005; Gralewski & Karwowski, 2013).

3. Teachers confuse creativity with intellectual ability. Studies in the Mullet et al. (2016) review found that teachers mistake creativity for efficiency of school functioning (Gralewski & Karwowski, 2013) or attribute characteristics of intelligence to creativity (Aljughaiman & Mowrer-Reynolds, 2005; Chan & Chan, 1999, Runco & Johnson, 2002). In the studies reviewed by Bereczi and Kápáti (2018), similar misperceptions were found with teachers associating creativity with intelligence (Konstantinidou, Michalopoulou, Agelousis, & Kourtesis, 2013; Pavlović, Maksić, & Bodroža , 2013). In contrast, Fryer and Collings (1991) did not find that teachers mistook intelligence for creativity.

4. Teachers believe that personal creative ability plays an important role. Several studies in the Mullet et al. (2016) review found high correlations between teachers' beliefs about their own creativity and the value they place on creativity, their self-efficacy in teaching for creativity, and their creative pedagogy and curriculum (Beghetto, Kaufman, & Baxter, 2011; Rubenstein et al., 2013; Sak, 2004). The teachers in Fryer and Collings' (1991) study identified having a creative teacher as providing positive assistance to cultivating creativity in students. "Creative teachers teach creativity creatively" also was a theme found by Bereczi and Kápáti (2018, p. 36). Rubenstein et al. (2018) found that teachers held high views of their own creativity and self-efficacy was related to experience. Teachers with the most experience had the highest levels of self-efficacy and higher societal value beliefs for creativity than those with less teaching experience. Viewing creative teachers as confident is consistent with the findings of Fryer and Collings. Although the current study does not investigate teachers' creative self-efficacy, teachers' responses and ratings were compared according to experience.

5. Teachers believe that creativity is important. Throughout the studies reviewed by Mullet et al. (2016), as well as those by Bereczi and Kápáti (2018), teachers greatly valued creativity. They believed it to be good for individuals and society. In contrast, the results of the Fryer and Collings (1991) study suggest that, in Britain, creativity is believed to be mainly relevant to the arts.

There are other common themes between the Fryer and Collings' (1991) study and later articles, specifically viewing creativity as synonymous with the arts and gender bias when identifying creative students. Neither of these topics is relevant to the current research so were not investigated further. Also, the Mullet et al. (2016) and Bereczi and Kápáti (2018) reviews described strategies that teachers believe cultivate creativity; however, Mullet et al. frame these strategies within the theme of a creativity gap between what teachers say and do in their classroom so this topic was not detailed herein. Similar to the Fryer and Collings' (1991) findings, the strategies identified in more recent studies include both assisting and hindering teaching practices (Bereczi and Kápáti, 2018; Rubenstein et al., 2018). Assisting behaviors included facilitating active learning, open-ended assignments, the use of questioning, and freedom of choice reported across the studies. Grading creative products was seen as hindering.

The two contemporary reviews address barriers to fostering creativity in the classroom reported by teachers such as lack of training, overloaded curriculum, standardized tests, and difficulty in assessing creativity (Bereczi & Kápáti, 2018, Rubenstein et al., 2018). In response to *What is the biggest hindrance to teaching students to become creative thinkers?,* 76% of respondents in the Rubenstein et al. (2018) study described macroenvironment constraints such as standardized testing, time constraints, required

curriculum, and lack of administrator support. Taking into consideration the differences in time and place, the teachers in the Fryer and Collings' (1991) study expressed similar concern about lack of training, inadequate time, and testing expectations; however, they were able to articulate criteria for assessing creativity in pupil's work. Recognizing and assessing student work is the only topic of those described by teachers as barriers to creative development that is relevant to the current study. Cultural difference in creativity also was a common theme; however, this theme was not investigated.

Teachers have mixed views about their ability to teach for creativity and some of those views parallel their views about why they do not teach dance. The reasons generalist classroom teachers and physical-education specialists give for not teaching dance are a lack of confidence, insufficient preparation in their credential programs or professional development, and teachers' self-efficacy related to creativity (Connell, 2009; Guha et al., 2008; MacDonald, 1991; MacLean, 2018; Oreck, 2004a, 2004b; Rolfe, 2001). The current study investigated teachers' beliefs about creativity in dance to understand what misperceptions may exist that would need to be rectified in order to assure students receive the intended benefits of creative-dance education.

Dance Teacher Views of Creativity

Dance teachers also shy away from teaching creativity in dance because they are not comfortable with their understanding and skills in teaching creativity or because they perceive creativity as a complex construct and resort to teaching more traditional methods instead (Chappell, 2007; Connell, 2009; Cuellar-Moreno, 2016; Melchoir, 2011; Warburton, 2008). In some cases, teachers have compensated for their lack of confidence by collaborating with other teachers who are more self-assured about teaching dance creatively,

and, as a result, students participate in creative-dance activities (MacLean, 2018). It is more common, however, that the creative aspect of dance is avoided (Connell, 2009; Cuellar-Moreno, 2016). The three studies described in this section investigated teachers' views of creativity in dance.

Cuellar-Moreno: Physical-education teachers

Cuellar-Moreno (2016) investigated the teaching methods used by physical-education teachers at the primary-school level (n = 84) and their beliefs about dance teaching. The research aimed to (a) create a didactic characterization of dance lessons through the observation of student behavior and the dance program and (b) recognize the conceptions, perceptions, and preferences of the methodology employed by teachers when teaching dance.

Quantitative and qualitative research methods were employed in this study. Six groups of third-grade students (n = 84) were observed participating in dance lessons taught by six (three male and three female) physical-education teachers in six primary schools in Spain. Purposeful sampling was used to select students who did not study dance outside of school and to choose teachers with at least 8 years of experience teaching dance within physical education. To address the first research question, Cuellar-Moreno (2016) used *time* as a variable to examine students' active responses to the teaching instructions during a teaching unit on Bodily Expression. Two checklist inventories were used to record observations of student engagement: the first to calculate the most important teaching variables and the second to register appropriate or inappropriate student behavior. Both instruments recorded the amount of time students engaged in motor, nonmotor, waiting, or off-task behaviors.

Semistructured interviews of the teachers were used to address the second research question. Teachers were asked open-ended questions about their perceptions or opinions on the meaning of dance education and what dance means to them, skills that are developed in students through dance, characteristics that are necessary for dance in schools, and teacher behaviors that improve student learning. They also were asked to describe their teaching methodology. The content analysis resulted in four themes of 15 categories: definitions, student skills, dance feature, and pedagogical method. The themes most relevant to this study were the physical-education teachers' definitions of dance as expression and body development and the descriptions of the dance feature as expressive, creative, cognitive, and emotive.

The teachers interviewed spoke of dance as the ability to communicate and to express feelings and emotions. They responded that they perceived themselves as teachers who were interested in dance and knew how to lead students to acquire skills and create choreography. Creativity was important to the physical-education teachers in Cuellar-Moreno's (2016) study.

Cuellar-Moreno (2016) was interested in the relationship between the qualitative and quantitative aspects of the study and compared the results of the student observations with the perception statements of the teachers. The descriptive statistics of student observations overall showed that students in the study were motor engaged appropriately (91.23%). Student engagement, however, predominantly was oriented toward rhythm activity (48.32%), followed by attention toward instruction (14.49%), teacher organizing the material (9.71%), and waiting (5.73%). There was negligible observation of the behaviors most likely associated with creative expression: students' body expression (0.01%), body schema

(2.72%), and awareness of breath (0.12%). These observation results had mixed connections to the teachers' views. On the one hand, teachers said they valued rhythm as a student skill development, and their behavior was consistent with that priority. On the other hand, they emphasized the importance of creativity, expression, and communication, and those behaviors were missing in students' observed time on task.

Although Cuellar-Moreno (2016) examined other aspects of teacher and student behavior during the lessons, her findings of inconsistency between what teachers say they value about creative expression and their tendency to resort to didactic teaching of dance lessons for a particular skill are consistent with other research studies on dance teaching practices (Chappell, 2007; Connell, 2009; MacLean, 2018; Melchoir, 2011). Cuellar-Moreno found high interrater reliability in student observations (.96 and .95 on the two checklist inventories); however, she did not mention how many raters were involved. Even though there is this one omission, there was transparency in her methodology and her analysis. No comparisons were made between teachers or groups, so only descriptive statistics were stated.

Connell: Physical-education teachers and classroom teachers

Connell (2009) surveyed 198 teachers responsible for teaching dance in Yorkshire, the largest county in England. As in the United States, the majority of dance teaching in Yorkshire schools is delivered by nonspecialists in dance, including physical-education teachers and classroom teachers. Connell's research builds on prior investigations of teachers' anecdotal evidence to gain insight into teachers' perceptions of dance curriculum, creativity, artistic and aesthetic aspects of dance, dance teaching, dance in schools, and dance theory

and practice. The method and the creativity content of Connell's research were relevant to the current study.

Of a population of 388 teachers responsible for teaching dance in Yorkshire, 51% participated in the study by completing a questionnaire. The questionnaire was constructed using a hierarchically focused interview design with dance teachers and dance artists from the City of Leeds, who also comprised the pilot sample. Connell (2009) described teacher characteristics such as age, gender, teaching experience, qualifications, and occupation as independent variables. The dependent variables were the perceptions of practitioners to different issues related to the teaching of dance in schools such as curriculum, creativity, the value dance in schools, and teaching practice.

The questionnaire collected teachers' responses to 15 dance statements on a 5-point Likert-type scale where 1 is *strongly disagree* and 5 is *strongly agree*. The majority of Connell's (2009) respondents were physical-education teachers who also taught dance (146 of 198 responses), confirming prior evidence that most of those teaching dance in Yorkshire schools were not trained dance teachers. Descriptive statistics of teachers' questionnaire responses showed that teachers perceived time constraints to be a major area of concern to the teaching of dance (mean 4.06, $SD = 0.91$), including lack of time to read dance articles (mean 3.9, $SD = 1.05$) and a need to know more about dance in the national curriculum (mean 3.57, $SD = 1.02$). Eighty-three percent of the respondents understood that dance education is reliant on the teaching of the composite elements of dance: actions, space, dynamics, and relationships suggesting that they understand the basic requirements of dance even if they have not been trained as dance teachers. Teachers wanted to improve their subject knowledge of both the content and pedagogy of dance (53%), and teachers'

confidence to teach dance showed an even distribution ranging from being unconfident to very confident. This finding of teacher confidence differs from other research on nonspecialists teaching of dance that suggested lack of confidence in teaching dance was prevalent (MacDonald, 1991; Oreck, 2004a; Rolfe, 2001; Russell-Bowie, 2013).

Connell (2009) noticed clustering of the variables and performed factor analyses with varimax rotation on the responses to the 15 items resulting in six factors identified as new variables that he interpreted to be the foundational areas of interest to teachers with responsibility for dance in schools: curriculum, creativity, artistic and aesthetic aspects, dance teaching, dance in schools, and theory and practice. A series of two-way analyses of variance found no statistically significant main effects or interaction effects of the independent variables of gender and dance teaching experience.

Of most relevance to the current study were Connell's (2009) findings related to creativity. Teachers emphasized creativity as an important attribute to dance in response to two items. Creativity was recognized as an important word associated with dance by 65% of respondents and 94% viewed dance as offering pupils a chance to be creative in a physical way. Several statistically significant associations were identified using the Pearson product moment correlation coefficient. Item V56 *teachers offered pupils a chance to be creative in a physical way* was positively correlated with item V48 *when teaching dance in school the most important word for me is creativity* (r = .19) and item V49 *dance choreography depends upon the careful combination of actions, space, dynamics, and relationships* (r = .25) and was also positively correlated with item V50 *I would value the time to concentrate on preparation for the teaching of dance in school* (r = .24) and item V61 *I may appreciate a dance performance for the technical skill but I do not necessarily have to like what I see* (r =

.33). Although these correlation coefficients are statistically significant, they account for a relatively small explanation of variation in teacher response. Nonetheless, the findings are useful because there are few quantitative analyses of teachers' perceptions of creativity in dance and Connell's individual items on creativity were adapted for the current study's instrument.

The practitioners' qualitative statements to the one open-ended question on the survey show a similarity to the responses of teachers in the Cuellar-Moreno (2016) study. Four of the five broad statements are related to the creativity or embodied aspects of dance:

1. Participating in dance in school can improve understanding of the world in which young people live and this can be greatly increased through their artistic and aesthetic experiences of dance (creativity).
2. In dance lessons, children have the opportunity to be creative and express themselves in different ways (creativity).
3. Children can improve their cognitive ability through the choreographic elements of dance and appreciation of the fundamentals of movement: action, space, dynamics, and relationships (creativity).
4. Participating in dance helps pupils develop an understanding and appreciation of their body in action, the necessity for safe practice, and the way their body moves and what happens inside the body as they move (embodiment).

Beyond these broad statements, Connell (2009) performed a content analysis of the most frequently occurring words in association with dance. Creativity was the word with the highest frequency used by 38% of the sample, followed by enjoyment, expression, and body control or coordination.

Although teachers' perceptions of dance as creative, expression, and embodied are aligned with the national standards for dance in England and the United States, the respondents in Connell's (2009) study report that they want help to understand the subject knowledge of dance in the curriculum. Both Cuellar-Moreno (2016) and Connell concluded their studies with a call for increased professional development in dance that includes the creating (also referred to as composing) dimension of the art form.

Connell's (2009) study was of high quality, and 6 of the 15 dance statements are relevant to the current study. The statements address three dimensions--creativity, aesthetic value, and technique--that were evaluated by the participants in this research according to CAT (Hennessey, Amabile, & Mueller, 2011). Adapting aspects of Connell's instrument with its evidence of content and construct validity strengthened the content and construct validity of the instrument used in this study. Connell's use of expert dance teachers and artists in the pilot, but not as study participants, was another similarity to the research design of the current study.

It is easy to understand why teachers might have confused ideas about creativity. Creativity research has often focused on the gifted and talented or the characteristics of eminent creators (Gardner, 1993, 1994). When considering creativity in public-school education, the construct of levels of creative magnitude (Big C or little c) is helpful. At the Big C level, one finds the creative genius, requiring a creative product that society has deemed novel or breakthrough in a particular domain, whereas everyone is capable of little c experiences as "aha" moments (Csikszentmihalyi, 1997; Kaufman, Baer, & Cole, 2009). Although not everyone is capable of reaching the acclaim of Alvin Ailey, Paul Cézanne, Thelonius Monk, or Tennessee Williams, creative expression is available to everyone. The

challenge in teaching for creativity is to move beyond these two extremes, recognizing that students can improve in their creative expression whether or not genius is within their reach.

Chappell: Dance experts

Using Craft's (2000) interpretation of little c creativity and the creative-dance theories of American dance educators like Susan Stinson (1998) as a theoretical framework, Chappell (2007) explored the conceptions of and practical approaches to creativity of dance-teacher experts working in primary schools. This multicase educational case study was motivated by the United Kingdom's educational emphasis on developing creativity along with the concern that creative-dance teaching might become formulaic rather than truly encouraging creativity. The purpose of Chappell's study was to address the dilemma of how to articulate experts' approaches to teaching for creativity to be used by other teachers as flexible and situationally responsive versus becoming constrained into rigid "how to" guides for teaching to creativity.

The teaching practice of three individual dance-teacher experts was studied and cross-analyzed. The experts were purposefully selected based on reputational excellence and were hybrid professionals of dance educator and dance artist working in short-term teaching residencies. Although all three had 15 or more years of professional experience, their backgrounds differed in education and arts training. Data collection included participant observation in classes, video and photography, teacher reflection diaries, and semistructured interviews. Chappell (2007) applied the principles of constant comparative analysis throughout and applied Lincoln and Guba's (1985) principles of credibility, transferability, dependability, and confirmability.

Chappell (2007) prefaced her findings by addressing embodied knowing. The dance-teacher experts focused on building greater literacy regarding an embodied way of knowing. Borrowing from the terminology of English language educators, Chappell defined literacy in dance as "the teachers' desire for children to be able to interpret and create using their own bodily movement and that of others (comparable to the notions of reading and writing using verbally-based languages)…being able to sense movement from within; developing to thinking physically as part of a connected thinking body-mind; to moving with whole self-awareness…coupled with an emphasis on reciprocity" (p. 44). Reciprocity was defined as "the ability to comprehend other people's perceptions, ideas, and ways of doing things, and to respond to them" (p. 44). Chappell's operational definition of embodiment is consistent with the literature in dance (Bresler, 2004; Hanna, 1999; Stinson, 1995, 1998, 2004). Embodied knowledge is considered intrinsic to the aesthetic or creative experience in dance (Fraleigh, 1999). When balancing the personal or collective voice and the craft or compositional knowledge to teach for creativity, the dance-teacher experts were balancing what and how children wanted to communicate with the compositional skills of manipulating the body, action, relationships, space, and dynamics.

All three teachers in Chappell's (2007) study aimed to balance personal or collective voice (expression) with craft or compositional knowledge, but each weighted the two aims differently. Teacher A offered the most equally weighted balance, Teacher B weighted more strongly toward the development of personal or collective voice, and Teacher C weighted more strongly toward craft or compositional knowledge. The teachers' approaches resulted in a framework across three teaching for creativity spectra: creative source (a continuum from *inside out* child initiated to *outside in* teacher initiated), proximity and intervention (a

continuum from distance to close proximity) and task structures (a continuum from purposeful play to tight apprenticeship). The emphasis on personal or collective voice exhibited by Teacher B appeared on the spectrum as inside out, child-initiated tasks; distanced reactive teacher intervention; and playful, risk-taking structures. In contrast, Teacher C favoring craft or compositional knowledge favors outside in, teacher-initiated stimuli; close proximity, proactive teacher intervention; and safe and structured, step-by-step progress. Personal philosophy was one factor in teachers' approach. Teacher B strongly valued the generation of movement coming from the child, viewing teacher-directed structures as "colouring in" (p. 47). In contrast, the other two teachers prioritized outside in as a starting point, believing that students needed a starting point of dance vocabulary before they could improvise movement.

Teachers valued the inside-out approach where “children could authentically and creatively give voice to ideas which were aesthetically appropriate and meaningful to them in dance” (p. 47); however, they perceived time as a factor that affected their pedagogical choices. Inside-out learning through exploration was perceived as more time consuming than the outside-in learning by example. Lack of time also was cited in other studies as one reason teachers chose to teach traditional dances that required students to replicate movement rather than teaching students to create (Melchoir, 2011; Rolfe, 2001).

Chappell’s (2007) study is relevant to the current study because it revealed how teachers’ perceptions of the creative process, even dance experts’ weighting aspects of teaching for creativity differently, influence pedagogical decisions. Although the current study was about recognition of creativity and not about pedagogical decisions, the complexity and variation of teachers’ conceptualizations of children’s creativity in dance is

revealed in Chappell's case studies. The current study investigated the differences between classroom teachers' and dance experts' ratings of creativity. The perceptions of the teachers in Chappell's multicase study may help to interpret variations.

Teacher Assessment of Creativity

Classroom teachers and dance teachers describe creativity as complex and difficult to assess, and the research literature suggests that teachers are poor judges of student creativity (Gralewski & Karwowski, 2016; Hoff & Carlsson, 2011; Oreck, 2004b; Urhahne, 2011). Investigating the accuracy of teachers' assessments of creativity, Hoff and Carlsson (2011) were concerned with factors that might bias teachers' assessments, and Gralewski and Karwowski (2016) examined the role implicit theories of creativity played in the accuracy of teachers' assessments. Urhahne (2011) investigated teachers' judgments of gifted students' creativity. Oreck, Owen, and Baum (2003) found that talented students were not being identified for advanced art programs resulting in inequity in participation in the arts. These studies are described below.

Hoff and Carlsson: Classroom teacher assessments of students

Hoff and Carlsson (2011) sought to examine the relationship between teachers' assessments of students' creativity, teachers' ratings of students' creative traits, and scores on creativity tests. They collected data from 61 third- and fourth-grade students based on research findings of dips in creativity in those grades. Three different tests were administered to assess the children's level of creativity: (a) an activity questionnaire was a self-report measurement of children's engagement in creative hobbies, (b) a creative-functioning test was a measure of cognitive flexibility, and (c) an alternative-uses test to measure the fluency of ideas. An established Swedish questionnaire, *How I think I am*, was used to measure

student's self-image and a teacher rating scale of 16 Likert-type items asked teachers to rate students on characteristics found to be highly typical or nontypical of creative persons.

The teacher assessments of students' creativity were correlated with the typical creative trait list (r = .78) and the nontypical creative trait list (r = .45). The association between creativity and nontypical creative traits means that teachers believed that responsibility, logical ability, a willingness to follow instructions, and tolerance were creative traits. These traits are in contrast to the typically creative traits of impulsivity, having many ideas, independence, and nonconformity. Teachers' assessments of students' creativity were related to ratings on the activity questionnaire (r = .42). Teachers in the Hoff and Carlsson (2011) study rated creative students as also exhibiting high achievement, cooperation, and psychological wellbeing. There was little relation found between these three dimensions and the objective creativity test scores.

To investigate the relationship between teachers' assessment of creativity and students' self-ratings, Hoff and Carlsson (2011) compared the student self-image statement *I often have good ideas* with *has a lot of ideas* from the teachers' scale. No statistically significant relationship was found between these scales (r = .11) and between *I often have good ideas* and the teacher assessment of students on the adjective *creative*. Consistent with the research literature, teachers in the Hoff and Carlsson study confounded creativity with other attributes such as achievement, cooperation, psychological wellbeing, and self-confidence. The researchers concluded that teachers are good judges of children's abilities in general but that they lack adequate knowledge of how to judge and cultivate creativity.

Gralewski and Karwowski: Accuracy and teachers' implicit theories

Gralewski and Karwowski (2016) suggested that the accuracy or inaccuracy of teachers' judgments of creativity is related to their implicit theories of creativity. In a follow-up study of 131 teacher participants from a prior study (Gralewski & Karwowski, 2013), the researchers administered a questionnaire comprised of 42 Likert-type items to ascertain teachers' characterizations of creative students. The items related to students' creative abilities, problem-solving style, and personality traits associated with creative people. No explicit definitions of creativity or behaviors were provided. The student characteristic questionnaire completed by the teachers was compared with performance and self-report measures of students' creativity to answer three research questions: (a) what is the structure of teachers' implicit theories of creativity?, (b) are implicit theories of creativity related to the accuracy of teachers' ratings of students' creativity?, and (c) is this effect gender-specific. The first two questions were relevant to the current study.

To investigate students' abilities, Gralewski and Karwowski (2016) administered the Test of Creative Thinking-Drawing Production (Urban, 2004), the Creative Behavior Questionnaire (Popek, 2000) testing nonconformity, and a researcher-constructed self-report scale of various types of creative activity in the art and science domains. They also administered an intelligence test and collected students' grade-point averages for the term directly preceding the study. The teacher data were analyzed using exploratory factor analysis to identify latent classes, and a series of multiple regressions were employed to examine the accuracy of ratings within each teacher class.

Six factors described the traits of creative students by their teachers: cognition, self-discipline, perseverance, problem-solving creativity, openness, and temperament, specifically

impulsivity. Four classes of teachers were identified and found to define creative students differently. The first two classes described creative students as disciplined and self-controlled as opposed to inventive, open, or effective in problem-solving. Teachers of class three and class four described creative students as inventive, independent, and effective in problem solving. Teachers from the third class also highlighted openness, perseverance, and discipline. In contrast, teachers from class four perceived creative students as undisciplined, impulsive, and not particularly persevering. Reliabilities were acceptable ranging from .59 for class one to .94 for class two.

The first two classes supported the claim that teachers did not understand what creativity is and how to recognize it in their students. They perceived creativity inconsistently with creativity research, and no relationship was found between students' characteristics and their ratings of students' creativity. Gralewski and Kawowski (2016) found differences in the results from the other two classes of teachers holding implicit theories of creativity somewhat consistent with the creativity literature. One group (class four) characterized creative students as more revolutionary, resembling an innovator profile. Teachers in this class identified creative students as highly inventive, independent, effective in solving problems, impulsive, and undisciplined. The opposite was found in the perceptions of teachers in class three. Class-three teachers perceived creative students in terms of incremental creativity, as adaptors rather than innovators. The creative students identified by the teachers in class three exhibited high perseverance, inventiveness, creative problem-solving, and socially acceptable behavior. Students' gender moderated teacher ratings with males identified as innovators and female students being identified as adaptors by teachers in class three. Although gender differences are not specifically relevant to the current study, Gralewski and Kawowski’s

findings suggest that teachers hold implicit theories about student creativity and those theories may include bias.

Gifted and talented

Investigating teachers' subjective ratings of students' creative ability is of particular concern to those working in the gifted and talented field. Although the current research study concerned itself with public-school teachers' perceptions of creativity of nongifted students, evidence about teachers' judgments of creativity can be found in the gifted research literature (Baum, Owen, & Oreck, 1996; Oreck et al., 2003; Urhahne, 2011). Urhahne (2011) used Renzulli's (2016) three-ring model to investigate the accuracy of eight teachers' judgments of students' competencies. The three-ring model suggests that giftedness is comprised of three factors: ability, creativity, and task commitment. Three different scales measured the competencies of 144 fourth graders in addressing Urhahne's research questions:

1. How accurate are teachers' judgments of students' abilities, creativity, and task commitment?
2. Are teachers' judgments of students' creativity influenced by students' abilities (halo effect)?
3. Can teachers identify the most able, creative, and task committed students?

Teachers were given copies of the students' ability and creativity test scores and asked to answer questions about students' ability, creativity, motivation, and effort for each student in their class. The creativity question was a rating comparison on a 9-point scale, *How high is the student's creativity in comparison to students of the same age?*

Urhahne (2011) found the three interlocking traits to be nearly independent of each other with only a small correlation between students' mathematical abilities and creativity.

Teachers were able to judge accurately student's mathematical abilities (r = .69) but not task commitment (r = .12). The correlation between teachers' judgments of creativity and student creativity was found to be statistically significant but small (r = .23). The researchers observed a halo effect as teachers' judgments of students' creativity and task commitment highly correlated with student ability (r = .54 and r = .62, respectively). Teachers' judgments also correlated with age, favoring younger students, but not gender. Teachers did not perceive female elementary-school students as more creative than their male counterparts even though they tested higher in the creativity test, suggesting agreement with the gender biases found by Gralewski and Kawowski (2016). Urhahne's study investigated teachers' judgments of gifted students' mathematical creativity and the current research investigated teachers' judgments of nongifted students' dance creativity. The two studies share a similarity as teachers were asked to rate students' creativity in comparison to other students of the same age and both studies investigated the accuracy of teachers' judgments.

Assessing dance

The conclusions of the Urhahne (2011) study confirmed the problem addressed, that teachers were not able to correctly detect gifted students. Similarly, Baum et al. (1996) and Oreck et al. (2003) were concerned that teachers' inability to identify potential artistic talent hampered the inclusion of low income, bilingual, and special-education students in arts programs and caused inequity. To address their concern, the researchers created an observational talent assessment tool to evoke artful behaviors that might be recognizable by art specialists and classroom teachers. They tested the validity and reliability of The Talent Assessment Process (TAP) in New York and Ohio with a number of studies. Three phases of testing TAP took place in New York City and Ohio schools 1991-to-93, 1994-to-95, and

2001-to-03. A total of 1,406 students in grades two through six were assessed in the three performing-arts disciplines of dance, music, and theater.

In the first study New York study, Baum et al. (1996) used professional artists to establish content validity in music and dance. In dance, the domain relevant to the current study, interrater reliability estimates ranged from .78 to .82 and mixed results were found for convergent validity. Talent ratings in all domains were found to be independent of academic achievement, and the results of exploratory principal factor analyses revealed a single factor for dance accounting for 89% of the covariation. Baum et al. estimated the power of audition scores in predicting student status of selected, waitlisted, or not selected (rather than other factors such as behavior, ethnicity, or academic scores) using discriminant function analysis (n = 215). Only the talent identification ratings by the teachers were statistically significant at predicting student status, explaining 65% of the variation in group membership to selected, waitlisted, or not-selected groups.

Baum et al. (1996) further tested the construct validity of the instrument using a two-group contrast of those selected to the program and those not selected one year after the original audition. A second dance audition rated by professional artists not familiar with the project was employed. A Hotelling T^2 test was used to compare selected and nonselected students on all ratings simultaneously resulting in an overall difference between the ratings of the selected and nonselected ($T^2 = 29.01$, $p < .0001$). With the conclusions of Baum et al. that their talent identification process was a psychometrically sound means of identifying dance and music talent for students at risk, they continued to test the instrument in New York and Ohio, eventually adding the domain of theater.

In a 2003 study, Oreck et al. addressed a different research problem concerning the identification of talent; namely, the ability to recognize performing-arts potential in students who have had no prior formal art instruction. In contrast to high-stakes auditions, screening based on culturally-specific styles and written-response tests that are highly correlated with verbal ability, The Talent Assessment Process in Dance, Music, and Theater (TAP) was explored as a valid performance assessment of real-world tasks in the specific domain. Purposeful sampling of schools involved in the initial testing of TAP resulted in a sample of 639 fourth-grade students from three schools and 767 students from grades two through six in the expansion study. The research questions continued to explore content and discriminant validation, interrater reliability (including corroboration by experts), and the effectiveness of the process in predicting future success.

TAP in Dance was a series of five dance classes taught by a team of two dance teachers and simultaneously assessed by the dance instructors and a classroom teacher using a written checklist of 10 items. Scoring was observational using a notice or not notice scale for each item resulting in an item score based on the sum from all assessors. When an observer noticed one of the behaviors, a plus mark was placed next to the item in the student's box on a tally sheet. Marks were not to be erased. Each assessor also gave a holistic score from *1* to *5* for each student at the end of every class. After four classes, the item and overall scores were combined and averaged and standardized by classroom and grade. Students were invited to the fifth “callback” class based on a predetermined cutoff score.

The dance instructors alternated between observing and facilitating the class so that at least one artist was recording observations at all times. The facilitators participated in a 4-day training process to develop curriculum aligned with the criteria and assessment framework

and field test some of the activities with students. Classroom-teacher assessors participated in a preassessment workshop to learn the criteria and scoring system. Immediately following each class, assessors held a 10-minute discussion of each child in the class.

Similar to Urhahne (2011), Oreck et al. (2003) used Renzulli's (2016) three-ring model defining talent as above-average ability, creativity, and task commitment in a domain. The evidence of content and construct validity are consistent with the Baum et al. (1996) study using the original instrument (a single factor in dance accounted for 89% covariation). Also, discriminant factor analyses were performed to predict student status: talent-identified group (n = 112), waitlisted group (n = 157), or not-identified group (n = 370). The variables included in the analysis were performance on the talent assessment process, academic test scores, self-esteem subtest scores, gender, and ethnicity. For dance, only TAP predicted group membership and explained 65% of the variation in group membership. Teachers were asked to identify students who possess talent potential in dance or other domains, and the teacher predictions statistically significantly correlated with eventual identification through TAP (r = .49 in dance). Thus, the researchers found that the talent criteria constituted a coherent definition in the domain of dance, and the assessment process was equitable and independent of other variables.

Oreck et al. (2003) estimated interrater reliability using the three assessors across the audition process and found the interrater reliability coefficients between artists and among artists and teachers improved each session reaching a moderately high level and peaking by session four (.82 for dance). The finding of a fourth-session peak resulted in the decision to shorten the process from the original seven-class session to the five-class session in the expansion study. One year after the original assessment, a random sample of identified (n =

45) and not identified (n = 44) students were tested using the original talent criteria administered by different professional dancers. The results showed that identified students dependably received higher talent ratings with independent samples t tests favoring identified students for each of the rated behaviors. As additional construct validity evidence, Oreck et al. found that during the 2 years of advanced instruction 82% of identified students were making good progress and approximately one half of graduating fifth and sixth graders participated in some form of ongoing arts training with dance scholarships to the Julliard School, the Martha Graham School, the Alvin Ailey American Dance Center, the Dance Theater of Harlem, and Ballet Hispanico.

The conclusions of the Oreck et al. (2003) study were that students identified through TAP more accurately represented the demographics of schools than other measures of gifted and talented programs such as academic test scores, written tests, or one-time high-pressure auditions. Their finding of distinct factors in each art form is consistent with the creativity research literature on domain specificity. In general, research has found little evidence of creativity across domains and only positive correlations on performance tasks within a domain (Amabile, 1996; Baer, 2015, 2016; Han, 2003). The results of this study found that classroom teachers with limited experience in an artistic domain can become reliable raters of student talent with training and practice.

Teachers in the Oreck et al. (2003) study were given explicit criteria of the skills, motivation, and creativity dimensions of dance. Three criteria were given for creativity:

- expressiveness: shows pleasure in movement, performs with energy and intensity, is fully involved, communicates feelings;
- movement qualities: displays a wide range of dynamics, has facility moving in levels, directions, and styles, communicates subtlety, moves fully, connects body parts; and

- improvisation: responds spontaneously, uses focus to create reality, shows the details, gives surprising or unusual answers.

The work of Oreck et al. (2003) suggests that teachers can reliably evaluate dance with some training and clear criteria. The current study used the Consensual Assessment Technique that requires no training; however, Oreck et al.'s dance studies are useful for interpreting teachers' ratings.

Evaluating Creativity Using the Consensual Assessment Technique

The Consensual Assessment Technique has been used reliably to evaluate creative products in many domains (Amabile, 1996; Baer & McKool, 2009; Dollinger & Shafran, 2005; Hennessey, 1994; Hennessey, Amabile, Mueller, 2011; Hickey, 2001; Kaufman, Baer, Cole, & Sexton, 2008; Priest, 2006). Amabile (1982) is credited with articulating a consensual definition of creativity when evaluating a creative product.

> A product or response is creative to the extent that appropriate observers independently agree it is creative. Appropriate observers are those familiar with the domain in which the product was created or the response articulated. Thus, creativity can be regarded as the quality of products or responses judged to be creative by appropriate observers, and it can also be regarded as the process by which something so judged is produced. (p. 33)

For purposes of empirical research, Amabile (1982) suggested that adopting an operational definition of creativity that assumes subjective criteria is appropriate because it is not possible to articulate objective criteria for identifying creativity. Using subjective criteria to judge creative products makes sense, according to Amabile, because creativity is a historically and culturally bound social construct. It is not possible to specify in advance which features of a new product or idea will be considered creative. Other assumptions that underlie CAT are that creativity is something that people can recognize and often agree upon

without a guiding definition, and degrees of creativity exist on a continuum so that observers can define products or ideas as more or less creative than other products or ideas. The assumption of a continuum of creativity differs from beliefs many laypeople and teachers have that people and things are either creative or they are not.

As a theory of creativity, Amabile (1996) ascribed to the standard definition that a product or response will be judged as creative to the extent that it is novel and appropriate, useful, correct, or valuable. She further insisted that the task must be heuristic rather than algorithmic meaning that tasks do not have defined solutions and identifying the problems and their solutions are aspects of creative acts. This view aligns with the systems perspective or confluence approach theories of creativity (Csikzentmihalyi, 1997; Runco, 2007; Sternberg & Lubart, 1999).

The technique involved in CAT is specific and has three requirements: (a) the task must lead to some product or observable response that can be made available to appropriate judges for assessment, (b) the task should be open-ended enough to permit considerable flexibility and novelty in response, and (c) the task should be one that does not depend heavily on certain special skills to avoid large individual differences in baseline performances of the task. CAT has a number of procedural requirements as well: (a) all judges should have experience in the domain being assessed, (b) judges must make their assessments independently, (c) judges should make assessments on dimensions in addition to creativity to determine whether creativity is related to or independent of those other dimensions, (d) the products should be rated relative to one another on each dimension rather than to an absolute standard, and (e) each judge should view the products in a different

random order. These rules are essential to interjudge or interrater reliability that is equivalent to construct validity in CAT (Amabile, 1996).

Testing CAT in various domains

Amabile's (1996) research for many years aimed to develop and test a reliable subjective method for assessing creativity in artistic and verbal domains. Her first study used three sets of judges of various expertise—psychologists (n = 12), art teachers (n = 21), and artists (n = 7)—to rate designs made by 22 girls, ages 7 to 11, invited to an art party. The experimenter defined the task as using scrap materials provided by the researcher in any way they wished to make a design that was *silly*. Children were given 18 minutes to make their designs and then asked to stop. Each group of judges was given different instructions. The psychologist-judge group was asked to work individually to rank the designs from least to most creative using his or her subjective definition of creativity. The art teachers were shown professionally-made slides of the 22 designs and asked to assess to one of five categories with 1 being *very uncreative* to 5 being *very creative*. Artist judges evaluated the designs on 23 different dimensions of creativity, technical goodness, and aesthetic appeal and rated the collages relative to one another on a continuous scale rather than to an absolute standard for art.

The results of Amabile's 1982 study refined CAT. Interjudge reliabilities of the three groups of raters were fairly high. The psychologists rated the designs with .73 agreement and the art teachers with a reliability coefficient of .88. Sixteen of the 23 dimensions rated by the artist judges were .70 or higher, with 10 greater than .80. The level of judge expertise appeared to make a difference with the statistically significant correlation between psychologist-judges' mean creativity and the artist-judges' mean creativity ranking at r = .44

and the correlation between art teachers and artist judges much higher at r = .65. The artists assessed 23 dimensions and several correlated with their judgments of creativity. The results of a factor analysis of the 23 dimensions revealed two separate factors: a creativity factor and a technical goodness factor. The aesthetic appeal or extent to which raters liked the collage loaded low on both of the main factors as did *silliness* of the design, the instruction for the artistic task. It might be concluded, therefore, that judgments of task fulfillment are distinct from judgments of creativity. Objective task features measured by two independent raters correlated with the artist-judges' ratings of creativity, such as the number of pieces used (r = .64), numbers of colors used (r = .48), numbers of shapes used (r = .52), number of pieces overlapping (r = .62) and number of pieces altered (r = .37). The age of the child was not found to correlate with any of the groups of judge's assessments of creativity, only of technical goodness among the artist judges. These correlations suggest that judges' ratings of creativity implicitly incorporate some of these features.

According to Amabile (1996), interjudge reliabilities have been calculated by CAT researchers using an analysis of between- and within- variance, the Spearman-Brown prediction formula, and Cronbach alpha (p. 68). Later studies used the intraclass correlation coefficient and found similar results. The current study estimated interrater reliabilities using Cronbach alpha in the pilot study and the intraclass correlation coefficient in the final study.

Throughout the years, Amabile (1996) and colleagues applied CAT in many domains in response to a variety of research questions. There were further investigations of children's collage and adults' collages continuing to test the utility of CAT while investigating group differences in judges (such as artists versus nonartists) and artmakers (adults versus children, male versus female). Verbal creativity was investigated beginning with poetry tasks

completed by undergraduate women and expanding to short story, cartoon captions, and essays. The performing arts domains are absent in the CAT literature with the exception of a few studies testing the utility of CAT to measure musical creativity. The current study applied CAT to the domain of dance and investigated the use of CAT in rating students' dance compositions. Insofar as music and dance share the dimensions of composition and performance, the literature on CAT in the domain of music may be relevant.

Measuring musical creativity with CAT

The original tasks selected for studying CAT were those that required few experience-related skills and thus were not useful for identifying enduring individual differences in creativity in a particular artistic domain. Would CAT be useful for evaluating student creativity in arts education? Measuring various aspects of musical creativity using CAT has been investigated by several researchers beginning with Hickey's (2001) study of fourth- and fifth-grade students' musical compositions (n = 21). Hickey sought to investigate who might be the most reliable judges of children's musical creativity: music teachers (n = 17), composers (n = 3), theorists (n = 4), seventh-grade children (n = 14), or second-grade children (n = 24). Following all of the original CAT procedures, Hickey asked adult judges to rate creativity, craftsmanship, and aesthetic appeal on a 7-point Likert-type scale. The child judges rated for *creativity* and *liking* on a 5-point Likert-type scale. The seventh graders used the scale with levels ranging from *not creative* to *very creative*, and the second graders used a form with icons from plain to more elaborate faces at each level. Using an interclass correlation technique (Hoyt's analysis), the mean interjudge reliability for all groups was .48. The music composers had the lowest interjudge correlation of .04, and the music teachers had the highest interrater reliability of .81. Hickey concluded that perhaps the best judges of

children's music compositions were their music teachers. Not only was this study one of the first that measured creativity of skills acquired in music class, but also was the first study of using CAT to rate products in the performing arts.

A later investigation of the utility of CAT in the music domain was Stefanic and Randles' (2015) study measuring individual and group musical creativity. Five judges rated individual music compositions created by preservice music teachers enrolled in a general music methods class (n = 23) and 10 compositions created by small groups of the same sample population. The judges were current or former music teachers. The individual compositions were tested twice over 3 weeks to investigate how stable the ratings were over time. Using Cronbach coefficient alpha, Stefanic and Randles found that the judges were consistent on the first test for individual creativity (.89) but less consistent on the second occasion (.69). Stefanic and Randles asked questions resulting in scores of absolute versus ranking that might be useful when evaluating students' acquisition of skills in a domain. The absolute agreement was slightly lower for the first test (.85) and the retest (.65). In the end, the researchers concluded from the data that the number of rating occasions was less important than the number of raters.

The judges' ratings of the group compositions were found to be unreliable because the average covariance among judges for each dimension (creativity, craftsmanship, and aesthetic appeal) was negative, indicating a violation of the underlying assumption of the classical test theory requiring items to be strongly and positively related to a unidimensional construct being measured. When asked, judges noted they had difficulty deciding whether to rate on performance quality, the creativity of the arrangement (compared with the original version of the song), or the extent the performance accurately reproduced the original using

different instruments. These difficulties were further confounded by whether or not individual judges recognized the songs.

Although Stefanic and Randles (2015) used CAT to investigate music creativity, their conclusions were useful to the current study that applied CAT to dance. The unreliability of the judges' ratings of the group compositions led this researcher to a methodology decision to use only solo dances in the section that required participants to rate creativity, technique, and aesthetics in students' creative dances. Stefanic and Randles found that judges failed to discriminate between creativity, craftsmanship, and aesthetic appeal sufficiently and suggested two plausible interpretations: (a) perhaps in the domain of music, compositions must be well-crafted and aesthetically pleasing to be deemed creative and (b) the three-dimensions might tap into different aspects of the standard two-criterion definition of creativity with craftsmanship and aesthetic appeal representing the judge's perceptions of appropriateness.

Priest (2006) suggested that when individuals perform their compositions, judges are rating two creative products: a composition and a performance. He used CAT to explore the relationship between creativity and other dimensions of learning music in 47 compositions created by undergraduates enrolled in a music fundamentals course for elementary-school classroom teachers. The study compared the ratings of undergraduates enrolled in a subsequent music fundamentals course (n = 21) with music teachers who were members of national- and state-affiliated music education associations (n = 66), and instrumental music teachers (n = 69). Raters were asked to review five compositions on creativity and craftsmanship using CAT procedures on a continuous scale of 1 representing *low* to 5 representing *high*. The teachers were asked to rate the additional dimensions of

expressiveness, personal preference, rhythmic interest, and melodic interest, each framed within implicit definitions (i.e., the degree to which you find the melody has rhythmic interest). The music teachers also were assigned randomly to one of three treatment conditions to investigate differences between hearing a song and reading its musical notation: (a) audio only, (b) score only, and (c) audio and score.

Within each group, Priest (2006) found high interrater reliabilities on creativity ratings ranging from .88 for elementary music specialists with score only to .97 for instrumental teachers with audio only. Slightly lower, but similar interrater reliabilities were found on the ratings of craftsmanship, ranging from .82 for elementary music specialists with score only to .95 for instrumental teachers with audio only. Probing the means of judges' scores in each condition (expressiveness, personal preference, rhythmic interest, and melodic interest) revealed the relationship of the other dimensions to creativity. In the audio-only condition, all dimensions statistically significantly correlated with creativity for the elementary-school music specialists and the instrumental teachers. Most of the dimensions were statistically significantly correlated with creativity in the audio and score condition except for rhythmic interest for the instrumental music teachers. For the elementary-school music specialists in the score-only condition, craftsmanship, personal preference, and melodic interest were statistically significantly correlated with creativity. Similar associations were found for instrumental teachers in the score-only condition: craftsmanship, personal preference, melodic interest, and expressiveness were statistically significantly correlated with creativity. The judges were consistently most reliable in the audio-only condition and least reliable in the score-only condition.

Although only the teacher groups assessed craftsmanship and the other dimensions of music learning, all three groups of judges were consistent in their ratings of creativity. The findings of Priest (2006) suggest that CAT is a reliable means of measuring the creativity of musical compositions. Priest further concluded that the findings of his study support the research that suggests judges are more reliable when responding to global or implicit definitions rather than explicit or specific definitions of creativity. The data further suggest that dimensions of craftsmanship, expressiveness, personal preference, rhythmic interest, and melodic interest are associated with creativity. These correlations are similar to what Stefanic and Randles (2015) referred to as confounds, but Priest suggested there are musical parameters that likely will help individuals effectively compose. There is evidence from both of these studies that, when rating the music compositions of people who are studying music, creativity and craftsmanship are not as distinct constructs as found in earlier studies of products created by people without experience or skills (Amabile, 1996). It is possible that experience contributes to the association between creativity and craftsmanship, but it is equally possible that it is unique to the domain of music.

Similar to the studies of musical compositions described above, the classroom teachers in the current study rated students' creative products that involved composition and performance. The music creativity research studies described in this section investigated the utility of CAT using small sample group sizes ranging from $n = 4$ (Hickey, 2001) to $n = 69$ (Priest, 2006). The current study, with an overall sample size of $n = 110$ adds to the knowledge base of CAT and performing arts.

Addressing CAT's limitations

Amabile (1996) noted several limitations to CAT; the most obvious is its central premise of subjectivity. Because judgments of creativity are contextualized by history and culture, expert judges at any one point in time might not recognize the creativity of products that are truly cutting edge—on the frontline of possibilities within a domain. Recommendations for future research and other drawbacks to CAT described by Amabile have been addressed in subsequent research studies. The practical challenges that CAT is time consuming and expert judges are difficult to find have been addressed, in part, by studies questioning what it means to be an appropriate judge (Caroff & Besançon, 2008; Cropley & Kaufman, 2012; Dollinger & Shafran, 2005; Hickey, 2001; Kaufman et al., 2009; Kaufman et al., 2008; Plucker, Kaufman, Temple, & Qian, 2009; Priest, 2006).

Comparison studies of expert and nonexpert raters using CAT generally find experts the most reliable judges of creative products (Hickey, 2001; Kaufman et al., 2008; Kaufman et al., 2009), although there remains some debate (Besemer & O'Quin, 1986; Plucker et al., 2009). Investigating the extent to which explicit criteria or training influences the reliability of nonexperts has been the purpose of several studies (Caroff & Besançon, 2008; Cropley & Kaufman, 2012; Dollinger & Shafran, 2005). In a comparison study of the ratings of adult drawing products by psychologist judges (n = 5) and artist judges (n = 5), Dollinger and Shafran (2005) found that a 4-minute pretraining resulted in the psychologist judges having correlated ratings of .91. Similarly, Cropley and Kaufman (2012) designed and tested a scale (Creative Solution Diagnosis Scale) on a large number of novice creativity raters (n = 203) to investigate the extent to which people without specialized knowledge or expertise can recognize and reliably rate creative products. College students were asked to use the Creative

Solution Diagnosis Scale to rate various designs of mousetraps viewed on a website. Interrater reliability coefficient was considered excellent at .96, and the mean scale reliability was computed at .96. The researchers concluded that nonexpert judges could reliably assess the creativity of products given the right tool even though the nonexpert raters' scores were not compared with expert ratings. Such a comparison is essential to the question of whether nonexperts using the Creative Solution Diagnosis Scale could replace expert judges; however, Cropley and Kaufman concluded that novices using the Creative Solution Diagnosis Scale could be used to represent public perceptions of creativity in products.

In addition to investigating the appropriateness of different groups of raters, researchers have studied the usefulness of CAT to evaluate creative process as well as product (Hennessey, 1994), explored stereotypes and biases of CAT (Kaufman, Baer, Agars, & Loomis, 2010), investigated domain specificity with CAT (Han, 2003), and examined the reliability of CAT when comparing artifacts that have been produced under nonparallel and nonexperimental conditions (Baer, Kaufman, & Gentile, 2004). CAT has often been used to validate other attempts to measure creativity (Birney, Beckmann, & Seah, 2016; Diedrich, Benedek, Jauk, & Neubauer, 2015; Dollinger, Urban, & James, 2004; Pretz & McCollum, 2014; Rubenstein et al., 2013; Silvia, 2008). Many of the original rules of CAT defined by Amabile (1982) continue to be considered essential to construct validity; researchers still follow the procedures of independent assessment, assessing on other dimensions in addition to creativity, rating products relative to one another, and viewing the products in different random order for each judge.

There remains a tension in the creativity research literature about the extent to which judges should be left only to their subjective definitions or provided with explicit criteria. On

the one hand, the idea of operationalizing definitions of creativity goes against the central premise of creativity being novel. On the other hand, some groups have been reluctant to evaluate creative products without guidance (Amabile, 1996) and evidence exists that the pool of judges might be widened if nonexperts could evaluate creative products with some explicit criteria or training (Besemer & O'Quin, 1986; Caroff & Besançon, 2008; Plucker et al., 2009).

Amabile (1996) called for validating the use of CAT in other domains and to date, there are no published studies assessing students' dance products. The current study is the first to test the utility of CAT in the domain of dance. A comparison of classroom teachers and dance experts using CAT to assess creativity in dance also adds to the literature that investigates judge appropriateness. Prior attempts to evaluate creativity in dance have resulted in rubrics that are so specific that they are assessing task completion, not novelty and appropriateness (NCCAS, 2014; King, 2009; Oreck et al., 2003). This study defined creativity in dance using subjective descriptors.

Defining and Assessing Creativity in Dance

The National Core Arts Standards for Dance (NCCAS, 2014) organize the *creating* dimension of dance into three active components: *explore*, *plan*, and *revise*. Exploration is a generative process that is identified as a necessary component to creating dances across the literature (Blom & Chaplin, 1982; Gilbert, 1992, 2006; McCutcheon, 2006; Reedy, 2015; Smith-Autard, 2004; Stinson, 1985). Exploration is similar to improvisation, and sometimes the two words are used interchangeably. Improvisation is essential to the creative process and is related to divergent-thinking skills. Plan and revise are two aspects of composing or forming and use both divergent- and convergent-thinking skills. Most dance educators

articulate the dual components of dance making--exploring as discovery and forming as choice-making (Gilbert, 1992, 2006; Giguere, 2011; McCutcheon, 2006; Reedy, 2015; Stinson, 1998)--both divergent and convergent abilities necessary for creativity (Agnoli, Corazza, & Runco, 2016; Baer, 2016; Csikszentmihalyi, 1997; Kozbelt, Beghetto, & Runco, 2010). This section contains descriptions of the few empirical studies of creativity and dance found in the literature.

Improvisation

Sowden (2015) compared the effect of students participating in improvised versus nonimprovised dance classes on their performance on two divergent thinking and creativity tests. Primary-school students (n = 27) were assigned randomly to the improvisation or the control group and given tests of personality factors, intelligence, and mood. The dependent variables were the Use Instance Task (Wallach & Kogan, 1965) to measure divergent-thinking frequency and a product-design task. Personality, intelligence, and mood showed small correlations with fluency so were not used as covariates. Children in the improvisation group showed statistically significant more original responses on the Used Instance Task and the Product Design Task, even after controlling for fluency. Sowden repeated the study with 34 primary children using verbal improvisation and acting and found similar results even after controlling for pretest originality. Divergent thinking is related to the creative process that predicts creative achievement (Guilford, 1968; Hocevar, 1981; Torrance, 1965, 1974), however, the pen-and-pencil tests that measure divergent thinking have found to be inadequate measures of creativity (Amabile, 1996; Baer, 2015; Baum et al., 1996; Csikszentmihalyi, 1997; Kim, 2006, 2011; Winner et al., 2013). Even though the validity of

the Torrance Tests of Creative Thinking (1974) is limited, the tests remain the most common instruments used to measure creativity in children and adults.

Torrance Tests of Creative Thinking and dance

Three studies of dance used versions of the Torrance Tests of Creative Thinking (1974) to measure mean differences in creativity. Minton (2003) used the Figural Form A of the Torrance Tests of Creative Thinking in her pretest-posttest comparison of high-school students enrolled in dance with nondance peers (n = 286). After measuring and adjusting for pretest differences and holding *time dancing* as a covariate, Minton found no statistically significant mean differences between the two groups until she examined the tests subscales. Although there were no statistically significant differences found for fluency, elaboration, or resistance to premature closure, statistically significant differences were found for originality and abstractness of titles. Similarly, in a quasi-experiment comparing two groups of hearing-impaired children (n = 20), Reber and Sherrill (1981) used Figural Form B of the Torrance Tests of Creative Thinking to test the fluency, flexibility, originality, and elaboration skills of divergent thinking.

Reber and Sherrill (1981) also administered a dance-movement-skills assessment requiring three judges to independently rate students' basic movement skills using specific criteria for each skill. After statistically adjusting for initial differences in the pretest scores, the posttest results revealed statistically significant gains in the composite creativity score, as well as individual originality and elaboration. The results also showed statistically significant gains in dance-movement skills. It is noteworthy that Reber and Sherill reported that the dance instruction did not emphasize the creative process; instead focusing on convergent productivity, imitation, and replication. Yet, the researchers' conclusions suggested that

creative-dance instruction might improve the creative-thinking ability of deaf children. Minton's (2003) findings are interpreted cautiously because there was a wide range of teaching styles from traditional to creative among the six schools. *Time dancing* was the covariate used by Minton; however, the *level of creative teaching* might have been a more appropriate variable.

To study the difference between traditional dance instruction and creative-dance instruction, Kim (1998) conducted a quasi-experimental comparison of seventh-grade students (n = 78) in Seoul, Korea. Students were assigned randomly to the creative-dance treatment group (n = 39) or the comparison group receiving traditional-dance instruction (n = 39). The posttest scores of the Figural Forms A and B of the Torrance Tests of Creative Thinking (1974) comprised the dependent variable for creativity in this study and the posttest scores on the Raven's Standard Progressive Matrices comprised the dependent variable for critical thinking. The treatment consisted of 45-minute creative-dance instruction taught twice per week over 8 weeks. The comparison group received the same amount of dance instruction in traditional forms including ballet, modern, and Korean styles. After adjusting for pretest differences, Kim found a statistically significant difference in the means of each group for creativity but not for critical thinking.

Overall, the comparison group of students instructed in traditional forms showed no statistically significant gains in any test or subtest, except fluency. The creative-dance treatment group, in contrast, made statistically significant gains on all creativity measures. Between-group comparisons resulted in statistically significant differences favoring the creative-dance treatment group on fluency ($F(1, 75) = 33.11$, $\eta^2 = .44$), originality ($F(1, 75) = 34.80$, $\eta^2 = .46$), elaboration ($F(1, 75) = 34.45$, $\eta^2 = .46$), and flexibility ($F(1, 75) = 55.22$, η^2

= .74) with large measures of practical importance. There were no statistically significant gains made by either group on the Ravens Standard Progressive Matrices. Kim (1998) concluded that creative-dance instruction favored creative thinking but not the critical-thinking skills of the seventh-grade students in her study.

The components measured by the Figural Form tests, fluency, elaboration, originality, and flexibility, as well as resistance to premature closure tested by Minton (2003), most likely appear very different in dance than in a drawing. What are the criteria for demonstrating creativity in dance?

Dance assessment in the National Core Arts Standards

The National Core Arts Standards' (2014) exemplar Model Cornerstone Assessments defined these knowledge and skill outcomes related to the *creating* dimension for fifth grade:

- Students will develop, select, and apply a range of strategies for exploring or improvisation.
- Students will apply and give feedback for revising choreography.
- Students will understand compositional knowledge such as sequencing and structuring.
- Students will demonstrate knowledge of space, relationships, and dance structures.

The accompanying performance standards for the fifth-grade creating process are

- Explore: (a) build content for choreography using several stimuli and (b) construct and solve multiple movement problems to develop choreographic content.
- Plan: (a) manipulate or modify a variety of choreographic devices to expand choreographic possibilities and develop a main idea. Explain reasons for movement choices and (b) develop a dance study by selecting specific movement vocabulary to communicate a main idea. Discuss how the dance communicates nonverbally.
- Revise: (a) explore through movement the feedback from others to expand choreographic possibilities for a short dance study that communicates artistic intent.

> Explain the movement choices and refinements and (b) record changes in a dance sequence through writing, symbols, or a form of media technology.
> Several sample tasks with embedded assessment are provided in the Model

Cornerstone Assessments pages of the National Core Arts Standards for Dance (NCCAS, 2014). At the fifth-grade level, most of the tasks and the *At Standard* level of the rubric involve writing or speaking words. Even when the task is dance-centric, such as *extend and develop your solo by modifying the movement in two different ways using the elements of dance*, to achieve *At Standard* level requires an accompanying journal entry (p. 10). According to Rima Faber, the Chair of the Dance Task Force for the National Coalition for Core Arts Standards (2014), the tasks are written to contain the creative processes. The intent of the Model Cornerstone Assessments was to guide both teachers and students through a process to understand what students were intending to accomplish. The reliance on verbal and written language, according to Faber, was to facilitate the classroom teachers' ability to assess the creating process of dance (R. Faber, personal communication, March 28, 2019).

Teachers may be able to assess whether or not students complete a creative-dance task, but their method of understanding the extent to which the dance is creative is the explanation given by the students. Creativity researchers have found self-perception and self-ratings of creativity to be unreliable (Birney et al., 2016; Dollinger et al., 2004; Hoff & Carlsson, 2011; Reiter-Palmon, Robinson-Morral, Kaufman, & Santo, 2012). Beyond that, aesthetic decisions are often made nonverbally, as Dewey (1934) explained, through thinking, feeling, and doing.

Dance is an embodied art form, and it is necessary to view creativity in the body (Chappell, 2007; Fraleigh, 1999; Press & Warburton, 2007; Stinson, 1995, 2004). Assessing creativity in a moving body might be difficult for classroom teachers who are used to

measuring student achievement in other ways. When writing about the first large-scale attempt to assess dance (NAEP), Ross (1994) wrote,

> Dance has long been a stepchild in the U.S. educational system, because, in part, it is about impermanence and the body. These two areas prompt certain uneasiness from social and educational institutions that like fixity, tangible products, learning situations where the end is known, and covert sensuality. (p. 11)

It remains to be seen whether this statement, written more than 20 years ago, would hold today. What is known is that any recognition of creativity in dance requires identifying it in a moving body and the extent to which teachers are capable of doing so is unknown. According to Press and Warburton (2007), "the nature of dance creativity involves devising situations where one apprehends and in some sense enjoys making meaning immediately embodied in an original something" (p. 1273). The challenge of assessing creativity in dance is finding reliable ways to recognize and evaluate that *original something*. The current study investigated teachers' beliefs about the nature of creativity and their ability to recognize originality (also referred to as novelty) and appropriateness in students' embodied responses to creative-dance tasks.

Summary

The literature provides sufficient evidence that teachers are not adequately prepared to recognize and assess creativity in dance at a critical moment in California dance-education history. As the state prepares to execute the Theater and Dance Act, California teachers will need to know how to teach and evaluate all four artistic processes of the revised state arts standards: creating, performing, responding, and connecting in dance.

Research consensus indicates that teachers hold implicit theories about creativity that influence their ability to recognize creative behavior, creative students, and creative products. Over the decades, the operational definition of creativity used to measure teachers' beliefs varied, with older studies relying on creativity as synonymous with divergent thinking. The two-criterion standard definition of creativity that creativity requires originality (novelty) and effectiveness (usefulness, appropriateness, value) had been around since the beginning of creativity research (Runco & Jaeger, 2012); however, researchers used various criteria in their attempts to examine how teachers understood the complex phenomena. In the process of untangling the purpose and language of studies throughout the years, several themes emerged. First, teachers and researchers hold different concepts and definitions of creativity. This discrepancy has held whether the research literature at the time favored divergent thinking (Hocevar, 1981) or the two-criterion definition (Runco & Jaeger, 2012). Teachers also confuse creativity with intellectual ability and other student characteristics.

Second, most teachers believe creativity can be cultivated in students, but some still hold that creativity is rare. There exists a tension between what is referred to as Big C, or eminent creativity, and little c, everyday creativity. Third, and most relevant to this study, is that among teachers who believe creativity can be cultivated, most teachers believe they are unprepared to teach in ways that develop children’s creativity or assess students’ creative products or processes.

The literature on teachers' beliefs about creativity does not include dance. The studies that examine teachers' views of dance do not address creativity. The literature on dance teachers' perceptions of creativity provided evidentiary support for the need for this study. Those responsible for teaching dance in schools are not sufficiently teaching creativity when

they teach dance because they lack skill and knowledge or because they hold misperceptions about what creativity is and what it looks like in dance. Classroom teachers and dance teachers have different roles to play in assessing dance, but both groups will need to do so. Classroom teachers need to recognize creativity in students' dance products as creativity is defined. Dance teachers need to engage in more formal assessment. They will need to evaluate students' creative products and processes for novelty and appropriateness, and one can conclude from the literature that existing model assessments only adequately address task fulfillment. Both groups will need to view creativity as it is enacted and embodied rather than rely on students' verbal descriptions.

The current research study had multiple related purposes for understanding how teachers perceive and recognize creativity in dance. One purpose was to investigate the relationship between classroom teachers' beliefs about creativity in dance and their ratings of student creative-dance products. The literature provides sufficient evidence that accuracy or inaccuracy of teachers' assessments of creativity is related to their implicit theories of creativity. Most creativity researchers hold with the consensual definition of creativity that a product or response is creative to the extent that appropriate observers independently agree that it is creative (Amabile, 1996). Studies found mixed results, however, when questioning the reliability of experts and nonexperts to evaluate creativity. Although CAT has not been used to rate creativity in dance, studies evaluating creativity in students' music compositions have relevance for the current study. Similar to dance, in the domain of music, judges are rating both composition and performance. Studies comparing groups of judges of students' musical compositions conclude that music teachers are the most reliable raters. The current

study examined the extent to which classroom teachers and dance experts agree in their ratings of creative-dance products.

Classroom teachers' beliefs about creativity in dance, how classroom teachers' rated children's creative-dance products, and the relationship between their creativity beliefs and ratings were investigated in the current study. It is necessary to understand the beliefs or perceptions about creativity classroom teachers hold in order to identify misperceptions and address them in future teacher education and professional-development programs.

CHAPTER III
METHODOLOGY

This study had multiple-related purposes toward understanding how classroom teachers perceive and recognize creativity in dance. The first and second purposes were to investigate classroom teachers' beliefs about creativity in dance and the relationship between teachers' beliefs about creativity in dance and their ratings of student creative-dance products. The third purpose was to examine the extent to which classroom teachers and dance experts agree when rating creative-dance products. Chapter III consists of the research design, qualifications of the researcher, a description of the study population, a discussion of the protection of human subjects, instrumentation, procedures, and data analyses. The chapter also includes a description of the pilot studies that investigated the internal consistency of the instrument.

Research Design

The research questions were addressed using a descriptive, comparison, and correlational research design (Creswell, 2015) employing a researcher-designed questionnaire to assess teachers' beliefs about creativity and a researcher-designed instrument to identify the extent to which classroom teachers recognize and rate student creativity in dance. These questions directed the research: (a) what are classroom teachers' beliefs about creativity in dance?, (b) to what extent do classroom teachers agree in their creativity ratings of student dance products, and to what extent do classroom teacher ratings agree with the creativity ratings of dance experts?, and (c) to what extent do classroom teachers' creativity ratings of students' dance products relate to their beliefs about creativity in dance? In addition to rating creativity, participants rated the students' creative-dance

products for technique and aesthetics per the Consensual Assessment Technique (CAT) rules that seek to distinguish the dimensions of creativity, technique, and aesthetics.

Classroom teachers' responses to a 14-item researcher-developed Creativity Beliefs Questionnaire addressed the first research question. The dependent variable used in addressing the first part of research question two was classroom teachers' ratings of student creativity in dance. Assessing the interrater reliabilities of the classroom teachers' ratings and comparing their ratings with the ratings by dance experts addressed the second part of question two. Identifying any relationships between the classroom-teacher responses on the Creativity Belief Questionnaire and their ratings of creativity of student dance compositions addressed question three.

Demographic information was collected electronically from all participants, including characteristics such as teaching experience, dance experience, and teaching setting. These variables were analyzed as possible explanations for variation in teachers' responses. Gender and student socioeconomic (SES) data were collected for comparing the sample with the larger population of California teachers.

Qualifications of the Researcher

The researcher, Patricia Reedy, is the Director of Teaching and Learning at Luna Dance Institute located in Berkeley, California. Since 1994, she has designed, implemented, and evaluated the professional-development programs for classroom teachers and dance educators offered by Luna Dance Institute. Reedy taught dance pedagogy at Mills College for 7 years and has taught dance-pedagogy workshops and courses in New York (Dance Education Lab at the 92nd Street Y), Minneapolis (Perpich Center for the Arts), Los Angeles (Los Angeles Unified School District), and across California through the California County

Superintendents' Educational Association (CCSESA) arts initiative. She also presents her work at the annual conferences of the National Dance Education Organization, California Dance Education Association, and the National Guild for Community Arts Education. With co-researchers, Nancy Ng and Edward C. Warburton, she published Engaging families in dance: An investigation of MPACT (Moving Parents and Children Together) in the *International Journal of Education and the Arts* (2014). Reedy serves on the editorial board of *Dance Education in Practice*, writes semi-annual dance education articles for *In Dance*, and authored two curriculum guides for teachers. Before her work at Luna Dance Institute, Reedy was an active choreographer, performer, and dance teacher, including 5 years at the University of California at Berkeley. Reedy holds a Master of Arts degree in Education from Mills College.

Participants

There were two types of participants in this study: classroom teachers and dance experts. Purposeful sampling was used to identify classroom teachers working in California public-elementary schools where students receive some amount of dance instruction. Participants were solicited using a snowball-sampling approach through researcher's contacts at Berkeley Unified School District, Los Angeles Unified School District, and Oakland Unified School District. Additionally, classroom teachers and dance teachers who have studied at Luna Dance Institute were asked to solicit participation from classroom teachers working in the schools where they teach. For this study, participants included classroom teachers at all levels of certification, as well as specialists in the arts or physical education. The demographics of the sample, as shown in Table 1, represent recruitment efforts from Northern to Southern California urban centers.

Table 1

Demographic Characteristics of Classroom-Teacher and Dance-Expert Participants (N = 109)

	Classroom teachers (n = 74)		Dance Experts (n = 35)	
Variable	*f*	%	*f*	%
Where teach				
Public elementary	53	72	14	40
Public K-8	10	14	6	17
Private elementary	7	9	2	6
Other	4	5	13	37
Grade teach				
Kindergarten	13	17	0	0
First	10	14	0	0
Second	6	8	0	0
Third	8	11	1	3
Fourth	5	7	0	0
Fifth	6	8	0	0
Seventh or Eighth	2	3	1	3
Mixed	24	32	32	91
Other (retired)	0	0	1	3
SES percent reduced lunch				
<5%	12	16	9	26
5-20%	9	12	1	3
21-50%	8	11	9	26
51-75%	11	15	5	14
>75%	34	46	11	31
Credential held				
CA multiple subject	54	73	3	9
CA physical education	1	1	5	14
CA special education	1	1	0	0
CA arts or music	5	7	2	6
More than one	6	8	4	11
Other	7	10	21	60
Years of teaching experience				
<5	9	12	0	0
5-10	14	19	6	17
11-20	26	35	14	40
21-30	16	22	9	26
>30	9	12	6	17
Gender[a]				
Female	68	91	33	94
Male	6	8	0	0
Fluid or other	1	1	2	6

[a]n = 75 gender responses

The demographic data for the 74 participating classroom teachers is provided in Table 1 except for gender where there are 75 responses. During the data-collection process, there were inconsistencies in participants' completion of the different sections of the instrument. A total of 76 classroom teachers responded to the Creativity Beliefs Questionnaire, but two did not complete the demographic section, except one person who provided gender information. Further discrepancies are shown in the results chapter as participants varied in how many video ratings they completed, ranging from 72 to 75 ratings.

Data collected from the classroom-teacher participants were compared with the dance-expert group for the second research question. The dance-expert group consisted of 35 California dance teachers. For this study, dance experts were defined as having a minimum of 5 years' dance-teaching experience, extensive dance study, and experience as a choreographer or performer. All participants in the dance-expert group are known by the researcher and were recruited personally.

The classroom teachers taught various grade levels, primarily in public elementary schools with 75% or more students considered at low-socioeconomic levels defined as qualifying for free-or-reduced lunches. The majority of classroom teachers held a California multiple-subject teaching credential, and the seven who responded "other" were student teaching or retired credentialed public-school teachers. Teaching experience for the classroom teacher group ranged from one year to 45 years, with a mean length of teaching at 17.45 years (SD = 10.74).

Data describing classroom teachers' experience with dance and how dance is offered at their schools are provided in Table 2. Although not meeting the criteria of dance experts, a large number of classroom teachers enjoyed dance as a hobby (64%). Although only 3% of

participating teachers' schools offered zero dance, the majority of schools' dance activities selected were affirmative responses to occasional dance party, assembly, or field trip (44%), rather than dance offered as part of a regular program.

Table 2

Participants' Experience with Dance and Dance Offered in Participants' Schools (N = 109)

	Classroom teachers (n = 74)				Dance Experts (n = 35)			
	Yes		No		Yes		No	
Dance Occurrence	*f*	%	*f*	%	*f*	%	*f*	%
Experience with dance								
Enjoy it as a hobby	47	64	27	36	22	63	13	37
Studied dance extensively	15	20	59	80	33	94	2	6
Choreograph or perform	7	9	67	91	25	71	10	29
Professional development	24	32	50	68	34	97	1	3
Teach dance to my students	25	34	49	66	29	83	6	17
Use NCAS in teaching	6	8	68	92	23	66	12	34
No experience	11	15	63	85	0	0	0	0
How dance offered in school								
Taught by specialist weekly	28	37	47	63	22	63	13	37
In physical education	9	12	66	88	6	17	29	83
Teaching artist residencies	11	15	64	85	10	29	25	71
Afterschool program	22	29	53	71	15	43	20	57
Dance club	2	3	73	97	7	20	28	80
Integrated by other than me	10	13	65	87	5	14	30	86
Integrated by me	18	24	57	76	5	14	30	86
Occasional dance party, assembly	33	44	42	56	7	20	28	80
Other	3	4	72	96	4	11	31	89
Not offered in any way	2	3	73	97	3	9	32	91

Participants could select more than one response for each item
NCAS = National Core Arts Standards

In contrast, the dance experts taught equally in public elementary schools and "other" locations (often identified as studios or community settings), with student socioeconomic levels equally distributed into less than 5%, 21 to 50%, and over 75% eligibility for free-and-reduced lunch. The grades taught begin in third grade, with most dance experts teaching a mixed range of ages. Dance experts were defined by teaching for a minimum of 5 years, so the range for this group is 5 to 45 years teaching experience with a mean of 20.83 years (*SD*

= 9.86). Not surprisingly, 100% of dance experts had dance experience, as shown in Table 2. Dance was offered by specialists weekly and in afterschool programs most frequently.

Both groups were predominately female in self-identified gender responses. The classroom-teacher group had 8% male respondents, whereas the dance-expert group had zero identified males. The gender identification is consistent with the demographics found in the field of dance, generally, as well as in California public schools, where 73% of all teachers are female (California Department of Education, 2019b).

Protection of Human Subjects

The researcher adhered to the Ethical Principles of Psychologists and Code of Conduct as defined by the American Psychological Association (2012), including beneficence and nonmaleficence, fidelity, integrity, justice, and respect for people's rights and dignity. The proposal was approved as exempt by the Institutional Review Board at the University of San Francisco on July 2, 2019.

Written consent was obtained for voluntary participation of the classroom teachers and the dance experts in all phases of the study. Consent was obtained for the students viewed in the video recordings in three ways: (a) parental consent to videotape students' creative works was given in writing to Luna Dance Institute at the time students enrolled in the program, (b) Luna Dance Institute provided consent to use and edit the videotapes for use in the current research study, and (c) parents of students represented in the video samples signed written consent forms granting permission to use images of their children for the purposes described in this research study. The parental consent form, shown in Appendix A, includes promises to protect the confidentiality of participants and maintain the anonymity of

students, including no use of student name, age, class peers, teacher, or other identifying characteristics.

A research assistant assigned confidential numeric codes to each participant to secure the anonymity of the individuals for the pilot studies and the final study. In the pilot studies, the assistant transmitted and collected questionnaires and rating sheets to assure that any identifying information, such as email addresses, remained unknown to the researcher. Participants received video samples in unique albums on the researcher's Vimeo account. Vimeo is an online video-sharing website with advanced privacy controls and customization that was used in this project to ensure the confidentiality and security of the data.

For the final study, the Creativity Beliefs Questionnaire, the nine video samples, and the demographic questionnaire were combined into one electronic instrument using Apollo technology. Upon receiving consent, the research assistant assigned participants a unique user-identification number (UID) and sent a link so that the instrument (with individualized random-ordered videos) could be accessed anonymously. The researcher was able to access the responses of the participants identified only by UID. The research assistant maintained the records matching the UID to participant name and email address solely to request missing data and to thank participants for participating. Once all participants were thanked, the research assistant deleted all identifying correspondence from her email account and destroyed any spreadsheets that held identifying information. Similarly, the Apollo program deleted all data at the beginning of September 2020.

Instrumentation

A researcher-designed electronic instrument, the Teacher Perceptions of Creativity in Dance Instrument (TPCDI), was used in this study. The three-part TPCDI consisted of a

researcher-developed Creativity Beliefs Questionnaire, a rating section of nine videos of students' dance products, and a demographic questionnaire.

Creativity Beliefs Questionnaire

A researcher-constructed questionnaire was used to measure classroom teachers' beliefs about creativity in the first section. The questionnaire was finalized after an expert review and pilot study investigated its internal consistency. Initially, the Creativity Beliefs Questionnaire was comprised of 34 items using a 5-point Likert-type scale with statements about creativity in general and similar statements about creativity in dance. The 34 items were statements adapted from the literature about teachers' views of creativity, as described below. After review by three content experts at Luna Dance Institute, one item was removed, another item reworded, and the nondance statements were eliminated, resulting in a revised Creativity Beliefs Questionnaire of 23 items that were piloted by 33 classroom teachers during July and August 2019.

The revised Creativity Beliefs Questionnaire consisted of 23 statements about the societal value of creativity and the extent of creativity in dance. The extent of creativity refers to the democratic view or the belief that all people can be creative versus the belief that creativity is an exceptional or rare trait, as well as beliefs about whether creativity can be learned. The statements used in the questionnaire are consistent with themes found in the literature (Andilou & Murphy, 2010; Bereczi & Kápáti, 2018; Chappell, 2007; Fryer & Collings, 1991; Mullet, Willerson, Lamb, & Kettler, 2016; Rubenstein, Ridgley, Callan, Karami, & Ehlinger, 2018). The statement items in the Creativity Beliefs Questionnaire are adapted from other studies as follows: (a) five items from the Rubenstein, McCoach, and Siegle (2013) creativity subscales (reliability .81 to .90 Cronbach alpha) and modified for

dance (items 1, 2, 12, 15, 19) and (b) seven items were adapted for dance from the Fryer and Collings' (1991) instrument (items 1, 2, 10, 12, 13, 19, 22). Statements specific to creativity in dance emerged from Connell's (2009) survey of 335 teachers responsible for teaching dance in Yorkshire, England with Cronbach coefficient alpha of .46 (items 3, 5, 6, 7, 8, 16, 17). Items associated with noncreative aspects of dance such as body coordination and rhythm (items 6, 17) or with the creative process such as improvisation and perseverance (items 11, 20, 23) were a composite of findings adapted from other studies (Chappell, 2007; Cuellar-Moreno, 2016; Oreck, Owen, & Baum, 2003). Item 14 derived from Amabile's (1996) research distinguishing creativity from technical skill. The remaining four items (4, 9, 18, 20) derive from the literature on teachers' misperceptions of dance and creativity that suggest teachers do not encourage creativity because they believe too much freedom distracts from more important learning goals (Andiliou & Murphy, 2010; Bereczi & Kápáti, 2018; Rubenstein et al., 2018). Teachers responded to the statements on a scale of 1 (*strongly agree*), 2 (*agree*), 3 (*neither agree nor disagree*), 4 *(disagree*), and 5 (*strongly disagree*). Item 24 was an open-response item where participants defined creativity in dance using their own words. All versions of the Creativity Beliefs Questionnaire are found in Appendix B.

There were two pilot studies conducted to develop the Creativity Beliefs Questionnaire and the CAT rating instrument. Classroom teachers and dance experts were the subjects for both pilots and final research study, as shown in Table 3.

After analyzing the results of the pilot study, nine items with the lowest correlations were removed, resulting in the reliability of .72 Cronbach alpha for the remaining 14 items, as shown in Table 4. According to Thorndike (2005), items with higher correlations are better and increase the reliability of the overall instrument. Examining the deleted items from

Table 3

Sample, Sample Sizes, and Variables in the Research Design for Each Study

Study	Sample	*n*	Instrument description
Pilot #1	Dance experts	30	Creativity ratings, 24 videos
Pilot #1	Dance experts	30	Technique ratings, 24 videos
Pilot #1	Dance experts	30	Aesthetic ratings, 24 videos
Pilot #2	Classroom teachers	33	Creativity Beliefs Questionnaire, 24 items
Final	Classroom teachers	76	Creativity Beliefs Questionnaire, 15 items
Final	Classroom teachers	75	Creativity ratings, nine videos (high, medium, low)
Final	Classroom teachers	75	Technique ratings, nine videos (high, medium, low)
Final	Classroom teachers	75	Aesthetic ratings, nine videos (high, medium, low)
Final	Classroom teachers	74	Demographic characteristics: teaching experience and setting, dance experience

Note: One classroom teacher completed the Creativity Beliefs Questionnaire portion only. Each video rating was completed by 72 to 75 classroom teachers.

the perspective of the theoretical construct of creativity in dance revealed a certain logic about the excluded items. The items that were deleted veered somewhat from the creativity question such as, *Dance technique is vital in schools*, or "*When acting silly, students are not showing their creativity*." One item, Q22, also had a low negative corrected item-total correlation; however, it is about predictability or surprise, which is at the center of the standard definition of creativity as novel (Runco & Jaeger, 2012). The item was kept in the analysis and reworded for the final study from *If a students' dance is predictable, it is creative* to *A students' dance is creative if it has elements of surprise*.

Seven items had correlations with the total score above .40. Four of the items with the highest correlation with the total score (Q1R, Q2R, Q12, Q15) were related directly to the democratic view of creativity. Items Q8 and Q11, with correlations of .45, concern the societal value of creativity in dance, and the final higher-correlated item Q13 *Children who are creative in dance are creative in other subjects* is an oddity in this subgroup of items as

participant opinions on creativity as domain specific is the focus of the item. When reversed, as it was in the questionnaire, item Q13R *Children who are creative in dance are creative in other subjects* had a negative correlation, but when entered as Q13 without the reversal, a moderate correlation of .42 was found. The item is analyzed without the reversal in the final study and is further discussed in chapter V.

Table 4

Reliability Statistics of Creativity Beliefs Questionnaire Items (*n* = 33)

Item	Corrected Item-Total Correlation	Cronbach Alpha if Item Deleted
Q1R	.45	.70
Q2R	.49	.69
Q3	.31	.71
Q4R	.29	.71
Q8	.45	.69
Q9R	.26	.71
Q10	.31	.71
Q11	.45	.69
Q12	.60	.68
Q13	.42	.69
Q14R	.39	.70
Q15	.57	.69
Q21R	.35	.70
Q22R	-.21	.77

The final Creativity Beliefs Questionnaire consisted of the 14 statement items shown in Appendix B. Seven of the items were worded negatively and the ratings were reversed for the analyses. The reliability statistic for the classroom teacher responses to the final Creativity Belief Questionnaire is .75 based on Cronbach alpha.

In addition to the 14-statements, the Creativity Beliefs Questionnaire included one open-response item, *In your own words, please give your definition of creativity in dance or list words that you associate with creativity in dance*. The electronic instrument allowed 200 characters for a participant's response.

Rating student dance products

The second part of the TPCDI involved California classroom teachers rating the creativity of children's dance compositions using the Consensual Assessment Technique (CAT). A subjective rating procedure developed by Amabile (1982), CAT is based upon an operational definition of creativity that "a product or response is creative as to the extent that appropriate observers independently agree that it is creative" (Hennessey, Amabile, & Mueller, 2011, p. 255). CAT assumes that raters with experience in a domain use implicit definitions of creativity when employing CAT and such definitions align with the standard definition of creative products or responses having the characteristics of novelty and appropriateness to a particular task (Hennessey, 1994; Kaufman, Baer, & Cole, 2009; Runco & Jaeger, 2012). Groups of nonarts teachers, however, have difficulty defining creativity using both novelty and appropriateness and often have inaccurate and widely varying perceptions of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Gralewsi & Karwowski, 2013, 2016; Myhill & Wilson, 2013). The second research question investigated to what extent classroom teachers agree in their creativity ratings of student dance products and to what extent do classroom teachers' ratings agree with the creativity ratings of dance experts.

Although CAT has been used reliably to measure creativity in the artistic works of children and adults since 1982, it has never been tested with dance. The pilot study used to develop the research instrument is the first known application of CAT to dance and, after

estimating a high level of interrater reliability using Cronbach coefficient at .94, the results established the nine video clips used in the final rating portion of the instrument.

The nine videos were selected from the 24 video clips rated as high (mean ratings 5.80, 5.33, and 5.07), medium (mean ratings 4.33, 4.27, and 4.20), or low (mean ratings 3.17, 3.13, and 2.47) by 30 dance experts during the first pilot study. The word expert is used in this instance to differentiate dance teachers with more than 5 years of professional experience as performers, choreographers, and dance teachers from the larger study sample of classroom teachers that included a small proportion of individuals with dance experience.

The original 24 videos were short solo-dance studies composed and performed by students ages 10 to 15 as part of their regular afterschool dance program at Luna Dance Institute between 2009 and 2018. The video recordings were collected by Luna Dance Institute faculty during 2009-2018 with written parental permission. The researcher and a research assistant initially selected 25 videos from a more extensive collection because they were discrete dances performed by one student for a minimum of 45 seconds in length, yet no more than 90 seconds. A preliminary assessment of creativity by researcher and assistant was performed to assure that the video samples represented a full range of creativity that could be assessed as 1 (*low*) to 6 (*high*). In addition to being a choreographer and teacher, the research assistant is a video editor, so she transformed each clip into a consistent viewing format. All audio was removed from the video samples so that musical preferences would not confound judgments of the dance compositions. The videos had no identification information about the children.

Although the original CAT procedure involved products created under strict experimental conditions responding to the same task, researchers have found CAT to be an

accurate assessment of nonparallel creative works produced in nonexperimental conditions (Baer, Kaufman, & Gentile, 2004). The rationale for using videotapes of creative tasks composed over time with various prompts in real-life teaching circumstances was justified based on Baer, Kaufman, and Gentile's studies using eighth-grade writing samples collected by the National Assessment of Educational Progress.

The 24 videotape samples used in the pilot study were encrypted and sent in a platform (Vimeo) that prohibited downloading, copying, or editing the content to maintain the confidentiality of the children. Vimeo is an online video-sharing website with advanced privacy controls and customization used in this project to assure the confidentiality and security of data. To avoid any association between an individual rater and his or her ratings, a third party assigned identification numbers, distributed and collected the consent forms, and tracked the distribution and receipt of rating materials. Two employees of Luna Dance Institute sampled the assessment to confirm the length of time needed to rate 24 video clips and to identify any potential glitches in the process. Their feedback led to clarifications in the rater instructions.

Using Excel's KuTool’s random sort feature, 30 individualized albums were created with the 24 video clips in different random orders and assigned an individual rater identification number. Corresponding rating sheets were distributed by email. Each pilot participant received a cover letter informing them what to expect; a link to their unique, customized video album; an attached unique rating form that matched the album; and rating instructions. They were requested to read the instructions and ask any questions before starting the ratings. Email request, expert consent, procedure information, rating instructions, and sample rating sheets are found in Appendices C to E.

Following CAT guidelines, dance-expert judges were instructed to rate the products relative to one another, rather than to an exemplar and view the products in random order (Amabile, 1996; Hennessey et al., 2011). Judges were instructed to rate using the full scale of 1 (*low*) to 6 (*high*) when rating the 24 videos for dimensions of creativity, technique, and aesthetics.

Thirty of 31 sets of rating sheets were returned within 10 days of receipt, and after requesting corrections for missing or duplicate items, the data were entered into SPSS for analysis. The mean ratings for creativity ranged from 2.47 (*SD* = 1.11) for video #1825 to 5.80 (*SD* = 0.61) for video #1802 that had the lowest standard deviation overall. Technique mean ranged from 2.30 (*SD* = 1.02) for video #1825 to 5.23 (*SD* = 0.94) for videos #1802 and #1822. Aesthetics mean ratings included one missing datum for #1808 and ranged from 2.25 (*SD* = 1.25) for video #1825 to 5.67 (*SD* = 0.71) for video #1822. The frequencies, total, means, and standard deviations for each video are shown in Appendix F. Cronbach coefficient alpha was used to estimate the reliability of raters in the creativity dimension, revealing relatively high agreement at .88 for creativity with a mean creativity rating 4.23 (*SD* = .57). The reliability estimate was consistent with CAT reliability coefficients measuring creativity in the domains of visual art, creative writing, idea generation, and music improvisation and composition. Interjudge reliabilities have been established with groups of artists, teachers, psychologists, and students as judges, ranging from .73 to .93 (Amabile, 1996; Baer & McKool, 2009; Hennessy, 1994; Hickey, 2001; Priest, 2006; Stefanic & Randles, 2015).

The ratings of the 24 videos indicated distinct high, medium, and low levels of creativity. The three videos with the highest mean ratings (#1802, #1822, and #1801) and the

lowest mean ratings (#1823, #1824, #1825) were selected for the more extensive study. To represent the medium creativity level, videos with mean creativity ratings of 4.20 (#1821), 4.27 (#1819), and 4.33 (#1816) were selected because they were closest to the mean rating (4.23) of all video samples. Comparing the ratings of the dance-expert group with a larger sample of California classroom teachers addressed the second research question. These nine videos were renumbered and sent to a professional coder who developed an electronic instrument that included the Creativity Beliefs Questionnaire in the first section and allowed the nine videos to be viewed in random order by up to 300 participants in the second section.

Two open-response questions were asked at the end of the rating procedure: (a) *Recalling your observation of a student's dance that you rated high in creativity, how did you experience or sense it physically?* and (b) *Recalling a time you participated in dance yourself, how did you experience it or sense it physically?* These two questions gathered qualitative data supported by the embodiment literature that suggests viewers of dance experience something in their own bodies when observing the dancing of others (Press & Warburton, 2007).

Demographic questionnaire

The third section of the TPCDI was a demographic questionnaire to gather information about teacher characteristics such as teaching experience and prior dance experience. Prior dance experience includes (a) enjoy dance as a hobby, (b) studied dance extensively, (c) participation in dance choreography or performing, (d) professional development in dance, (e) teaching dance, and (f) experience with the processes of the National Core Arts Standards (2014). Participants were asked about the extent of dance offered in their schools ranging from not offered in any way to taught weekly by a dance

specialist. The full range of possible choices is listed in Table 2 on page 83. The questionnaire also included information about teaching setting, grades taught, credentials held, years of teaching experience, gender, and student socioeconomic status, as shown in Table 1 on page 81.

Pilot studies

Two pilot studies were implemented to create the TPCDI for this research. The first pilot study investigated the extent to which a panel of dance experts agreed on judgments of creativity in nongifted students' original dance compositions using CAT, and the second pilot investigated the internal consistency of the Creativity Beliefs Questionnaire. Cronbach coefficient alpha was used to estimate interrater reliabilities of CAT ratings in the first pilot and for internal consistency of the Creativity Beliefs Questionnaire, as indicated in Table 5.

Table 5

Cronbach Coefficient Alpha Used for Interrater Reliabilities and for Internal Consistency Reliabilities of Creativity Beliefs Questionnaire Obtained During Pilot Studies

	Interrater Reliabilities			Internal
	Creativity	Technique	Aesthetics	Consistency
Pilot #1 CAT	.88	.90	.85	
Pilot #2 original 23 items				.68
Pilot #2 revised 14 items				.72

Pilot study #1

Thirty dance experts participated as judges (also referred to as raters) to evaluate 24 video clips of children's dance compositions on three dimensions: creativity, technique, and aesthetics using CAT. This study used a purposeful sampling of both dance makers and dance experts. Because CAT had not been used in the domain of dance, the pilot study also investigated the extent that CAT is a reliable measure of creativity of children's dance products.

Judges were selected on a first-come, first-served basis of responses to an electronic outreach of California dance educators who have participated in Luna Dance Institute's professional-development programs or were members of the California Dance Education Association, a 41-year-old dance-educator advocacy organization. The criteria for inclusion were a minimum of 5 years teaching dance in California, professional experience as a choreographer or performer, willingness to invest an hour of their time to the study, ability to participate promptly, and diversity in race, ethnicity, age, and other factors.

Thirty-five eligible participants responded affirmatively to the request within a matter of days. Ultimately 31 returned consent forms and were sent a cover letter informing them what to expect; a link to their unique, random-ordered video album encrypted and uploaded on Vimeo; a pdf attachment of a unique rating form that matched the album; and rating instructions. They were requested to read the instructions and ask any questions before starting the ratings. Email request, expert consent, procedure information, rating instructions, and sample rating sheets are found in Appendices C to E.

The following definitions were the only criteria provided to the raters:

1. Creativity: A product or response will be judged as creative to the extent that it is novel and an appropriate, useful, correct, or valuable response to the task at hand (Amabile, 1996; Baer, 2016; Hennessey et al., 2011; Runco & Jaeger, 2012).

2. Technique: The extent to which the dance is performed using technical skills as understood by the rater to be appropriate for dance, including physical control, coordination, and agility (Oreck et al., 2003).

3. Aesthetics: The extent to which the rater likes or enjoys the dance.

Thirty of the 31 sets of rating sheets were returned within 10 days, resulting in an 86% response rate. In three cases, raters omitted or selected the same item twice, and the research assistant requested corrections before turning over the rating sheets to the researcher for analysis. Each rater was identified by a number only. After several attempts at collecting data from the 31st rater (#1118-P), data from the 30 completed rating sheets were entered into SPSS for analysis. The final list of 76 variables included rater's age, number of years choreography or performance experience, number of years teaching experience, age of students taught, ratings of creativity on 24 videos on a scale 1 (*low*) to 6 (*high*), ratings of technique on 24 videos on a scale 1 (*low*) to 6 (*high*), and ratings of aesthetics on 24 videos on a scale 1 (*low*) to 6 (*high*). There was only one missing datum, an aesthetic rating for video #1808.

Rating all 24 video clips took 50 to 75 minutes during November 2018. Raters received a choice of $25 gift card, professional consultation, or a dance curriculum book written by the researcher in exchange for their participation in the study.

Cronbach coefficient alpha was used to estimate the reliability of raters in the creativity dimension with high agreement at .88 for creativity with a mean creativity rating 4.23 (*SD* = .57). The ratings of videos by experts established distinct high, medium, and low levels of creativity. The three videos with the highest mean ratings were #1802 (5.80, *SD* = .61), #1822 (5.33, *SD* = .92), and #1801 (5.07, *SD* = 1.08). The three with the lowest ratings were #1823 (3.13, *SD* = 1.2), #1824 (3.17, *SD* = .83), and #1825 (2.47, *SD* = 1.11). To represent the medium creativity level, videos with mean creativity ratings closest to the mean rating of all video samples were selected: #1821 (4.20, *SD* = 1.10), #1819 (4.27, *SD* = 1.23), and #1816 (4.33, *SD* = 1.32).

According to CAT guidelines, study participants were asked to rate for technique and aesthetics to distinguish creativity from other observations of performance. Interrater reliability using Cronbach coefficient alpha for these two other dimensions of dance also was high: .90 for technique and .85 for aesthetics. The mean ratings for technique ranged from 2.30 (*SD* = 1.02) for video #1825 to 5.23 (*SD* = 0.94) for videos #1802 and #1822. Aesthetics mean ratings included one missing datum for #1808 and ranged from 2.25 (*SD* = 1.25) for video #1825 to 5.67 (*SD* = 0.71) for video #1822. The frequencies, total, means, and standard deviations for each video are shown in Appendix F. The mean ratings for these two dimensions were lower than those for creativity at 3.65 (*SD* = 0.62) for technique and 3.91 (*SD* = 0.57) for aesthetics. Ratings of creativity correlated moderately with ratings of technique (.52) and correlated stronger with ratings of aesthetics (.74). The moderately high correlation of creativity ratings with aesthetic ratings suggests that the expert raters in this study tended to like dances they found creative.

Although raters in the pilot study were asked to distinguish the three dimensions of creativity, technique, and aesthetics when rating the videos, moderate to high levels of correlation between the dimensions were found. In a study of music compositions, Priest (2006) explained similar moderate correlations found between creativity and technique by the fact that judges actually are rating two creative products when listening to musical compositions: the composition and the performance. Stefanic and Randles (2015) also found similar correlations applying CAT to music compositions and reasoned that either the judges failed to discriminate between the dimensions of creativity, technique (referred to as craftsmanship in their study), or aesthetic appeal, or, that in the domain of music, compositions must be made well and aesthetically pleasing to be considered creative. They

concluded from their findings that in music performance, the three dimensions might tap into the different components of the standard definition of creativity as novel and appropriate. “The creativity dimension might represent the judges’ perceptions of novelty, but the craftsmanship and aesthetic appeal dimensions represent the judges’ perceptions of appropriateness” (p. 292).

The creative products rated in the pilot study were comprised of dance composition and dance performance. The dance experts' implicit criteria for creativity might have included dimensions of technical ability perceived in the students' performance; however, their comments during a follow-up interview suggested otherwise. When asked to describe what they saw in the videos that caused them to give a high rating for creativity, the dance experts used words related to novelty such as surprise, variety, and invention; however, they also remarked on the dance's use of rhythm or space that related to the appropriateness to the task. There is more to understand about the relationship between the creativity and technique dimensions in the domain of dance, as discussed in chapter V.

The results of the pilot study found dance experts were consistent in their ratings of students’ dance products using the CAT procedure. The results also distinguished high, medium, and low levels of creativity that led to the selection of the nine videos for the final study: high level (#1802, #1822, and #1801), medium level (#1816, #1819, and #1821), and low level (#1823, #1824, and #1825).

Pilot study #2

To investigate the internal consistency of the Creativity Beliefs Questionnaire, 33 participating California teachers responded to 23 statements about the societal value of creativity and the extent of creativity in dance and one open-ended question about their

personal definition of creativity in dance. Participants also were asked demographic information about where and whom they teach, their experience with dance, and their gender. The final instrument, shown in Appendix G, was piloted during July and August 2019.

After receiving IRB approval, classroom teacher participants were recruited from the Luna Dance Institute database of teachers who have taken professional development in the past and their colleagues. After returning a signed consent form by email, 47 classroom teachers were sent the questionnaire in a Microsoft Word document and asked to return within 3 weeks. To avoid any association between an individual and his or her responses, a third party assigned identification numbers, distributed and collected the consent forms, and tracked the distribution and receipt of questionnaires. Thirty-three completed questionnaires were returned by September 6, 2019, representing a 70% return rate.

The responses were entered into SPSS with the 13 negatively worded items reversed and analyzed with a resulting reliability statistic of .68 Cronbach alpha for all 23 items. After deleting nine items with the lowest correlations (Q5, Q6, Q7, Q16, Q17, Q18, Q19, Q20, Q23), the remaining 14 items had a reliability of .72 Cronbach alpha. The 14 remaining items were arranged in a new order and sent to a survey developer for inclusion in an electronic instrument for the final study.

Procedures

The procedures described in this section were informed by the pilot studies administered between November 2018 and September 2019 described above and the rules of CAT. The procedures section includes descriptions of the data collection and preparation of the data for analyses.

To investigate the research questions, two instruments were designed and piloted and eventually combined with the demographic questionnaire into the TPCDI. The Creativity Beliefs Questionnaire was designed and piloted, as described above. Preparation for the video-rating section of the instrument was extensive and is described in detail in Pilot #1 above. To meet the criteria of CAT, the researcher selected a video sample that would eliminate as many potentially confounding variables as possible.

Informed by the pilot results, including feedback from the pilot participants on the cumbersome nature of responding on paper, the researcher hired Ionic Development to design an electronic instrument using Apollo technology. The resulting TPCDI was comprised of three sections: (a) a Creativity Beliefs Questionnaire of 14 Likert-type items followed by an open-response question asking participants to define creativity; (b) the Video Rating section of nine videos with rating scales of creativity, technique, and aesthetics, followed by two open-response embodiment questions; and (c) a demographic questionnaire of six general questions, followed by 16 choices in response to teachers' experience with dance or how dance is experienced at the schools they teach. The customized instrument allowed participants easily to access their unique questionnaire with randomly-ordered video clips per CAT guidelines. The electronic TPCDI was designed for readability and to assure that participants easily could click their answers to respond and that they could pause and return as needed. Three people tried out the electronic instrument: a colleague from the University of San Francisco Learning and Instruction department, a friend of the instrument developer, and the research assistant. Their feedback confirmed the clarity of the instructions and estimated the instrument completion time of 15 to 20 minutes.

Recruitment

Using snowball-sampling recruitment, classroom teachers were solicited beginning September 2019 through January 2020 based on the following criteria: working in schools that have dance available in some capacity, teachers of kindergarten through fifth grade, and teachers who volunteer to participate. Approximately 200 education leaders from Northern and Southern California were asked to solicit colleagues from their schools, including dance teachers who have participated in Luna Dance Institute's summer intensives and retained a connection to the organization. These educators were asked to help with recruitment through an email request by the researcher in Fall 2019 that included a plea for help, a brief description of the study, a deadline for completion, and how participants could respond on time. A copy of the request to participate letter and participant consent form, as shown in Appendix H, was attached to the email so that recruiters could solicit electronically. The solicitation occurred in person, by telephone, and by electronic correspondence. Classroom teachers agreed to participate by reading the consent form and acknowledging their consent electronically to the research assistant.

The total number of classroom teachers approached is unknown; however, 90 acknowledged consent by returning signed consent forms or by writing an email to the research assistant that stated they read the consent form and agreed to participate. Ultimately, 76 participants completed some aspects of the instrument, representing an 83% response rate. Two classroom teachers completed the Creativity Beliefs Questionnaire section only, and others did not complete ratings of certain videos. Description of the sampling discrepancies is found on page 82. All data were included where feasible.

As the consent forms were returned, the research assistant designated an anonymous and unique identification code to each teacher and sent them a link to the Apollo instrument. The body of the email included a cover letter instructing participants on how to participate. Copies of the items of the final instrument and email cover letter are shown in Appendix I. Reminders to complete the instrument were sent in January 2020. A wave analysis examining potential differences in the groups who responded with and without a reminder is described in chapter IV.

Data collection

The first section of the TPCDI was the Creativity Beliefs Questionnaire, consisting of 14 statements that participants indicated their level of agreement from 1 (*strongly agree*) to 5 (*strongly disagree*). The items addressed classroom teachers' beliefs about the value of creativity in dance and the extent to which all students can develop creativity in dance. An open-response question required participants to describe creativity in dance in their own words. The use of open-response definitions is common in the literature on teachers' beliefs about creativity (Aljughaiman & Mowrer-Reynolds, 2005; Fryer & Collings, 1991; Rubenstein et al., 2018; Runco & Johnson, 2002).

The second section of the TPCDI was the video-rating section using CAT. The consistent effectiveness of CAT relies on strict adherence to rules. Judges must be experienced in the domain, make independent evaluations, and receive no specific training. It was expected that experts have an implicit rationale for identifying products or ideas in their domain as creative, technically good, or aesthetically pleasing. Technically good and aesthetically pleasing dimensions in each domain are rated to make it possible to examine the degree of independence in the subjective judgments of creativity. Judges were instructed to

rate the products relative to one another, rather than to an exemplar and view the products in random order (Amabile, 1996; Hennessey et al., 2011).

Judges' responses were analyzed for interjudge reliability and to assess the degree of independence or discriminate validity between creativity and the other dimensions investigated. Given the consensual definition of creativity, reliability is a crucial factor and serves as construct validity. The operational definition of CAT stated, "a product or response is creative to the extent that appropriate observers independently agree it is creative" (Hennessey et al., 2011, p. 255). This definition does not require objective definitions of creativity, which can be ineffective; instead, it allows for creativity's subjective nature (Hennessey et al., 2011). CAT also assumes that a product is creative if it judged to be both novel and appropriate or useful for the task and that the task is heuristic rather than algorithmic (Amabile, 1996).

Consistent with methods used by Hennessey (2001), judges viewed video samples in random order. When each rater was emailed a link to a unique instrument, the nine video clips had been ordered randomly. They were allowed to view the videos as many times as they wished. Amabile's first study used a continuous scale that could be marked anywhere on the line based on the rater's own internal integer system. This continuous scale approach is more aligned with the implicit definitions of creativity that the instrument seeks to assess, but it might interfere with ease or create confounds when comparing data; therefore, for this study, raters were asked to rate the dimensions of each video clip on a scale of 1 (*least*) to 6 (*most*). Raters were expected to rate distinct dimensions of creativity, technique (defined as technical skill shown), and aesthetics (defined as how much the rater liked the dance). Examples of the instructions and rating form are found in Appendix I.

The third and final section of the TPCDI was a demographic questionnaire that contained questions about teaching experience, dance experience, and gender and is found in Appendix I. The participants selected one item from a pull-down menu of several choices on questions about where they teach (4 choices), the grade they teach (10 choices, including *mixed grades* and *retired*), the percentage of children eligible for free-or-reduced lunch at the schools they teach (5 choices), and their teaching position or credential (7 choices including *other* and *more than one*). For years taught, they entered a number into a text box. Gender identification offered six choices: *female, male, trans, fluid, refuse to state,* and *other*.

Preparing data for analyses

The categorical variables were recoded into dichotomous variables for the chi-square tests applied to two wave groups and for the stepwise multiple regression used to investigate potential relationships between teachers' characteristics and their ratings of creativity. The two dichotomous variables for each characteristic are as follows: (a) where taught is public elementary or other setting, (b) grade taught is single grades kindergarten through fifth grade or mixed grades, (c) percentage of students eligible for free-or-reduced lunch is greater than 50% or 50% or less, (d) credential or position is California multisubject or other credential, (e) years of teaching experience are more than 18 years or 18 or fewer years, and (f) gender is female or not female.

Dance experience consisted of two questions that allowed participants to select all that applied. The first question was about the classroom teachers' personal experiences with dance and included six statements, such as *enjoy dance as a hobby* or *teach dance to my students*. The second question was about how dance was offered at the participants' schools and included nine options ranging from *occasional dance party* to *weekly taught by a*

specialist. The number of responses for the dance variables were summed for the independent-samples *t* tests applied to the wave analysis and the stepwise multiple regression used to investigate potential explanations of variations in the classroom teachers' creativity ratings.

Data Analyses

The researcher accessed the data through password-protected administrative access to the Apollo Tools dashboard, unique to this project. The data were downloaded and entered into IBM SPSS Statistics 23 for analyses to address the three research questions that comprise this study: (a) what are classroom teachers' beliefs about creativity in dance?, (b) to what extent do classroom teachers agree in their creativity ratings of student dance products, and to what extent do classroom teacher ratings agree with the creativity ratings of dance experts?, and (c) to what extent do classroom teachers' creativity ratings of students' dance products relate to their beliefs about creativity in dance? In addition to rating creativity, participants also rated the students' dance products for technique and aesthetics per the CAT rules that seek to distinguish the dimensions of creativity, technique, and aesthetics. Teacher characteristics such as experience, setting, or involvement with dance were examined as possible explanations for variations in teachers' beliefs or ratings of student creativity in dance.

Because 20 individuals completed the instrument after receiving reminders in January 2020, an independent-samples *t* test was used to test for the equality of means between the 54 participants who responded within the initial deadline and the 20 who responded in the second wave on the sums of their Creativity Beliefs and their video Creativity Ratings. The overall error rate was controlled at the .05 level. Skewness and kurtosis were computed and

tested to address the assumptions of normal distribution, and the assumption of independence was addressed in the data-collection methods. Levene's test for equality of variances was applied to the two groups.

Independent-samples *t* tests were applied to the two wave response groups based on their dance experience and the total amount of dance offered in their schools. Participants could select more than one option in response to these items, so the responses were summed for the analyses. Chi-square tests were applied to the two respondent groups for the categorical variables of where they teach, the grade they teach, the socioeconomic status of their school, their teaching position or certification, the number of years of teaching, and their gender identification. The categorical variables were coded into dichotomous variables for the analyses, as described on page 105, and the overall error rate was controlled at the .05 level.

The first research question was answered with descriptive statistics of the frequency of responses to the Creativity Belief Questionnaire. Participants' responses ranged from 1 (*strongly agree*) to 5 (*strongly disagree*). Seven items were worded negatively; hence the associated ratings were reversed when entered into SPSS. In addition to answering the 14 Likert-type items in the Creativity Beliefs Questionnaire, participants were asked one open-ended question, *In your own words, please give your definition of creativity in dance or list words that you associate with creativity in dance.* Participant statements were read twice, coded, and categorized into themes and subthemes based on the creativity literature (Cropley, 2001; Guilford, 1968; Henriksen & Mishra, 2015; Runco & Jaeger, 2012; Saracho, 2012). After the themes were determined, the data were reviewed again to assign each response item to a distinct theme and subtheme (Creswell, 2014). A third party reviewed the themes and

subthemes. The initial agreement was 95% and after 100% consensus was achieved, the data were transformed from words to numbers to indicate the frequency of occurrence.

The second research question is in two parts. The first part was answered with descriptive statistics of the frequency of rating responses to the nine videos of the students' dance products. Interrater reliability was estimated on the classroom teachers' ratings of student-dance-product creativity using the intraclass correlation coefficient. Two-group comparisons between the classroom-teacher rating responses and the rating responses of dance experts addressed the second part of research question two. Creativity ratings were summed and compared using the independent-samples *t* test based on total ratings. The overall error rate was controlled at the .05 level. The assumption of normal distribution was addressed by applying the Central Limit Theorem, the assumption of independence was addressed with the data-collection methods, and Levene's test was applied to test for equality of variances. The same analyses were applied to classroom-teacher ratings of technique and aesthetics. The intraclass correlation coefficient was used to estimate interrater reliability on the classroom teachers' ratings and the dance experts' ratings of creativity, technique, and aesthetics. The Pearson product-moment correlation coefficient was used to investigate the relationship between the three dimensions of creativity, technique, and aesthetics for the classroom-teacher group and the dance-expert group, as well as the groups combined.

A correlational analysis using the Pearson product-moment correlation coefficient addressed the third research question investigating the relationship between classroom teachers' beliefs about creativity and their creativity ratings of student dance products. The overall error rate was controlled at the .05 level. The assumptions for using the Pearson product-moment correlation are continuous data, a linear relationship between the variables,

no outliers, normality of the distribution, homoscedasticity of the distribution of the regression line, and no truncation of the data. To investigate the assumptions, boxplots and scatterplots with a regression line for best fit were generated and skewness and kurtosis were tested to address the assumption of normal distribution. The creativity belief responses were reversed so that the score of 1 (*strongly agree*) became a score of 5, matching the low-to-high ratings of the videos from 1 (*low creativity*) to 6 (*high creativity*). With the reversals, both scales could be interpreted as high numbers indicating most creativity or most agreement. Participants' creativity belief responses and the ratings were averaged for the analysis.

Eta square measure of association was used to examine the relationship between the classroom teachers' responses to individual statements about creativity and the overall creativity ratings. Because participants did not use all five levels of responses as assumed, the scales were adjusted to treat ratings with zero or one response as missing data for these analyses, resulting in three to five levels of agreement, depending on the question. The overall error rate was controlled at the .05 level.

In addition to these research questions, teacher characteristics such as experience, setting, or involvement with dance were examined as possible explanations for variations in teachers' recognition of student creativity in dance. Stepwise multiple regression was used to investigate potential relationships between classroom teachers' demographic characteristics and their ratings of creativity. Ratings of the videos are consistent, as indicated by the intraclass correlation coefficient, so the sum of ratings was used in the analysis.

Two additional qualitative analyses were performed on participants' answers to the open-response questions about embodiment. Participants' responses were read several times,

then coded, and categorized into themes and subthemes based on the literature (Berrol, 2006, Calvo-Merino, 2010, Warburton, 2011). After the themes were determined, the data were reviewed again to assign each response item to a distinct theme and subtheme (Creswell, 2014). A dance expert reviewed the findings with interrater agreement at 89% for the first question *Recalling your observation of a student's dance that your rated high in creativity, how did you experience or sense it physically?* and 95% for the second question *Recalling a time you participated in dance yourself, how did you experience it or sense it physically?* After 100% interrater consensus was reached, the data were transformed from words to numbers to indicate the frequency of occurrence and to count the number of participants with statements in each subtheme.

CHAPTER IV
RESULTS

This study had multiple-related purposes toward understanding how classroom teachers perceive and recognize creativity in dance. The first and second purposes were to investigate classroom teachers' beliefs about creativity in dance and the relationship between teachers' beliefs about creativity in dance and their ratings of student creative-dance products. The third purpose was to examine the extent to which classroom teachers and dance experts agree when rating creative-dance products. The researcher-constructed Teacher Perceptions of Creativity in Dance Instrument (TPCDI) was used to obtain classroom teachers' beliefs about creativity in dance and participants' ratings of children's dance compositions using a variation of Amabile's (1982) Consensual Assessment Technique (CAT).

Chapter IV consists of the results of the analyses of data collected on classroom teachers' beliefs about creativity in dance, their ratings of students' creative-dance products, the extent of agreement within classroom teachers' ratings of students' creative-dance products, and the relationship between their beliefs and their ratings. The results of analyses investigating the extent to which classroom teachers' ratings agree with the ratings of dance experts collected during Pilot Study #1 and analyses on the ratings of children's dance compositions for technique and aesthetics address the second part of research question two.

The chapter begins by describing the results of wave analyses conducted to test for statistical differences between participants who submitted their responses on time (n = 54) and those who were sent reminders (n = 20). After the wave analyses, the results are organized by the research questions followed by a summary of the analyses. Additional analyses on open-response questions about embodiment are provided at the conclusion of the chapter.

Wave Analyses

Ninety classroom teachers provided written consent to participate in the research study. Reminder emails were sent in January 2020 to those who had not yet completed the instrument. Independent-samples *t* tests were used to test for the equality of means between the 54 participants who responded within the initial deadline and the 20 who responded in the second wave after receiving a reminder. Chi-square tests were conducted to investigate whether there were statistically significant differences between the two waves of respondents. The overall error rate was controlled at .05 level.

Before conducting the independent-samples t-tests, skewness and kurtosis were tested to address the assumption of a normal distribution with the small sample size (n = 20) of the second wave of participants. The results for skewness and kurtosis were not statistically significant. Levene's test for equality of variances was applied to the two groups, and no statistically significant differences were found. The results of independent-samples *t* tests applied to the two wave-response groups based on their dance experience, the amount of dance offered in their schools, their creativity beliefs, and their creativity ratings were not statistically significant different, as shown in Table 6.

Table 6

Independent-Samples *t*-Test Results for Dance Variables and Creativity Beliefs and Ratings

Variable	Wave	*n*	Mean	SD	*t*	*df*
Dance Experience	1	54	1.50	1.36	-1.73	72
	2	20	2.15	1.63		
School Dance	1	55	1.80	1.10	-1.63	73
	2	20	1.85	1.39		
Creativity Beliefs	1	56	58.16	5.02	0.84	74
	2	20	57.05	5.35		
Creativity ratings	1	53	37.92	6.14	0.73	70
	2	19	36.68	7.10		

Chi-square tests were applied to the two respondent groups of classroom teachers for the categorical variables of where they teach, the grade they teach, the socioeconomic status of their school, their teaching certification, the number of years of teaching, and their gender identification. The categorical variables offered a multiple-response option and were coded into dichotomous variables for the analyses, as described on page 105 in chapter III. The overall error rate was controlled at .05 level. None of the variables showed a statistically significant difference between classroom teachers responding before and classroom teachers responding after the reminders (Table 7).

Table 7

Chi-Square Test Values and Fisher Exact Test Results of Demographic Variables for Original and Second Wave Respondents

Variable	Pearson Chi-square	*df*	Fisher Exact
Where teach by group	2.11	1	0.27
Grade taught by group	0.29	1	0.60
SES of school by group	0.97	1	0.42
Credential or position by group	2.19	1	0.18
Teach >18 years by group	3.45	1	0.07
Gender by group	0.01	1	1.00

Groups: original respondents (n = 54) or second wave (n = 20)

No statistically significant differences for the demographic variables between the original respondents and those who responded after receiving reminders were found in the wave analyses described above. Both wave groups, therefore, were combined into one classroom-teacher group for the remaining statistical analyses described in chapter IV.

Classroom Teachers' Beliefs About Creativity

The first research question, *What are classroom teachers' beliefs about creativity in dance?* was answered with descriptive statistics of the frequency of responses to the Creativity Belief Questionnaire, as found in Table 8. Classroom teachers indicated the level

of agreement to a 14-item Likert scale from 1 (*strongly agree*) to 5 (*strongly disagree*). The lower rating indicates the strongest agreement with statements about creativity.

Table 8

Means, Standard Deviations, and Response Frequency for Classroom Teacher Creativity Beliefs (N = 76)

				Response Frequency				
Item	Pilot	Mean	SD	1	2	3	4	5
Q1 creativity important	8	1.93	.79	21	43	9	2	1
Q2 creative in physical way	3	1.40	.63	49	26	0	0	1
Q3 only a few possess - R	1R	1.46	.77	49	23	1	2	1
Q4 creative or not - R	2R	1.64	.72	35	36	2	3	0
Q5 creative in other subjects	13	2.46	.92	11	29	27	8	1
Q6 creative or technical - R	14R	1.99	.72	19	40	16	1	0
Q7 free expression important	10	1.67	.76	34	36	4	1	1
Q8 interferes with learning - R	4R	1.45	.82	53	17	1	5	0
Q9 lose focus - R	9R	1.76	.80	33	30	11	2	0
Q10 clear ideas from start - R	21R	2.36	.69	4	46	21	5	0
Q11 element of surprise	22R	3.05	.85	1	19	34	19	3
Q12 can improve	15	1.49	.70	45	27	3	0	1
Q13 improvisation vital	11	1.86	.84	31	27	16	2	0
Q14 all students can	12	1.67	.72	34	35	5	2	0

Most of the ratings were in the *strongly agree* area for six of the statement items (Q2, Q3, Q8R, Q9R, Q12, Q13), and all but one statement item had the majority of responses in the strongly agree and agree levels (Q11). Statement item Q11 stood out as having the highest mean rating (3.05) with most of the ratings *neither agree nor disagree*. With the exception of Q11, participants responded *strongly disagree* for only 5 statement items; the rest of the items had zero responses in the strongly disagree category. All but four of the items had 0, 1, 2, or 3 responses in the disagree or strongly disagree category. These items are discussed further in chapter V.

In addition to answering the 14 Likert-type items in the Creativity Beliefs Questionnaire, participants were asked one open-response question, *In your own words, please give your definition of creativity in dance or list words that you associate with creativity in dance.* Responses were limited to 200 text characters. Participants' responses were read twice, then coded, and categorized into four themes and 21 subthemes. After the themes were determined, the data were reviewed again to assign each statement to a distinct theme and subtheme. A total of 368 statements representing participants' definitions of creativity were coded into the themes and subthemes, then transformed from words to numbers to indicate the frequency of occurrence and to count the number of participants with statements assigned to each subtheme. The findings were reviewed by a dance-expert colleague at Luna Dance Institute who did not participate in the research study. The initial interscorer reliability was 95%, and the researcher and second reviewer discussed the 20 differing items until full agreement was reached. During the consensus process, it was decided to collapse two subthemes: motivation and self-confidence into one based on Self-Determination Theory and add *thinking* as a distinct subtheme. The complete list of responses (n = 76) is shown in Appendix J.

Four main themes emerged from the data: Creativity Specific, Psychological, Special Interest, and Other. The largest theme was Psychological, with 169 separate statements. As shown in Table 9, the psychological theme includes self-expression, catharsis or emotion, and freedom, the subthemes with the largest number of mentions. Self-determination, motivation, and self-actualization statements also were coded in the psychological theme. The overlap in these themes and their implications for the current research are discussed in chapter V.

Table 9

Themes and Coding of Classroom Teachers' Definitions of Creativity and the Frequency of Responses and Number of Participants' Mentions of Themes and Subthemes

Theme	Subtheme	Responses	Participants
Psychological	Expression, self-expression	46	37
f = 169	Catharsis, release, emotion	38	29
	Free, freedom, boundaries	34	28
	Motivation, self-determination	26	18
	Joy, fun	12	9
	Spontaneity	8	7
	Risk-taking	5	5
Creativity Specific	Creative process frameworks	28	18
f = 142	Novel, original	26	14
	Explore, discover	18	16
	Authentic	16	10
	Dance specific (choreography, improvise)	12	9
	Big C (eminent) creativity	11	7
	Synonym (imagination, invention)	11	7
	Music, rhythm	10	8
	Useful, appropriate, responsive	10	10
Special Interest	Storytelling	8	8
f = 15	Social, collaborative	7	5
Other	Advice for teaching	19	11
f = 42	Thinking, skill, ability	10	10
	Oddities	13	10

The Creativity Specific theme included 142 responses, the highest number including creative process frameworks, novel and original, and explore and discover. The Special Interest theme is comprised of two categories that had several mentions: storytelling and social or collaborative. The remaining responses were coded as Other and included random responses that received only one mention and were labeled oddities.

Classroom Teachers' Ratings of Creativity

The second research question is in two parts: *to what extent do classroom teachers agree in their creativity ratings of student dance products?* and *to what extent do classroom*

teacher ratings agree with the creativity ratings of dance experts? The first part was answered with descriptive statistics for the frequency of rating responses to nine videos of student dance products, as shown in Table 10. Participants rated the creativity of the student dances from 1 (*least creative*) to 6 (*most creative*) with a high level of interrater agreement estimated using the intraclass correlation coefficient with a two-way random model (.84).

Table 10

Means, Standard Deviations, and Frequency of Creativity Ratings of Student Dance Products by Classroom Teachers Broken Down by High, Medium, and Low Levels

				Creativity Rating					
Video	*n*	Mean	SD	1	2	3	4	5	6
				High level					
1	73	5.53	0.73	0	0	2	4	20	47
4	75	4.99	0.97	0	0	7	14	27	27
7	74	4.80	0.94	0	0	7	20	28	19
				Medium level					
9	75	4.48	1.21	0	7	9	15	29	15
6	75	3.95	1.20	1	9	15	25	18	7
3	73	3.95	1.10	1	3	24	23	15	7
				Low level					
5	75	3.51	1.17	2	14	21	23	12	3
2	73	3.44	0.63	1	16	23	20	9	4
8	75	2.99	1.10	2	27	26	12	6	2

Variations in *n* due to missing rating data from technological glitches in the instrument

The high, medium, and low levels were determined by the mean ratings for each video with the three highest means representing the high level, the three lowest means representing the low level, and the middle level consisting of the three videos closest to the mean of 4.18 across all videos. These levels matched the high, medium, and low levels determined in the first pilot study for the same videos described on page 99.

Overall, classroom teachers gave high creativity ratings to the student dances as evidenced by few or no ratings of 1 and high numbers of 4, 5, and 6 ratings. The three

highest-rated videos had a minimum rating of 3 and the majority of the ratings at 5 or 6. The three videos rated at the medium level had mean ratings close to 4 with few ratings at the lowest level and the majority of ratings at 4 or 5. Even those videos rated in the lowest-third level had mean ratings close to 3 or 3.5, and all videos received ratings at 6.

The second part of research question two compared the means of the classroom teacher creativity ratings with the creativity ratings of dance experts. Ratings were compared using the independent-samples *t* test based on total ratings with the overall error rate controlled at the .05 level. The Central Limit Theorem was applied to this comparison of classroom teachers (n = 72) and dance experts (n = 36) finding the test robust with respect to a violation of normal distribution and reducing the likelihood of Type I error. Levene's test for equality of variances was applied to the two groups, and no statistically significant differences were found.

As shown in Table 11, no statistically significant differences were found between the classroom teachers' ratings of creativity and the dance experts' creativity ratings, so no further analyses were required.

Table 11

Independent-Samples *t*-Test Results Comparing Summed Creativity Ratings of Classroom Teachers and Dance Experts

Variable	Group	*n*	Mean	SD	*t*	*df*
Creativity	Classroom Teachers	72	37.60	6.38	-.14	106
Sum	Dance Experts	36	37.42	6.31		

Note: Only 72 classroom teachers rated all six videos

The same analyses were applied to classroom teacher ratings of technique and aesthetics. CAT requires raters to assess dimensions in addition to creativity to determine whether creativity is independent of those other dimensions. The ratings in the dimensions of

technique and aesthetics for classroom teachers and dance experts were evaluated from 1 (*least technical* or *least aesthetic* meaning *liked it the least*) to 6 (*most technical* or *most aesthetic* meaning *liked it the most*). As shown in Table 12, the classroom teachers and dance experts rated the dance products in the same rank order for creativity. In the technical dimension, they had the same rank order from the first to the sixth, but with differences in rank order for the seventh, eighth, and ninth, the lowest-ranked videos for technique. The classroom teachers and dance experts differed in their aesthetic ratings in high, medium, and low orderings. The two groups agreed in the aesthetic ranking orders for only four videos.

In the two highest-ranked videos in the creativity and technique dimensions, and the three highest-ranked in the aesthetic dimension, dance experts' minimum ratings were higher than classroom teachers' minimums. Classroom teachers used 6 as the maximum rate in all dimensions, but the dance experts did not use 6 as the maximum in the four videos rated lowest for technique, the three lowest for aesthetics, and the seventh-ranked video in creativity. Dance experts have smaller standard deviations than classroom teachers in the two highest ranked videos across all three dimensions. Even though the rank orders for technique and aesthetics differed for the classroom teachers and dance experts, there were no statistically significant differences found when the technique and aesthetic sums were compared using independent-samples *t* tests (technique $t = 1.29$, $df = 103$; aesthetics $t = 0.39$, $df = 103$).

Interrater reliability was estimated on the classroom teachers' ratings and dance experts' ratings of student dance products for creativity, technique, and aesthetics using the intraclass correlation coefficient with a two-way random model. As shown in Table 13, agreement is strong for the classroom teachers' ratings of creativity, technique, and

Table 12

Rank Order, Means, Standard Deviations, Minimum, and Maximum Ratings of Student Dance Videos by Classroom Teachers and Dance Experts

	Dance Experts						Classroom Teachers					
Video	Rank	*n*	Mean	SD	Min.	Max.	Rank	*n*	Mean	SD	Min.	Max.
						Creativity						
1	1	36	5.72	0.51	4	6	1	73	5.53	0.73	3	6
4	2	36	5.53	0.65	4	6	2	75	4.99	0.97	3	6
7	3	36	4.86	1.29	1	6	3	74	4.80	0.94	3	6
9	4	36	4.28	1.36	1	6	4	75	4.48	1.21	2	6
3	5	36	4.14	1.17	2	6	5	73	3.95	1.10	1	6
6	6	36	4.03	1.32	1	6	6	75	3.95	1.20	1	6
5	7	36	3.14	1.05	1	5	7	75	3.51	1.17	1	6
2	8	36	3.08	1.36	1	6	8	73	3.44	1.17	1	6
8	9	36	2.64	1.25	1	6	9	75	2.99	1.10	1	6
						Technique						
4	1	36	5.14	0.96	3	6	1	75	4.92	1.12	1	6
1	2	36	5.00	0.93	3	6	2	73	4.84	1.08	2	6
7	3	36	4.69	1.24	2	6	3	74	4.70	1.04	2	6
9	4	36	3.56	1.23	2	6	4	75	3.93	1.29	1	6
3	5	36	3.22	1.15	1	6	5	73	3.33	1.09	1	6
6	6	36	3.08	1.20	1	5	6	75	3.20	1.14	1	6
5	7	36	2.61	1.02	1	5	9	75	2.79	1.14	1	6
2	8	36	2.36	1.13	1	5	7	73	2.81	1.17	1	6
8	9	36	2.25	0.87	1	4	8	75	2.80	1.19	1	6
						Aesthetics						
4	1	36	5.58	0.60	4	6	2	75	5.00	0.96	3	6
1	2	36	5.47	0.70	4	6	1	73	5.10	1.09	2	6
7	3	36	4.42	1.34	2	6	3	74	4.41	1.12	1	6
9	4	36	3.94	1.29	1	6	4	75	4.21	1.27	1	6
3	5	36	3.75	1.18	1	6	5	73	3.66	1.06	1	6
6	6	36	3.72	1.50	1	6	8	75	3.28	1.20	1	6
5	7	36	3.11	1.04	2	5	6	75	3.48	1.34	1	6
2	8	36	2.83	1.21	1	5	7	73	3.33	1.21	1	6
8	9	36	2.36	1.10	1	4	9	75	2.92	1.15	1	6

aesthetics, whereas the agreement is strong for dance experts for creativity and moderate-to-strong for technique and aesthetics (LeBreton & Senter, 2008).

Table 13

Intraclass Correlation Coefficients of Creativity, Technique, and Aesthetic Ratings by Classroom Teachers and Dance Experts

Raters	*n*	Creativity	Technique	Aesthetics
Classroom teachers	72	.84	.82	.79
Dance experts	36	.79	.71	.68

Correlational analyses using Pearson product-moment correlation were performed to investigate the relationships between the three rating scales: Creativity, Technique, and Aesthetics for the two groups of participants individually and combined. Statistically significant relationships are moderately strong or strong between the three scales, as shown in Table 14.

Although CAT assumes independence between creativity and the other dimensions, statistically significant relationships between creativity and technique have been found in the performing arts and are discussed in the following chapter.

Table 14

Pearson Product-Moment Correlation Coefficients Between Ratings of Student Dance Products for Creativity, Technique, and Aesthetics

Group	*n*	Dimension	Creativity	Technique	Aesthetics
All	108	Creativity	1.00	.74*	.75*
		Technique	.74*	1.00	.78*
		Aesthetics	.75*	.78*	1.00
Classroom Teachers	72	Creativity	1.00	.79*	.73*
		Technique	.79*	1.00	.81*
		Aesthetics	.73*	.81*	1.00
Dance Experts	36	Creativity	1.00	.62*	.82.*
		Technique	.62*	1.00	.69*
		Aesthetics	.82*	.69*	1.00

*Statistically significant when the overall error rate is controlled at .05 level

The Relationship Between Classroom Teachers' Beliefs About Creativity and Their Creativity Ratings

A correlational analysis using Pearson product-moment correlation coefficient addressed research question three, *to what extent do classroom teachers' creativity ratings of students' dance products relate to their beliefs about creativity in dance?* The assumptions for using the Pearson product-moment correlation are continuous data, a linear relationship between the variables, no outliers, bivariate normality of the distribution, homoscedasticity of the distribution of the regression line, and no truncation of the data. The belief responses were reversed so that the score of 1 (*strongly agree*) became a score of 5, matching the low-to-high ratings of the videos from 1 (*low creativity*) to 6 (*high creativity*). With the reversal, both scales could be interpreted as high numbers indicating most creativity or most agreement.

Skewness and kurtosis were tested to address the assumption of a normal distribution and were not statistically significant. To investigate the other assumptions, boxplots and scatterplots with a regression line of best fit were generated. No evidence was found that the assumptions were not met. The Pearson product-moment correlation of .26 is a small positive relationship between classroom teachers' beliefs about creativity and their ratings of students' creative-dance products. The correlation was found to be statistically significant at the .05 level.

Eta square measurement of association was used to investigate the relationships between the classroom teachers' responses to individual statements about creativity and the overall creativity ratings of the videos. Of the 14 statement items and when the overall error rate was controlled at the .05 level, three of the statement items had statistically significant associations with the creativity ratings: item 7, *It is important that students have free*

expression assignments in dance (η^2 = .15); item 13, *Improvisation is vital in school dance programs* (η^2 = .11); and item 14, *All children can express themselves creatively in dance* (η^2 = .19), as shown in Table 15. The measures of practical importance are considered medium to large (Cohen, 1992).

Table 15

Eta-square Statistics Between Individual Creativity Belief Statements and Creativity Ratings by Classroom Teachers (*N* = 72)

Item	Number of Categories Used[a]	η^2
Q1	4	.05
Q2	2	.00
Q3	3	.00
Q4	4	.09
Q5	4	.00
Q6	3	.00
Q7	3	.15*
Q8	3	.01
Q9	4	.03
Q10	4	.09
Q11	4	.03
Q12	3	.06
Q13	4	.11*
Q14	4	.19*

*Statistically significant when overall error rate controlled at .05 level
[a]Number is based on responses with frequencies greater than 5

Teacher characteristics such as experience, setting, or involvement with dance were examined as possible explanations for variations in classroom teachers' creativity ratings. Stepwise multiple regression was used to investigate the relationships between the sum of the creativity ratings as the dependent variable and the independent variables of where teachers taught, grades they taught, percentage of students eligible for free-and-reduced lunch, credential or position held, teaching experience in years, gender, dance experience, and amount of dance offered at the participants' schools. Only amount of school dance offered

was included in the model because it was the only variable with a statistically significant correlation with the classroom teachers' creativity ratings (R^2 = .07, adjusted R^2 = .05). Approximately 5% of the creativity ratings, when adjusted for sample size, can be explained by how much dance is offered at the participants' schools.

Additional Analyses

After completing the 14-item creativity beliefs questionnaire and rating nine videos of students' dance compositions, participants responded to two qualitative questions about their felt, physical, or embodied experience when viewing the videos and their embodied experiences when dancing. Responses were limited to 200 text characters. Participants' responses were read several times, then coded, and categorized into themes and subthemes. After the categories were determined, the data were reviewed again to assign each response item to a distinct subcategory, then transformed from words to numbers to indicate the frequency of occurrence and to count the number of participants who responded in each category. The findings were reviewed by a dance-expert colleague at Luna Dance Institute who did not participate in the research study. The initial interscorer reliability was 89% for the first question and 95% for the second question, and the researcher and second reviewer discussed the differing items in both questions until full agreement was reached. The complete list of responses is shown in Appendix K.

The first open-response embodiment question was *Recalling your observation of a student's dance that your rated high in creativity, how did you experience or sense it physically?* Of the 72 respondents, 44% did not answer this question from the perspective of their personally felt experience. Their responses referred back to the student choreographer-performers, were coded as description, interpretation, or judgment, and no further analyses

were performed. The statements from the remaining participants (56%) were coded into five themes: Emotional Response, Engagement, Anticipation, Felt in my body or Mirror, and Other. Two individuals responded to the question with the word *yes* and were considered outliers in this analysis. As shown in Table 16, the largest number of responses were in the Engagement theme, which include examples such as *drawn in*, *attentive*, and *leaned in*. The second largest category of responses was Felt in my body or Mirror, including such examples as *felt angles and torque*, *tended to move with the dancer*, and *moving along with the video*.

Table 16

Themes of Classroom Teachers' Embodied Responses to Viewing Student Dance Videos That They Rated High in Creativity

Statement	Themes	Responses	Participants
First person statements	Engagement	25	16
n = 90	Felt in my body, Mirror	20	13
	Emotional response	19	16
	Anticipation	18	10
	Other	8	8

The second embodiment question was *Recalling a time you participated in dance yourself, how did you experience it or sense it physically?* Three participants did not answer the question or responded in one-word answers, such as *yes*. The responses of the remaining participants (*n* = 71) were coded into the four themes of Physicality, Psychosocial, Creativity, and Technique, as shown in Table 17. The largest response was in the Psychosocial theme, specifically emotional response (*f* = 35) and motivation (*f* = 32) that included such subthemes as *flow*, *self-actualization*, and *presence*. Several participants mentioned fear of dance or letting go of fear and being inhibited by dance because they defined it as following steps or being coordinated. Interpretations of these responses are discussed in chapter V.

Table 17

Themes of Classroom Teachers' Embodied Responses to Participating in Dance

Theme	Subthemes	Responses	Participants
Physicality	Embodiment	24	24
f = 31	Body parts or mechanics	7	7
Psychosocial	Emotional response	35	26
f = 96	Motivation	32	31
	Freedom	10	10
	Social	8	8
	Fear	8	8
	Letting go of fear	3	3
Creativity	Music or rhythm	19	19
f = 37	Creative process	12	12
	Expression	6	6
Technique	Neutral comments	6	6
f = 12	As inhibiting factor	6	6

Summary

The results of examining data collected from classroom teachers on their beliefs about creativity in dance and their ratings of it were presented in this chapter. Quantitative and qualitative data were collected and analyzed to address the first research question, *What are classroom teachers' beliefs about creativity in dance?* Most classroom teachers responded *strongly agree* or *agree* to statements about their creativity beliefs. Only one statement item had the most responses in *neither agree nor disagree* and that item was the only statement to receive more than one *strongly disagree* rating. Classroom teachers' qualitative responses (*f* = 368) were coded into 4 themes and 21 subthemes.

The second research question required classroom teachers and dance experts to rate students creative-dance products. There was a high level of interrater agreement between the classroom teachers' ratings of creativity and their identification of creative-dance videos in the high, medium, and low levels of creativity agreed with the dance experts' ratings of the

same videos. No statistically significant differences were found between the classroom teachers and the dance experts on the ratings of the three dimensions: creativity, technique, or aesthetics.

A small positive association (r = .26) was found between the classroom teachers' beliefs about creativity and their ratings of creativity in the student creative-dance products. This finding answers the third research question, *to what extent do classroom teachers' creativity ratings of students' dance products relate to their beliefs about creativity in dance?* Eta square measure of association was used to examine the relationship between individual statements about creativity and the overall creativity ratings. Three items had statistically significant associations with the creativity ratings with medium-to-large measures of practical importance.

Additional analyses examined classroom teachers' answers to two open-response embodiment questions. The responses first question *Recalling your observation of a student's dance that your rated high in creativity, how did you experience or sense it physically?* Forty-four percent of the respondents did not provide first-person responses. Responses from the remaining 56% were based on five themes. Participants' responses to the second question, *Recalling a time you participated in dance yourself, how did you experience it or sense it physically?* were coded into 4 themes and 13 subthemes.

CHAPTER V
SUMMARY, LIMITATIONS, DISCUSSION, AND IMPLICATIONS

This study had multiple-related purposes toward understanding how classroom teachers perceive and recognize creativity in dance. The first and second purposes were to investigate classroom teachers' beliefs about creativity in dance and the relationship between teachers' beliefs about creativity in dance and their ratings of student creative-dance products. The third purpose was to examine the extent to which classroom teachers and dance experts agree when rating creative-dance products. A researcher-constructed questionnaire obtained classroom teachers' beliefs about creativity in dance, and participants rated the creativity of children's dance compositions using a variation of Amabile's (1982) Consensual Assessment Technique (CAT).

This final chapter provides an overview of the study and researcher interpretation of the findings. Presented in the chapter are summaries of the study and findings, potential limitations to the study, and a discussion of the findings relative to the literature respecting the study's limitations. The conclusion section offers the researchers' inferences based on the findings and suggestions for research and practice.

Summary of the Study

Creativity is a fundamental aim of arts learning, and yet not all teaching practices develop it (Winner, Goldstein, & Vincent-Lancrin, 2013). In the domain of dance, not all teaching methods or curricula facilitate creative development. There is some evidence that Creative Dance provides opportunities for creativity, embodiment, and self-expression (Winner et al., 2013); however, its potential to do so is not being realized (California Department of Education, 2019a; Guha, Woodworth, Kim, Malin, & Park, 2008).

In California, classroom teachers have been charged with art education at the elementary-school level, but they report being ill-equipped to teach to creativity in dance due to time pressures to cover academic curricula; lack of administrative support; and lack of knowledge, confidence, and skill (Guha et al., 2008). Many California teachers have not learned how to teach for creativity in their teacher-education programs and resort to instructional methods based on their experience or implicit beliefs about creativity (Aljughaiman & Mowrer-Reynolds, 2005; Connell, 2009; Cuellar-Moreno, 2016; Fang, 1996; Guha et al., 2008; Melchoir, 2011; Pajares, 1992; Warburton, 2008). Studies have found that, concerning creativity, teachers hold misperceptions about what creativity is, confuse it with intelligence and other student characteristics, and believe they are unable to recognize it and evaluate it when they see it (Craft, Cremin, Burnard, & Chappell, 2007; Gralewski & Karwowski, 2016; Mullet, Willerson, Lamb, & Kettler, 2016; Rubenstein, Ridgley, Callan, Karami, & Ehlinger, 2018). Implicit theories of creativity are related to the recognition and assessment of it (Gralewski & Karwowski, 2016).

Creativity has been identified as a critical skill in 21st-century learning (Deasy, 2002; Henriksen, Mishra, & Fisser, 2016) and is one of four core artistic processes of the National Core Arts Standards (NCCAS, 2014) and the California Arts Standards (California Department of Education, 2019c). The creative process in dance, according to the standards, consists of generating and exploring multiple movement ideas, then organizing those ideas into works of embodied art (Dance at Glance handbook, NCCAS, 2014). Dance-making activities involve divergent and convergent cognitive processes that have been linked with creativity since the earliest studies (Cropley, 2001; Guilford 1956, 1968; Sternberg, 1985, 2012).

Dance improvisation has been found to enhance divergent thinking and develop skills associated with creativity, such as flexibility, problem posing, and putting things together in new and unusual ways (Glăveneau, 2015; Henriksen & Mishra, 2017; Nachmanovich, 1990; Sowden, Clements, Redlich, & Lewis, 2015). Divergent thinking and improvisation are related to the creative process—one of the Ps in the Four Ps construct of creativity. The Four Ps framework (Person, Press, Process, or Product) has been used to focus creativity research (Cropley, Patson, Marrone, & Kaufman, 2019; Keller-Mathers & Murdock, 1999; Kozbelt, Beghetto, & Runco, 2010). Researchers might take a psychological approach and look at the creative person or take a sociopsychological perspective to study the creative press or environment for creativity. Others might take a developmental view and study the creative process or seek to evaluate creative products. In this study, classroom teachers were asked about their creativity beliefs and to define creativity. They also rated the creativity of student dances that were composed using divergent and convergent cognitive processes. Teachers use any or all of the Four Ps to relate their implicit understanding of creativity; therefore, the confluence approach to creativity is a useful theoretical construct for interpreting the results of this study (Cropley et al., 2019).

The confluence approach posits that multiple components converge in creativity, including intrinsic motivation, domain-relevant knowledge, and specific cognitive and personality elements and views creativity from a systems perspective (Amabile, 1996; Csikszentmihalyi, 1997, 1999; Runco, 2007; Sternberg, 2012). The confluence approach is compatible with the standard definition of creativity used to assess creative products. The two-criterion standard definition requires a creative product or idea to have originality and

effectiveness. The creativity literature assumes that products must be novel and appropriate to be considered creative (Runco & Jaeger, 2012).

Participants in this study rated students' dances using the Consensual Assessment Technique (CAT). Developed by Amabile (1982), CAT is an interjudge assessment of creative products based on the raters' implicit understanding of creativity as novel and effective. CAT offers a reliable way of evaluating creative products by acknowledging the subjective nature of creativity (Amabile, 1996; Baer & McKool, 2009; Hennessey, Amabile, & Mueller, 2011). Studies of creative works by adults and children in domains of collage, painting, poetry, and music have found CAT to be a reliable measurement tool with interrater reliabilities among expert judges consistently ranging between .70 and .90 using Cronbach coefficient alpha (Amabile, 1996; Baer & McKool, 2009; Dollinger & Shafran, 2005; Hennessey, 1994; Hennessey et al., 2011; Hickey, 2001; Kaufman, Baer, Cole, & Sexton, 2008; Priest, 2006). With CAT, creativity is defined as the extent to which observers familiar with the domain agree a product or response is creative "to the extent that it is a novel and appropriate response to a heuristic task" (Hennessey et al., 2011, p. 255).

The validity of CAT is reliant on its methodology. Experts must have experience with the domain in question, they must work independently, each judge is given the artworks in a different random order, and judges must rate other dimensions. Creative works are to be rated in relation to one another and not to an absolute or Big C standard. Distinguishing Big C or eminent creativity from little c or everyday creativity is important in education because a Big C bias can lead to creativity seen as a rare trait that belongs in programs for gifted and talented students, rather than a skill to be developed in all (Beghetto, 2010; Craft, 2001). In

addition to rating creativity, technique, and aesthetics in students' original dance products, classroom teachers responded to statements about their creativity beliefs.

Beliefs are part of teachers' general knowledge and act as a filter in their daily work (Fang, 1996). There is evidence that teachers hold implicit theories or beliefs about creativity including the definition of creativity, the importance of creativity in school, who is creative (Big C bias), how creativity appears in student behavior and products, the extent to which creativity can be nurtured, and how creativity is developed (Aljughaiman & Mowrer-Reynolds, 2005; Bereczi & Kápáti, 2018; Craft et al., 2007; Diakidoy & Phtiaka, 2002; Fryer & Collings, 1991; Mullet et al., 2016; Rubenstein, McCoach, & Siegle, 2013; Rubenstein et al., 2018; Turner, 2013). Implicit theories of creativity make a difference in teachers' ability to recognize creativity in their students (Gralewski & Karwowski, 2016; Kettler, Lamb, Willerson, & Mullet, 2018; Paek, Sumners, & Sharpe, 2019). Belief systems theory suggests that the very perception of viewing dances might be influenced by teachers' implicit or explicit beliefs and influence their ability to recognize creativity in dance. The extent to which classroom teachers' beliefs of creativity in dance is related to their ability to recognize it when rating students' creative-dance products was a focus of this study.

This study used a descriptive, comparison, and correlational research design to answer the research questions. Data were collected from classroom teachers (n = 74) using a three-part researcher-designed instrument, the Teacher Perceptions of Creativity in Dance Instrument (TPCDI). The first part assessed classroom teachers' beliefs about creativity using a 14-item Creativity Beliefs Questionnaire and one open-ended response question. Ratings of creativity, technique, and aesthetics of nine video clips of original dances created and performed by students aged 10 to 15 comprised the second part. Demographic information

was collected in part three on characteristics such as experience teaching, dance experience, teaching setting, gender, and student socioeconomic status.

Three research questions were investigated:

1. What are classroom teachers' beliefs about creativity in dance?
2. To what extent do classroom teachers agree in their creativity ratings of student dance products, and to what extent do classroom teacher ratings agree with the ratings of dance experts?
3. To what extent do classroom teachers' creativity ratings of students' dance products relate to their beliefs about creativity in dance?

The first research question was answered with descriptive statistics of the frequency of responses to the Creativity Belief Questionnaire. The definitions of creativity provided by classroom teachers to the open-ended response question were coded into themes and subthemes, as qualitative data. The second research question is in two parts. The first part was answered with descriptive statistics of the frequency of rating responses to the nine videos of the students' creative-dance products. Interrater reliability was estimated on the classroom teachers' ratings of student-dance-product creativity using the intraclass correlation coefficient consistent with CAT. Two-group comparisons between the classroom teachers' ratings and the rating responses of 35 dance experts addressed the second part of research question two. The comparison analyses were applied to ratings of creativity, technique, and aesthetics.

A correlational analysis using the Pearson product-moment correlation coefficient addressed the third research question investigating the relationship between overall classroom teachers' beliefs about creativity and their ratings of student dance products.

Individual belief statements were examined using the correlation ratio measure of association. Teacher characteristics such as experience, setting, or involvement with dance were examined as possible explanations for variations in teachers' ratings using stepwise multiple regression.

In addition to the three research questions, participants responded to two open-ended questions about embodiment: *Recalling your observation of a student's dance that you rated high in creativity, how did you experience it or sense it physically?* and *Recalling a time you participated in dance yourself, how did you experience it or sense it physically?* Theories of embodiment are foundational to dance. The dancing body elaborates movement with meaning and significance (Bresler, 2004; Root-Bernstein & Root-Bernstein, 2005; Warburton, 2011). Studies in neuroaesthetics have found an influence of motor expertise in the perception of dance where humans are likely to activate mirror neurons when viewing actions that they have performed in the past (Calvo-Merino, 2006; Cross, 2010; Warburton, 2011). Observing neurological activity when viewing creative-dance works was beyond the scope of this study; however, the theory of neuroaesthetics as relates to embodiment might assist in interpreting teachers' ratings.

Summary of the Findings

In this study, the classroom teachers adhered to the belief that all children have the capacity for creativity in dance and that creativity can be improved. They believed that creativity, improvisation, and free expression in dance are essential, and that creativity in dance does not interfere with learning. When asked to define creativity, classroom teachers most frequently used psychological language identified with self-expression, emotions, freedom, and self-determination.

In rating nine students' creative-dance products using CAT (Amabile, 1982), classroom teachers were able to identify high, medium, and low levels of creativity with strong interrater agreement (.84); however, they tended to give high ratings overall. When compared with the creativity ratings of dance experts, no statistically significant differences were found, and the rank order of the videos from one to nine was the same for both groups in the creativity dimension.

Classroom teachers and dance experts also rated the students' dances for technique and aesthetics. Although no statistically significant differences were found between the two groups' ratings, they had different rank orders for the dances on both dimensions, dance experts' minimum ratings were not as low as classroom teachers' minimum ratings, and dance experts' maximum ratings were not always 6 as were the classroom teachers' ratings. Interrater reliability coefficients also varied between the two groups with classroom teacher ratings strong for all dimensions and dance experts strong for creativity and moderate-to-strong for technique and aesthetics.

A statistically significant positive relationship at the .05 level was found between classroom teachers' beliefs about creativity and their creativity ratings (r = .26). The relationship between the classroom teachers' responses to individual statements about creativity and the overall creativity ratings of the videos was investigated using the eta-square statistic. Of the 14 statement items and when the overall error rate was controlled at the .05 level, three of the statement items had statistically significant associations with the creativity ratings: item 7, *It is important that students have free expression assignments in dance* (η^2 = .15); item 13, *Improvisation is vital in school dance programs* (η^2 = .11); and

item 14, *All children can express themselves creatively in dance* ($\eta^2 = .19$). These measures are considered medium to large (Cohen, 1992).

Stepwise multiple regression was used to assess teacher characteristics such as experience, setting, or involvement with dance as possible explanations for variations in classroom teachers' creativity ratings. Of the eight independent variables tested--where teachers taught, grades they taught, percentage of students eligible for free-and-reduced lunch, credential or position held, teaching experience in years, gender, dance experience, and amount of dance offered at the participants' schools--only school dance had a statistically significant correlation with the classroom teachers' creativity ratings ($R^2 = .07$, adjusted $R^2 = .05$). Approximately 5% of the creativity ratings, when adjusted for sample size, can be explained by how much dance is offered at the participants' schools.

After responding to their level of agreement about creativity beliefs and their ratings of students' creative products, classroom teachers responded to two questions about their embodied experiences with dance. The first question was to recall their sensed or physical experience when observing a student's dance rated high in creativity. Only 56% of the respondents were able to answer from a personal perspective. Nearly half of the participants provided text commentary on the dance observed instead. The data were coded into themes of engagement, emotional response, anticipation, and mirror. The second question was to recall a sensed or physical experience when participating in dance. The data were coded into themes of physicality, psychosocial, creativity, and technique. More than one-half of the responses were in the psychosocial theme, including emotional response, motivation, and freedom. Ten percent of the responses concerned fear, letting go of fear or judgment, and the inhibiting nature of technical expectations.

Limitations

This study used CAT to rate students' creative-dance products. CAT requires adherence to strict guidelines that include rating products in relation to one another, and the research participants were given those instructions. Due to a technological glitch in the instrument, not all participants rated all videos (missing data ranged from 1 to 3 ratings), and so those videos did not involve the full range of creative comparisons. The missing data represented less than 2% of the total, however, and were unlikely to change the participants' ranking.

The original CAT procedure involved products created under strict experimental conditions wherein raters responded to the same task. The rationale for using videotapes of creative tasks composed over time with various prompts in real-life teaching circumstances was justified based on Baer, Kaufman, and Gentile's (2004) studies using eighth-grade writing samples collected by the National Assessment of Educational Progress. Researchers have found CAT to be an accurate assessment of nonparallel creative works produced in nonexperimental conditions (Baer et al., 2004).

Classroom teachers rated students' creativity as viewed on video. Although sometimes designed for the camera, as in the case of music videos or art films, dance is a performing art and, as such, is considered a live experience existing at one point in time (H'Doubler, 1940). The video samples evaluated in this study documented live performance of dances created to be viewed live. The reliance on video recordings to assess student creativity in dance might not represent adequately the way creativity would be evaluated if dances were viewed live and might have influenced teachers' ratings.

Self-reporting using Likert-type scales also has limitations. Interpreting a scale between one level and another is particular to each response and responder and scales cannot

assume to have equal intervals (Creswell, 2015). CAT does not require objective definitions of creativity, which can be ineffective; instead, it allows for creativity's subjective nature (Hennessey et al., 2011). Amabile's first study (1982) used a continuous scale that could be marked anywhere on the line based on the rater's own internal integer system. The continuous scale approach may be more aligned with the implicit definitions of creativity that CAT seeks to assess; however, this study used a 6-point rating scale for ease of use and to reduce potential confounds.

Aesthetic perception involves a personal response based on one's culture, background, experience with the medium, emotions about the topic, and feelings of the day (Greene, 2000); therefore, it is expected that the participants' evaluations of student creativity were idiosyncratic. Interjudge reliabilities represent a consensual agreement about creativity, but not an absolute statement of the creativeness of a particular dance or a student's creativity in making dances.

The video samples used in this study were procured from classes and locations that used a Creative Dance methodology, allowed time for dance composing and performing in the same class period, and had sufficient parental permission for students' likenesses to be included in this research study. A different sample of students' dance products might yield very different results.

In this study, the level of assessment was the video of the dance composition, not the dancer or the person. Nonetheless, there is a potential for bias based on raters' unconscious partiality to the students being viewed. Kaufman, Baer, Agars, and Loomis (2010) investigated the bias-free nature of CAT specifically because past results showed little or no gender or ethnic group differences in creativity assessments. Comparing poems created by

stereotypical European-American names, stereotypical African-American, or identifying names, the researchers found little evidence in the 455 undergraduates' ratings of creativity. In the current study, efforts were made to minimize bias by using only solo works and including more than one sample from the same choreographer where possible; nonetheless, the ratings of the classroom teachers in this study may or may not have been influenced by implicit biases about the observed characteristics of the student in the video.

This study used a purposeful sampling of California classroom teachers. The sample was limited to California educators because the standards for the visual and performing arts are established and implemented at the state level and because consistency across the United States cannot be assured. In California, the recently adopted arts standards (January 2019) were adapted from the National Core Arts Standards (2014); however, the accountability for their implementation and the roll-out of the requirements for the new dance credential are unique to California. Snowball recruitment methods sought representation of California educators; however, the validity of statistical conclusions due to selection bias is a potential risk because voluntary respondents may have trended toward classroom teachers interested in creativity, arts, or dance. The results of this study can only be generalized to California public-elementary-school teachers who sought to share their opinions on children's creativity in dance.

Discussion of Findings

The results of this study shed light on classroom teachers' beliefs about creativity in dance and their ability to reliably assess it. It is necessary to understand the extent to which beliefs or implicit theories influence teachers' perceptions of creativity to identify any misperceptions and address them in future teacher-education programs. This section includes discussions related to classroom teachers' creativity beliefs, ratings of student creative-dance

products, and the relationship between beliefs and creativity ratings. A discussion of embodiment as a core aspect of dance and a potential influencer of perceiving and assessing dance also is provided.

Creativity beliefs

The literature suggests that teachers hold certain beliefs about the value of creativity, the democratic view of creativity or the extent to which all people are creative, the implication of creativity in the classroom, and characteristics of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Andiliou & Murphy, 2010; Bereczi & Kápáti, 2018; Fryer & Collings, 1991; Mullet et al., 2016; Rubenstein et al., 2013; Rubenstein et al., 2018; Turner, 2013). Classroom teachers responded to 14 statements on these aspects of creativity in dance by indicating the extent to which they agreed with each belief statement from 1 (*strongly agree*) to 5 (*strongly disagree*). When the negatively worded items were reversed, the classroom teachers, on average, agreed or strongly agreed with most of the statements.

Classroom teachers in this study value creativity. They believe that creativity in dance is important. Strongly agree and agree were the most frequent responses to Q2 *It is important to offer students a chance to be creative in a physical way* (99%), Q7 *it is important that students have free expression assignments in dance* (92%), Q1 *When considering dance in school, the most important word for me is creativity* (84%), and Q13 *Improvisation is vital in school dance programs* (76%). These findings are consistent with the literature (Bereczi & Kápáti, 2018; Connell, 2009; Cropley et al., 2019; Mullet et al., 2016; Oreck, 2007; Oreck, Owen, & Baum, 2003). Of particular note is the congruence of the first three statement items (Q2, Q7, Q1) that were adapted from Connell's (2009) study of 198 physical-education teachers responsible for teaching dance in Yorkshire, England wherein similar results were found.

The participants in this study hold the democratic view of creativity. The most frequent responses were strongly agree to the reverse of Q3 *Creativity is an ability that only a few students possess*, meaning that classroom teachers strongly believe this statement to be untrue (64%), and to Q12 *Children can improve their creativity in dance* (59%). These findings are congruent with the literature to a point. The teachers studied by Rubenstein et al. (2018) believed that students could grow in their creativity, but many studies found that teachers held inconsistent beliefs on the universality of creativity and the extent to which it could be taught (Bereczi & Kápáti, 2018; Fryer & Collings, 1991; Myhill & Wilson, 2013; Zbainos & Anastasopoulou, 2012). No such inconsistencies were found in this study.

Classroom teachers in this study do not believe that creativity in dance interferes with learning. They strongly agreed with the reverse Q8 *Opportunities for free expression in school interfere with learning* (70%), and they strongly agreed or agreed with the reverse Q9 *Students lose focus when asked to be creative in dance* (83%). These findings diverge from the literature that suggests teachers are uncomfortable with student behavior they associate with creativity and find it disruptive (Beghetto, 2010; Gralewski & Kawowski, 2016; Kettler et al., 2018). From the earliest creativity studies, researchers have discussed the tension between the expectations of teaching for creativity and teachers' fear of chaos in the classroom (Beghetto, 2010; Cropley, 2001; Guilford, 1968; Torrance, 1965). Studies have shown that teachers are contradictory in their beliefs; they claim to respect student creativity but also value compliance and conformity (Runco, 2007; Runco & Johnson, 2002). Beghetto (2010), for example, suggested creative ideas often first appear as unexpected ideas, and teachers generally prefer expected ideas over unexpected or unique ideas (p. 450). The participants in this study held strong views against creativity as disruptive. Further

investigation is necessary to understand the extent to which their beliefs match the way teachers interpret creative students' behavior in the classroom.

Defining creativity: Perceptions and misperceptions

As described above, classroom teachers in this study did not adhere to many of the misperceptions about creativity found among teachers in the research literature. They did hold a few misunderstandings about the nature of creativity and had unique views about the creative process. This section includes a discussion of teachers' knowledge of creativity, their lack of popularly-held myths about creativity, and their use of the Four P construct of creativity.

Knowledge of creativity

Four statements were included in the questionnaire to investigate classroom teachers' knowledge of creativity as defined by the literature. Classroom teachers in this study did not respond as would be expected if their conceptions of creativity aligned with researchers' conceptions on three of the four statements. The lack of alignment is consistent with studies that found teachers to have different and sometimes outdated, comprehensions of creativity compared with researchers (Bereczi & Kápáti, 2018; Gralewski & Karwowski, 2016; Mullet et al., 2016).

In response to Q5 *Children who are creative in dance are creative in other subjects*, classroom teachers responded agree or neither agree nor disagree most frequently. The literature suggests that creativity is domain specific and not transferable (Baer, 2015, 2016; Craft, 2001; Winner, Goldstein, & Vincent-Lancrin, 2013), yet teachers adhere to the myth that creative children are creative in many domains (Han, 2003). Perhaps teachers expect that creativity is transferable based on the training they receive on popular process-oriented arts

education such as Studio Habits of Mind (Hetland & Winner, 2007) or Perkins' work at Harvard's Project Zero (Hargreaves, 1992). These arts-education frameworks take a creative *process* perspective on creativity and consider characteristics such as persistence, exploration, observation, and reflection essential in all domains. Although little empirical evidence exists that creativity is transferable (Winner, Goldstein, & Vincent-Lancrin, 2013), there is more to understand about how creative-process skills manifest in various domains.

In addition, this finding was unanticipated because, in Luna Dance Institute's focus groups, classroom teachers regularly comment that dance classes allow them to observe students who are challenged in other classes shine as creative participants. Oreck (2004b) described similar teacher pleasure when seeing low-achieving students thriving in an arts program. This anecdotal evidence conflicts with the finding that classroom teachers believe creativity shows up in a generalized way. This question also had unexpected correlations in the pilot study during instrument design. When entered as a reversal, as designed, Q5R (then Q13R) was correlated negatively to the total score, but when entered without the reversal Q13, a moderate correlation of .42 was found. It was used in the final study without the reversal Q5, and a small correlation (.26) was found, suggesting that participants do not think the same was as researchers about the generalizable or transferable nature of creativity.

Similarly, Q10R *Creative students have clear ideas right from the start* had a low correlation with the total scale (.20). In some ways, Q10R might have been a confusing question because it was designed to assess the extent that classroom teachers adhere to the myth of creative inspiration in an indirect way. The classroom teachers in this study did not hold a Big C bias of creativity, that is, they disagreed that creativity is rare or eminent. The majority of responses to Q10R, when reversed, were agree (61%), meaning that they disagree

that creative students have clear ideas right from the start. This view is congruent with the confluence theory of creativity that suggests motivational characteristics such as persistence, trying things in new ways, and growth mindset influence creativity (Csikszentmilhalyi, 1996; Hass, Katz-Buonincontro, & Reiter-Palmon, 2016; Sternberg, 2012). Researchers also associate creativity with problem finding, suggesting that in the process of making something new, artists engage in multiple phases of creating that include exploration, incubation, idea development, and editing or completing the work (Glăveanu, 2015; Kozbelt et al., 2010; Mace & Ward, 2002). Both divergent and convergent processes are used to complete an original work (Agnoli, Corazza, & Runco, 2016; Baer, 2016), making the proverbial *flash of genius* more of a myth than reality.

The most unexpected finding was the classroom teachers' response to Q11 *A student's dance is creative if it has elements of surprise*. As described in the instrumentation section, the word surprise was intended as a hint to the standard definition of creativity as novel, original, or unique. Teachers overwhelmingly rated Q11 neither agree nor disagree (45%) with an equal number of responses agree (25%) and disagree (25%) on either side of the center. With the highest mean of any item (3.05), responses to Q11 suggest that classroom teachers do not recognize the word surprise is associated with creativity. This item also had a correlation with the overall instrument close to zero suggesting that using surprise as a synonym for novelty confused participants in this study, even though other studies found unexpected and surprise to be indicators of novelty (Beghetto, 2010; Runco & Jaeger, 2012).

The fourth item about creativity knowledge was Q6R *Students tend to be creative or technical in dance but not both*. This question is at the heart of CAT that assumes creativity and technique are distinct dimensions, and it also was used in Connell's (2009) study of

dance teachers. When reversed, classroom teachers most frequently responded strongly agree or agree (78%), suggesting that they understand that creativity is a discrete construct, even though their responses to Q5 might suggest otherwise.

Classroom teachers' responses to four items about creativity knowledge (Q5, Q6R, Q10R, and Q11) vary in their congruence with the research. Perhaps questions about creativity knowledge do not fit well in an instrument that also investigates teachers' beliefs about the value of creativity, its universality, and the extent to which creativity interferes with learning. Future studies might be strengthened by developing scales through factor analysis, such as the recent study by Cropley et al. (2019).

The two-criterion view of creativity as both novel and effective has been the standard definition of creativity since 1953 (Diedrich et al., 2015; Guilford, 1968; Runco & Jaeger, 2012). Teachers' responses to the prompt *In your own words, please give your definition of creativity in dance or list words that you associate with creativity in dance* were consistent with the literature that teachers associate creativity with novelty or originality but do not recognize effectiveness, usefulness, or appropriateness to the same extent (Bereczi & Kápáti, 2018; Fryer & Collings, 1991; Rubenstein et al., 2018). Although researchers take note of teachers' omission of usefulness when describing creativity, in a study of 1,500 seventh-grade students, Diedrich et al. (2015) concluded that usefulness should be viewed as a second-order criterion within already unusual or novel ideas. There is more to be known about teachers' understanding of the two-criterion view of creativity in dance.

Popular myths

In two other ways, the results of this study differ from the literature; teachers did not express a Big C bias or an art bias. A Big C bias is a notion that creativity is an eminent trait.

As described above, study participants overwhelmingly agreed with the democratic or little c view of creativity in the Creativity Beliefs Questionnaire. Their definitions of creativity included only 11 words coded as Big C, such as genius, vision, or inspiring used by only seven participants.

An arts bias is relating creativity solely to an art field that has been found in studies of teachers' beliefs (Fryer & Collings, 1992). Recent studies, however, found no overall arts bias in an international study of 2,485 teachers, although arts bias was evident in males and teachers of certain subjects (Patson, Cropley, Marrone, & Kaufman, 2018), and no arts bias was evident in a study of 613 English-speaking teachers coded for subjects taught (Cropley et al., 2019). Congruent with these recent studies, the classroom teachers in this study showed no arts bias in their responses to the Creativity Beliefs Questionnaire or in their definitions; however, because the study was about the art of dance, the lack of evidence might be misleading. The classroom teachers in this study might hold an arts bias, but because this study emphasized creativity in dance, it might have been implied.

The Four Ps: Creative person, process, product, and press

When defining creativity in their terms, classroom teachers most frequently chose words related to a psychological self, such as expression, emotion, catharsis, freedom, and confidence building. These definitions represented 46% of the overall responses. In addition to 26 synonyms with novel, classroom teachers' responses generally represented the creative process, such as flexibility, variety, adapt, explore, open-ended, and trying different ideas. They also mentioned dance-specific creative processes, such as *finding new ways for your body to express the music* or *improvisation*. Creativity-specific responses represented 39% of the teachers' definitions.

Classroom teachers' implicit theories of creativity aligned with explicit creativity theories held by scholars, all of whom content that creativity is a psychological process (Saracho, 2012; Sternberg, 1985). Theorists such as Guilford (1968), Maslow (1967), Rogers (1959), Torrance (1968), and Vygotsky (2004) defined creativity in terms of process or action that leads to creative products, including ideas emphasizing thinking or emotion. Torrance and Guilford used terms connected to divergent thinking such as flexibility, fluency, originality, and elaboration, whereas Maslow and Rogers highlighted the emotional aspect of humanity, with creativity emerging from the human need to self-actualize. In this study, 84% of the terms used were congruent with the language of frameworks that emerged from these well-known theorists.

By naming self-expression and depth of feeling as dominant aspects of creativity, the classroom teachers in this study responded similarly to the 1,028 participants in the Fryer and Collings (1991) study. Fryer and Collings concluded that the participants in their study viewed creativity through a person-orientation lens. A person approach is one of the Ps (along with process, product, and press) in the Four Ps construct of creativity (Keller-Mathers & Murdock, 1999; Kozbelt et al., 2010). In contrast, the confluence approach of creativity is a system's view of creativity within a domain that reveals itself by the generation of novel ideas, the exploration of new cognitive pathways, freedom from control, as well as in personal characteristics such as risk-taking, ambiguity tolerance, persistence, and openness (Amabile, 1996; Csikszentmihalyi, 1997; Maslow, 2014). The results of this study suggest that classroom teachers respond from a systems perspective as they equally consider creativity through the lens of process and person. Product was not mentioned directly in their responses; however, storytelling emerged from 10% of the participants as a definition of

creativity in dance. Press (also known as environment) was mentioned as teachers offered a context for creativity through comments such as *aided by choices*, *visual possibilities*, and *dance like no one is looking*. These responses were coded as other.

Oreck et al. (2003) gave explicit criteria to teachers to assess the creativity dimension of dance: expressiveness, movement qualities, and improvisation or spontaneity. The classroom teachers in this study mentioned these same criteria when defining creativity in dance. Oreck et al. found that classroom teachers with limited experience in an artistic domain can become reliable raters of student talent with training and practice. The rules of CAT prohibit criteria or training. The classroom teachers in this study were able to rate students' creative products without explicit guidance reliably.

Creativity ratings

Classroom teachers in this study were able to rate the student dances based on their implicit definitions of creativity in dance. This finding is inconsistent with much of the CAT research suggesting creativity judges must have experience in the domain and adds to the controversy about what qualifies as a reliable judge.

Since the early uses of CAT, researchers have debated the qualifications of creativity raters. Convening groups of experts is an expensive way to assess creativity products, so researchers have investigated the extent to which novices can serve as reliable judges. Many insist judges must have experience in the domain (Amabile, 1996; Baer & McKool, 2009; Kaufman, Baer, & Cole, 2009; Kaufman et al., 2008; Plucker & Makel, 2010). Nonexpert raters have shown to be reliable assessors of creativity with training (Dollinger & Shafran, 2005; Oreck et al., 2003), with a differentiated scale (Baum, Owen, & Oreck, 1996; Cropley & Kaufman, 2012), or with some experience (Plucker, Kaufman, Temple, & Qian, 2009).

Hickey (2001) found that the most reliable judges of children's musical compositions were music teachers.

Classroom teachers' ratings of student creative-dance products were compared with dance experts' ratings. In this study, dance experts were dance teachers with a mean of 20.83 years of teaching experience and extensive involvement in choreography and performance. Using CAT with no explicit criteria, classroom teachers proved reliable raters of student dances' creativity (.84 Cronbach alpha), and no statistically significant differences were found between the classroom teachers' ratings and those of the dance experts. These findings provide evidence that classroom teachers, who might be considered novices in the domain of dance, are reliable raters of creativity without explicit criteria or training.

Overall, classroom teachers tended to provide high creativity ratings. Even the ratings of the lowest-rated videos were close to the midpoint of the 6-point scale. Classroom teachers' minimum for the highest-rated videos was 3, and they used a maximum of 6 for all videos in all dimensions. The literature suggests that classroom teachers consider students' self-esteem, self-expression, and self-confidence as aspects of creativity (Craft, 2001), and the majority of classroom teachers' definitions of creativity were coded into psychological themes. It is conceivable that the high ratings in this study result from classroom teachers' desire to consider all students as creative.

Some psychological theorists consider creativity in relation to emotions. Humanists Maslow (1967) and Rogers (1959) viewed creativity as self-actualizing (Saracho, 2012), and dance educators often take a similar perspective when describing the importance of creativity in dance (Chappell, 2007; Chappell, Craft, Rolfe, & Jobbins, 2012; MacLean, 2018). In literature reviews on creativity in education, research suggested that the personal aspects of

creativity influence teachers' judgments (Craft, 2001; Saracho, 2012). With creativity so positively regarded and students' expression of "self" at the center of it, teachers are reluctant to judge children as nonoriginal. Similar phenomena may have occurred in this study. The classroom teachers value creativity in dance, hold a democratic view of creativity, and defined creativity from the *person* perspective using psychosocial terminology. Are the high ratings a result of implicit criteria of creativity or something else? Might teachers rate high because they believe all student expression should be valued? Is there a tendency to avoid judging children's work low in creativity due to an inability to separate the dance product from the person who made it? Also, the classroom teachers in this study rated children who were unknown to them. Would ratings skew higher when rating their own students? Would they be able to rate their students as reliably?

Rating other dimensions

According to CAT guidelines, classroom teachers and dance experts rated each creative work for technique and aesthetics, in addition to creativity. Overall, the dances rated highest for creativity by both groups also were rated highest for technique and were liked the best.

Although no statistically significant differences were found between classroom teachers and dance experts on any of the dimensions, there were differences in their rankings in the three lowest-ranked videos for technique and in high, medium, and low levels for aesthetics. There also was a difference in the range used for both groups. For technique, classroom teachers used a minimum of 1 or 2 when rating the top three videos, whereas dance experts had a minimum rating of 2 or 3. This difference is surprising as one might expect dance experts to hold higher expectations of technical craftsmanship than classroom

teachers. The dance experts, however, might have perceived technical nuance that classroom teachers missed. With less experience dancing and observing dance, the classroom teachers might have likened virtuosity with technique and missed more subtle technical competence. Similar differences were found in the aesthetics' ratings.

The classroom teachers used a minimum rating of 1, 2, or 3 to rate the top three videos for aesthetics, whereas the dance experts used a minimum rating of 4 for the top two videos. Both groups tended to like the dances they rated high in creativity, but variations in group tastes were exhibited in the aesthetics rankings across high, medium, and low levels and video ratings crossed levels. Video #5 was rated in the middle third of the rankings by the classroom teachers and in the bottom third for dance experts, and video #6 was rated in the bottom level of the rankings by the classroom teachers but was in the middle third of the rankings by dance experts. Classroom teachers in this study were consistent in their ratings of student dance products using CAT. In rating all three dimensions of creativity, technique, and aesthetics, classroom teachers had higher interrater agreement than the dance experts.

CAT requires ratings in other dimensions to examine the degree of independence of creativity judgments (Hennessey et al., 2011). In earlier studies when applying CAT to a new domain, researchers would perform principal component analyses on the variables to determine the relatedness or independence of the dimensions, specifically technique and creativity (Amabile, 1996). Although this is the first application of CAT to dance, the current study did not have a sufficient size sample to perform a principal component analysis on the data. Statistically significant correlations were found between creativity, technique, and aesthetics in this sample and, according to CAT, would need to be examined further to determine discriminant validity (Hennessey et al., 2011). Studies rating music compositions

found similar correlations between the dimensions (Priest, 2006; Stefanic & Randles, 2015). Priest (2006) reasoned that judges are rating two creative products when listening to musical compositions: the composition and the performance, whereas Stefanic and Randles (2015) suggested that in music performance the three dimensions might tap into the different components of the standard definition of creativity as novel and appropriate. Perhaps a similar phenomenon occurs in dance. Classroom teachers' ratings had moderate-to-high correlations between creativity and technique (.79) and creativity and aesthetics (.73). Dance experts' ratings were correlated moderately for creativity and technique (.62) but highly correlated for creativity and aesthetics (.82). Both groups tended to like the dances they found creative. They may or may not have been able to separate the composition from the performance.

Confusing creating and performing in dance assessment is a challenge found throughout the field of dance education. The National Core Arts Standards (2014) identified creating and performing as two distinct artistic processes, but many attempts to assess student creativity in dance fail to distinguish between the two dimensions (Englebright & Mahoney, 2012; King, 2009; Kranicke & Pruitt, 2012). The criteria Oreck et al. (2003) used to evaluate creativity included many items that might be better characteristics of performance, such as shows pleasure in movement, performs with energy and intensity, is fully involved, and communicates subtlety. There remains a need to articulate how creativity is observed in dance so that assessments of creativity can be understood more universally.

The dance experts in this study were able to articulate their implicit criteria for creativity in a follow-up interview. When asked to describe what they saw in the videos that caused them to give high ratings for creativity, the dance experts used words related to

novelty such as surprise, variety, and invention. They also remarked on the use of rhythm or space in the dance that related to the appropriateness to the task. The model assessments offered on the National Core Arts Standards website (2014) and the New York City Department of Education (King, 2009) focus on task fulfillment, meeting the second part of the two-part criterion for creativity, usefulness, but neglecting the first part, novelty.

Curiously, the findings in the current study suggest that classroom teachers recognize novelty in creativity but not usefulness or appropriateness, and the model assessments associated with the standards, however, recognize usefulness or appropriateness but not novelty. This mismatch can create confusion for the elementary-school teacher who seeks to foster students' creative development.

CAT is a rating of creative products, not people. In viewing dance, however, it might be difficult for raters to separate the person from the performance or the creation. Perhaps this potential confound is one reason CAT had not been applied to dance previously.

Attempts were made to minimize bias in the selection of video samples. The videos were solo works, recorded without audio, and of relatively the same length. In some cases, the same student performed in more than one video. CAT has shown little or no gender or ethnic group differences, and when such differences are found, there is no consistency in which groups receive higher ratings (Baer & Kaufman, 2008). Kaufman et al. (2010) examined the extent to which the bias-free nature of CAT held when gender and racial identifying information was available and found little evidence of bias in their ratings. When assessing the creative products of students who they know, teachers might hold implicit biases that might influence their judgments of student creativity.

Embodiment

Dance is an embodied art form. Dancers know and create using somatic, kinesthetic, and mimetic abilities (Warburton, 2011). Researchers have theorized that viewers of dance can experience similar sensations due to mirror neurons (Berrol, 2006; Calvo-Merino, 2010) and some suggest that humans are likely to activate mirror neurons when viewing actions that they have performed in the past (Calvo-Merino, 2010; Cross, 2010; Warburton, 2011). It might be logical, therefore, to assume that dance experts would be more likely to stimulate their mirror neurons and engage with the dances they view. They might be better judges of dance than nondancers. The findings of this study suggest otherwise.

In rating student dances on three dimensions, classroom teachers were consistently more reliable raters than dance experts. Interrater reliability coefficients were estimated, finding strong agreement for the classroom teachers for creativity, technique, and aesthetics. The agreement of dance experts, however, is strong for creativity and moderate-to-strong for technique and aesthetics. Additionally, classroom teachers responded to the prompt *Recalling your observation of a student's dance that you rated high in creativity, how did you experience it or sense it physically?* The largest number of responses were coded to the theme of engagement, followed by felt in my body, anticipation, and emotional response. These responses suggest the classroom teachers activated mirror neurons when viewing student dances, and their strong interrater reliability suggests that mirror neurons were activated at least to the same extent as dance experts with more experience performing dance.

Chappell's (2007) case study of three dance experts uncovered the concept of reciprocity, "the ability to comprehend other people's perceptions, ideas and ways of doing things" (p. 44). The concept of reciprocity in dance assumes embodiment and also includes empathy. As a teacher, the construct might be useful for viewing creativity in action and

supporting its development in the classroom. The classroom teachers in this study provided examples of reciprocity in comments such as, *I felt myself moving with the dancer, anticipating their next move*, or *I could feel my breath catching when I sensed they went into a deep place of creativity*. Their responses suggest that classroom teachers experienced reciprocity when viewing and rating student dances.

Approximately 44% of the participants, however, did not answer the embodiment question from a first-person perspective. Instead, these participants commented on the students' works using description, interpretation, or judgment, for instance, *I felt the technique was strong, and the movement was confident*, or *Movements were varying and engaging*. If only a few such comments were found, it might be assumed that participants did not understand the question. When nearly half the respondents side-stepped the question, something else is indicated. People may be unable to access or are uncomfortable identifying their bodily sensations. Although not meeting the criteria of dance expert, sixty-four percent of the classroom teachers enjoy dance as a hobby. This study did not investigate whether the participants who answered from an embodied, first-person perspective were those with dance experience; however, no statistically significant association was found between respondents' dance experience and their ratings of creativity.

Classroom teacher beliefs and their ratings of creativity

Overall, classroom teachers' beliefs about creativity related positively with their creativity ratings. The more teachers valued creativity, took the democratic view of creativity, and believed creativity could be improve, the more reliably they were able to assess it. This association, combined with teachers' tendency to use psychosocial language to describe creativity is an important finding. Some teachers might be reluctant to assess

students' creativity because they do not want to thwart students' self-expression or make students feel self-conscious. This study was based on the view that the assessment of creativity is necessary in order to help students develop and improve their creativity skills in dance. There is a false dichotomy between accepting any product a student makes as creative versus holding creativity to an absolute measure. If, as the classroom teachers in this study believed, all students can be creative in dance and all students can improve in creativity, there is a need for teachers to learn to link the creativity of one product to the recognition of that creativity and to the development of creative skills necessary to improve the creativity of the next one. The positive association between beliefs and ratings suggest that the teachers in this study are making that connection. The next step is for teachers to learn how to develop the skills needed for improving creativity in dance, a conclusion that is consistent with the research literature that reports classroom teachers want more professional development in teaching for creativity.

Three individual belief statements had moderate-to-large statistically significant associations with teachers' ratings of creativity: *Improvisation is vital in school dance programs*, *It is important that students have free expression assignments in dance*, and *All children can express themselves creatively in dance*. These statements represent the societal value and democratic view of creativity and are relevant to the literature.

The association between classroom teachers' beliefs and ratings in the current study contrast with Gralewski and Kawowski's (2016) findings of no relationship between teachers' implicit theories of creativity, as measured by identifying traits of creative students, and their ratings of students' creativity and Hoff and Carlsson's (2011) study of students' creativity assessments. The moderate-to-large associations found in the current study are

aligned, to a point, with Connell's (2009) study of physical-education teachers. Of 198 respondents in Yorkshire, England, 94% viewed dance as *offering pupils a chance to be creative in a physical way*, and statistically significant associations were identified between that item and *when teaching dance in school the most important word for me is creativity* (r = .19). Connell did not relate these beliefs to ratings of creativity; however, 53% of the teachers in the study reported needing more training in the creative or compositional aspects of dance, suggesting they might not be confident rating creativity in dance.

In this study, the classroom teachers perceived improvisation as vital in school dance programs and were able to evaluate students' creative products reliably. Improvisation is considered a divergent-thinking skill essential to the creative process (Baer, 2016; Csikszentmihalyi, 1999; Guilford, 1968; Hocevar, 1981; Torrance, 1965, 1974). Studies comparing students participating in improvised versus nonimprovised classes or creative versus traditional classes have shown statistically significant differences on tests of divergent thinking (Kim, 1998; Reber & Sherill, 1981; Sowden et al., 2015). In the current study, classroom teachers did not view or rate students improvising, so it remains to be known the extent to which classroom teachers could reliably recognize creativity in the more fluid, less completed form of dance.

Dance and creativity

Research suggests that classroom teachers and dance experts do not teach creativity in dance because they are confused about what creativity is, they do not know how to assess it, and they fear disruption (Chappell, 2007; Connell, 2009; Cuellar-Moreno, 2016; MacLean, 2018; Melchoir, 2011; Urhahne, 2011). The findings of the current study suggest otherwise. The participants in this study were able to rate creative-dance products reliably, and

overwhelmingly, classroom teachers did not believe creativity disrupts learning. Their understanding of creativity was mixed. Classroom teachers understood creativity as novel or original; however, they did not recognize the element of surprise in the Creativity Beliefs Questionnaire, and they missed the useful or appropriate aspect of the two-part criterion. Classroom teachers did not understand creativity as domain specific, as evident in their responses to Q5 in the Creativity Beliefs Questionnaire. Their definitions of creativity suggest they predominantly understand it from a psychological perspective or as a divergent-thinking creative process evidenced by the use of terms such as expression, fluidity, freedom, exploration, improvisation, and out-of-the-box.

Research findings in the literature suggest that teachers are uncomfortable with the unexpected (Beghetto, 2010; Guilford, 1968; Reeves, 2009), however, classroom teacher responses in the current study offer a different perspective. Given that 44% of respondents did not answer the first embodiment question from a first-person perspective, one might speculate that teachers are out of touch with their physical sensations and perhaps hold fears associated with dance. The participants' responses to the second embodiment question, *Recalling a time you participated in dance yourself, how did you experience it or sense it physically?* suggest otherwise. Fewer than 5% of the responses mentioned fear or discomfort. Of those, several also mentioned letting go of the fear, such as *I was very self-conscious and constantly comparing myself to others…I still do it but am trying to let loose more and enjoy dancing because I really do,* or *As an adult, I felt embarrassed and wanted to do it 'right'…As a child, I felt free, confident, and found the experience to be fun*. Twenty-four responses specifically mentioned embodiment, and the majority of the responses (55%) were psychosocial, as consistent with the teachers' definition of creativity.

Of the demographic characteristic data collected from the participants, the *amount of dance offered* had a statistically significant correlation with teachers' creativity ratings. The classroom teachers in this study work in schools that offered dance in some capacity, even though nearly half of the dance offered is comprised of occasional dance parties, assemblies, or field trips. Perhaps this sample of classroom teachers reported positive views on creativity in dance and reliably rated students' dance products because they had experience with dance as an art form at their school. Perhaps teachers who fear dance did not volunteer to participate in this study. More research is needed to investigate how teachers' attitudes about dance are influenced by the dance programs offered at their schools.

Research suggests teachers do not know how to foster creativity in dance (Connell, 2009; Cuellar-Moreno, 2016; Melchoir, 2011), yet 34% of the classroom teachers in the current study teach dance to their students in some capacity, and 19 offered teaching tips when defining creativity. Statements such as *guidance with release, aided by choices, experiences, visual possibilities*, and *it takes time and patience* suggest that teachers have ideas about instructional practices that support creativity.

The findings of this study suggest that the dearth of dance programs (California Department of Education, 2019a; Guha et al., 2008) and that the limits to creativity in dance are not the result of teachers' beliefs or inability to recognize creativity. It is more likely that the same institutional barriers that limit teachers' ability to support children's creativity across subject matter restrict children's access to creativity in dance. The three barriers described most often in the literature are time pressures to teach too much academic content, lack of administrative support for the arts, and lack of confidence, knowledge, and skills to teach creativity in dance. As classroom teachers witness their students' creative expression in

dance, they increase their recognition of it. This cycle might lead to enhanced importance of creativity and, if appropriate resources are allocated to professional development, to improved creative teaching methodology and equity of access to dance education.

Conclusions

This study confirmed evidence found in the research literature that teachers' beliefs about creativity are related to their ability to recognize it. The classroom teachers in this study value creativity in dance, believe all children can be creative in dance and creativity in dance is not disruptive, and reliably recognized and assessed high, medium, and low levels of creativity in dance. Although the classroom teachers do not agree with researchers on all aspects of creativity, they hold ideas consistent with the literature on the creative process. Similar to the findings of Cropley et al. (2019) and Kampylis, Berki, and Saariluoma (2009), the findings of this study suggest that classroom teachers' beliefs about creativity are nuanced. Although they might hold inconsistent views of creativity, classroom teachers' perceptions of creativity counter popular myths; they do not adhere to a Big C view of creativity, and they do not hold art biases.

As a result of this study, CAT was found to assess students' creative works in the domain of dance reliably, and classroom teachers (nonexperts) proved to be effective raters of creativity in dance. This study is the first to use CAT for dance, and the findings of this study will add to the body of the creativity assessment literature.

Creativity ratings were not related to teaching experience, teaching setting, gender, or dance experience. The *amount of dance offered* at school was the only variable that had a statistically significant association with participants' ratings. Very little dance is offered in California schools, and many reasons are given for why that is so (California Department of

Education 2019a; Guha et al., 2008; Woodworth et al., 2007). This study's findings imply a cyclical link between availability of dance in education and teachers' perceptions. Classroom teachers working in schools that offer dance can recognize creativity when they perceive it in student work. Perhaps instead of waiting for evidence that teachers are on board with offering dance at the elementary-school level, school districts should commit to assuring that all California students have access to dance. Once dance programs are in place, teachers might come to recognize creativity in their students' dance works and increase their students' creative potential.

It has been assumed that classroom teachers are ill-equipped to teach creative dance at the elementary-school level for many reasons, including their inability to recognize creativity and evaluate it when they see it (Woodworth et al., 2007). The literature also has suggested that classroom teachers' misperceptions about creativity might be one cause for the lack of creativity or dance taught at the elementary level (Craft et al., 2007; Gralewski & Karwowski, 2016). These assumptions were not supported in this study. Classroom teachers were able to rate creativity in dance reliably and held few of the misperceptions of creativity found in the literature. It is more likely that other factors contribute to the small percentage of California elementary-school students receiving dance education. External factors such as insufficient instructional time, focus on improving academic test scores, and lack of support from district leaders have been cited as reasons classroom teachers are not teaching the arts (Guha et al., 2008). Further investigation is needed to understand why creativity in dance is neglected at the elementary-school level.

Implications for Research

This study suggests several lines of inquiry about creativity in dance. Dance is the least-taught art form in California schools (California Department of Education, 2019a; Guha

et al., 2008; Woodworth et al., 2007), and there is a scarcity of empirical studies on dance education found in the literature. Research is needed to examine further the validity of CAT in dance, to investigate teachers' perceptions of creative process and product, and to identify instructional practices that expand students' creative skills in dance.

Using CAT with larger samples of dance educators will add to the validity of the instrument's use for the dance domain. Studies are need to examine the validity of teachers' ratings across grade levels and teaching settings. Large samples are needed to investigate the independence or nonindependence of the creativity, technique, and aesthetic dimensions using principal component analysis. Mixed method approaches also are needed to investigate the reasons behind teachers' ratings.

CAT relies on raters' implicit definitions of creativity, and no explicit criteria are offered. Oreck et al. (2003) found that explicit criteria allowed raters who were not dance experts to assess dance effectively. The current study found classroom teachers, also nondance experts, to be reliable judges of students' creative dances using their implicit understanding of creativity. A two-group study of participants randomly assigned to rate student dance products using CAT or explicit criteria would test these findings.

The classroom teachers in this study were able to rate student creative-dance products consistently. Their definitions of creativity, however, were process oriented. There is a need to investigate teachers' recognition of creativity in the course of dance making. The creative process can look messy, especially in dance, where trial and error might include large movements or falling. Would classroom teachers recognize divergent-thinking strategies in dance such as flexibility, fluency, or elaboration? Would their beliefs about creativity still hold when considering the creative process instead of a product? Would there be more or less

disparity between their beliefs and recognition of creativity? Further research is needed into classroom teachers' recognition of creativity during the process of improvisation and during the acts of composing.

In this study, teachers rated students who they did not teach. There also is a need to investigate how classroom teachers view their own students' creativity. To what extent do their beliefs about creativity as a psychological phenomenon influence their ability to recognize or assess student creativity effectively? There is a need to recognize and unravel the popular myth that all self-expression is creative equally. There needs to be an uncoupling of the acceptance of students' identity and expression from students' manifestation of creativity in process and product. At the same time, the literature suggests extrinsic motivation and grading as inhibitors of creativity (Amabile, 1996; Beghetto, 2010; Guilford, 1968). There is more to understand about the assessment of creativity relative to each individual's creative products so that teachers can facilitate the development of the divergent and convergent skills necessary for composing creative dances.

The confluence theory of creativity was evident in the teachers' beliefs as their responses related to two of the four Ps of creativity (person and process) and when they were asked to assess a third (product). As a systems approach, the confluence theory is important in understanding the complexity of creativity as a construct; however, it might be useful to untangle the four Ps when considering creativity assessment. As long as the person, product, and process are jumbled in teachers' minds, it might be difficult to assess individual student's work accurately. Qualitative research, including practitioner research, can complement quantitative studies such as the current one by developing detailed, nuanced descriptions of teachers' perceptions of creative persons, processes, and products.

In this study, classroom teachers did not hold the view that creativity in dance interfered with learning or caused students to lose focus. There is a need to investigate associations between their strong beliefs about creativity in dance as not disruptive and their observations of student behavior and responses to that behavior. A study that measures the extent to which classroom teachers become uncomfortable when observing students' creative-process activities in dance would be beneficial to researchers, dance educators, and administrators who may shy from implementing dance programs due to concerns about student behavior.

Classroom teachers in this study associated creativity with novelty or originality but did not recognize the second-criterion of usefulness, appropriateness, or effectiveness. More information is needed about how classroom teachers and dance teachers recognize creativity so that appropriate assessments can be designed to evaluate both aspects of creativity. Dance experts were not more reliable raters of student choreography and performance than classroom teachers; however, they often are responsible for formal assessments of the National Core Arts Standards. More research is needed to understand the factors that influence classroom teachers and dance experts' ratings of creativity to provide effective assessment training and model assessments for use in the dance domain.

Finally, more research is needed to identify strategies that develop student creativity in dance. This study was a step toward understanding what teachers believe and the extent to which they recognize creativity in dance. It also established an association between teachers' beliefs and their creativity ratings. Now, research is needed to examine the relationship between their beliefs, their recognition of creativity, and their teaching practices. Such

information is essential so that professional development is designed to improve teachers' ability to foster creativity in dance.

Implications for Practice

Several implications for teacher education or professional development emerged from this study. Belief theory suggests that teachers' implicit theories act as a filter in their daily work and that perceptions and misperceptions influence the hundreds of in-the-moment decisions, personal interactions, and instructional practices each day. Teachers' beliefs about creativity make a difference in their ability to recognize creativity, as was found in this study.

The findings of this study suggest that teacher education and professional-development instruction should not assume that all classroom teachers hold misperceptions and misinformation. The teachers in this study valued creativity, held the democratic view that all students could be creative, and did not believe that creativity interfered with learning. An awareness of their beliefs is a good starting point for professional development that can encourage teachers to align their beliefs with pedagogical practices that further creativity in dance for all children. Identifying what classroom teachers already know and believe about creativity can help them investigate aspects of creativity where they still hold incomplete or inaccurate notions.

Teachers held a few misperceptions about creativity. They correctly understand that creativity is a discrete construct, but they also believed that students who were creative in dance were creative in other subjects. Teachers associated creativity with novelty or originality but did not recognize the second criterion of effectiveness, usefulness, or appropriateness. Notwithstanding their associating creativity with novelty, they did not recognize surprise as an aspect of novelty or originality. Professional development should focus on distinguishing the various components of creativity.

Classroom teachers did not believe that creative students had clear ideas right from the start—and idea that is consistent with fostering creative process skills that proceed through stages of exploration, incubation, and reflection and require perseverance. Improvisation was moderately associated with the teachers' creativity ratings, as well. There is a need for differentiating the various aspects of creativity in dance so that teachers can identify ways to teach to it.

Teachers could be given the opportunity to investigate their perceptions of creativity and those of their colleagues and to continue to debunk misperceptions through reflective practice and practitioner research. Action-research studies could be designed to help teachers become more aware of the nuances of their implicit beliefs that influence their judgments of student creativity in the process of making dances and in the final products. Participant research allows teachers to improve their ability to reflect in the moment--gaining greater awareness and better real-time decisions.

The results of this study highlighted two vital areas for professional development on creativity in dance: (a) increase familiarity with the two-part (novel and useful) criterion for creativity and practice designing tasks where both parts can be fulfilled and recognized and (b) further investigate classroom teachers' views on the psychological benefits of creativity and practice distinguishing the importance of self-actualization from the rigor of growing as a creative individual. What is meant by practice in these recommendations is hands-on, experiential activities to explore teaching to creativity. If teachers believe that creativity can be developed, they will need to learn how to do so. To learn to do so, they will need to recognize that students exhibit ranges of levels of creativity on specific tasks and those levels are not fixed or reflective of an absolute determination of creativity. These two areas of

teacher education would be effective content for dance experts as part of the training for the new California dance-teaching credential and for classroom teachers who likely will remain responsible for the implementation of dance at the elementary-school level.

Although the participants in this study reliably rated student dance works, there exists a tension between what teachers say they value about creativity and their tendency to spend more time teaching steps or follow-along dance moves instead of creative dancemaking (Cuellar-Moreno, 2016; Rolfe, 2001). Even dance experts who value creativity vary in balancing freedom and control (Chappell, 2007). The dance experts in the current study met as a group and discussed the reasons for their ratings. Conversations such as these are important to identify underlying characteristics of what makes a dance creative and to align those characteristics with the two-criterion definition of creativity found in the research literature. There should be more opportunities for collaboratively examining students' work in dance, and more time allocated for critical reflection on any discrepancies between beliefs and actions.

Classroom teachers perceive creativity in dance as positive for their students and positive for their psychological wellbeing, yet remain reluctant to make time for dance in the classroom beyond an occasional dance party or dance-along video. The classroom teachers in this study associate creativity in dance with self-expression, emotional expression, freedom, engagement, and self-determination. Teachers can make a cognitive connection between their beliefs about creativity and the opportunities they provide students for creative expression during the school day.

The literature suggests that teachers do not teach creative dance because they do not know how. The teachers in Connell's (2009) and Cuellar-Moreno's (2016) studies

highlighted the need for professional development in dance creativity. Classroom teachers can learn how to lead students through creative explorations of the elements of dance, to compose dance studies, and to reflect on and improve their work. To do so will require finding the time and the will to include the creativity dimension of the arts in the preservice curriculum.

The findings of this study open up the opportunity for a more extensive discussion about assessing the creating process of the National Arts Standards and the soon to be implemented California Arts Standards. To date, the model assessments available in the standards only evaluate the usefulness or appropriateness of the dance to the task; originality, surprise, or novelty tend to be ignored. Rubrics are problematic in creativity assessment because to provide descriptive criteria at the highest level contradicts the very definition of novelty. One recent exception is a rubric designed by Kranicke and Pruitt (2012). Like other dance rubrics, it suffers from too much specificity focusing on task achievement; however, the authors left space for novelty at the highest level of the rubric, allowing teachers to recognize something surprising or unexpected, describe it, and rate it so. There is an adage that what is assessed is what is taught. Dance assessments must distinguish novelty and usefulness from task fulfillment and distinguish process from product if teachers are to teach creativity. To do so, professionals must make time for critical conversations about these distinctions and find ways to assess creativity in dance authentically.

Even with the increasing public awareness of a body-mind connection and the importance of creativity, only 2% of California public-school students receive any type of dance instruction according to the California Department of Education Arts Education Data Project (2019) or 9% according to earlier studies (Guha et al., 2008; Woodworth et al., 2007).

The lack of dance disproportionately effects children of color and those from low socioeconomic communities (California Department of Education, 2019a; Guha et al., 2008; Woodworth et al., 2007). The findings of this study align with the systems model of creativity suggesting implications for practice by classroom teachers and dance educators, implications for assessment design, and implications for California teacher-certification policymakers.

The amount of dance offered in the participants' schools had a statistically significant correlation with their creativity ratings in this study. Classroom teachers believed that creativity is vital, that creativity is universal and can be developed, and that creativity in dance does not disrupt learning, yet little dance is being taught. Rather than await public demand for dance at the elementary-school level, California policymakers might invest in allocating resources to dance programs across the state for equity, teacher knowledge, and field research. As classroom teachers witness their students' creative expression in dance, they increase their recognition of it. This cycle might lead to enhanced importance of creativity and, if appropriate resources are allocated to professional development, improved creative teaching methodology.

Afterword

From interviews with hundreds of teachers over several decades, I have collected anecdotal evidence that, through dance, students learn to express themselves multidimensionally, learn to collaborate, and experience freedom or agency. Dance in schools is not about developing professional dancers or choreographers, even though some students might discover such a career. Neither is the purpose of dance in schools to raise test scores nor increase reading skills, although such claims are made and disproven. The value of

dance in education is that it provides students the opportunity to express themselves using their bodies and minds creatively. This research topic emerged from the conflicting perceptions of the purpose of dance in schools.

Some teachers embrace students expressing themselves in their bodies, and others fear it. Dance teachers say they perceive pressure to prove that dance can improve academic learning, even though no such proof exists. At the elementary-school level, the classroom teachers' attitudes toward dance influence the students' experience with dance. Students notice when their teacher is enjoying their creative ideas, and they notice when their teacher is angry about perceived chaos in the room. Although I have been curious about how teachers comprehend the dance class experience, this research allowed me to investigate aspects of their perceptions in a formal way.

Over nearly 2 years of completing this research, I learned many things. I made decisions that created ease during the writing of the dissertation, and I made mistakes. Formulating the research questions and developing the instrument were challenging tasks because the dual nature of beliefs theory and creativity assessments required synthesizing vast amounts of literature—little of which related to my study directly. It was extremely worthwhile to develop a spreadsheet of the literature coded to specific areas of interest. Using Excel, I was able to track over 400 studies and reference them easily. This literature database will be useful for future studies. Also, it was helpful to adhere to a rigorous timeline.

Although keeping me organized, I learned that my rigorous timeline did not align with the realities of the sample population. Data collected from classroom teachers did not proceed on my schedule due to the enormous demands on their time and, in California,

October wildfires that interfered with their curricular plans. I chose a snowball sampling approach, in part, to avoid the delays caused by applying for IRB approval at individual school districts. I perceived it as an easy way to get statewide teacher representation. In reality, there was much delay between asking teachers to help me recruit and their actual recruitment, and tracking and following up was cumbersome. In my case, I was able to hire a research assistant using a small research scholarship. Without such administrative support, I might not have collected sufficient data.

In two cases, teachers hosted in-person events for teachers to participate. These gatherings were a potential risk to the CAT guidelines of independence that was mitigated by the research assistant's proctoring of the participation. If I were to replicate this study, I would consider applying for IRB approval from large districts and asking colleagues to help recruit from less-represented areas. Also, I would find ways for teachers to complete the questionnaire independently in the context of other professional activities such as staff meetings.

I intended to develop an instrument that would collect the data that I needed to answer the research questions without impinging too much on teachers' time. It was my hope that they would find the questions interesting and enjoy participating in the study. I strove for a balance between the need for a sufficient number of video ratings and the need for the brevity of completion time. Several teachers responded to the research assistant that they enjoyed participating and before deleting the email addresses, she thanked them and told them to contact her if they would like to receive a copy of the paper's Abstract. I would have liked to hold a follow-up discussion or focus group with participants to get feedback on the

process and to gather more information on their responses. My future research projects will incorporate a qualitative component.

Data entry into SPSS is another action I would do differently. Although I designed the datasheet to hold a wide range of variables, I did not allow for the missing data in the setup and it took extra time to correct the entries. I also compared different scales: one with high-to-low ratings of 1 to 5 and the other with high-to-low ratings of 6 to 1. It was relatively easy to reverse the results on one of the scales; however, it was a step that would not have been necessary if had I entered the data with these analyses in mind. Additionally, the various analyses compared samples with a range of responses from 72 to 76. In hindsight, I would have considered the analyses more carefully before setting up the SPSS datasheet.

Finally, the completion of this dissertation coincided with the unprecedented global pandemic Covid-19. The resulting Shelter in Place mandates required classroom teachers to quickly pivot their instruction to online formats and abruptly terminate all dance programs. I was lucky to be able to complete this dissertation because the data had been collected prior to the outbreak. Covid-19 exposed inequities in education that existed prior but were ignored. It also revealed classroom teachers' commitment to their students, their ability to adapt, and the importance live, in-person teaching. I learned that research in education is important, but the certainty of completing a study of people in schools (teachers or students) is fragile and cannot be assumed. Making sure that participants' time is respected and that the research study is meaningful are essential requirements.

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APPENDICES

Appendix A

Letter Requesting Parental Consent for Pilot Study and Sample Consent Form

25 September 2018

Dear _____:

Your child _____ was a student _____(date) to _____(date). During that time, she/he engaged creative experiences that included exploring and improvising dance concepts, composing and choreographing short dance studies, and learning how to reflect and respond to aesthetic dance experiences. I believe I speak for all of us at Luna when I say how much we enjoyed having _____ participate in our program.

As you might remember, Luna Dance Institute is a comprehensive dance education organization that provides professional resources to dance educators and classroom teachers in addition to teaching children directly. When your child was enrolled with us, you signed a form granting us permission to take photographs or video-recordings of your child in dance class and use them for education or promotional purposes. We believe we have acted with integrity to preserve the anonymity of the children represented in all media.

Today, I am writing to request consent again. I request your consent to use a 50-60 second video clip of your child dancing for research purposes. This is my fourth year of a five-year doctoral program at the University of San Francisco, School of Education. The purpose of my dissertation research is to better understand how teachers recognize creativity in students' dance-making processes and products. Thirty short video clips of student dances will be viewed by seven experienced dance educators as part of the pilot study this fall 2018. These educators will view and rank each dance's creativity based on their subjective, yet expert, definition of creativity in dance. Once ranked, nine clips will be selected to be included in a larger questionnaire about creativity beliefs and perception distributed to 200 elementary educators across the state in fall 2019. The potential benefit of this study will be improved understanding about teachers' perceptions of creativity so that teacher education programs can appropriately support arts education. As one who has worked in dance education for several decades, I can attest that the field needs empirical studies to improve efforts to nurture creativity.

Your child's anonymity will be maintained throughout the video selection, editing, viewing, ranking, and reporting of the study. All identifying information about your child will be removed from the tapes, such as assuring that teachers' voices using children's names will be erased. The video clips will be encrypted so that study participants will be unable to copy or download them in any way. Upon completion of the project, all video clips will be housed on an external hard drive and stored in a locked and secure location at the Luna Dance Institute's offices.

I would appreciate your consent in using images of your child's dance-making for this research project. Please sign the permission form included with this letter and return in the enclosed self-addressed, stamped envelope by October 20, 2018.

Thank you in advance.

Sincerely,

Patricia Reedy
Director Teaching & Learning, Luna Dance Institute
Doctoral Student, University of San Francisco

CONSENT FORM

By signing below, I, _____, the parent or legal guardian of _____ grant permission for video clips of my child taken between _____(date) and _____(date) to be used in the dissertation research of Patricia Reedy between October 23, 2018 and May 1, 2020.

I understand that I am volunteering to have my child's image included in this study and that I may refuse participation without affecting my relationship with Patricia Reedy or Luna Dance Institute. I understand that the purpose of this study is to ascertain elementary teachers' perceptions and beliefs about creativity in dance. The video clips that include my child will be viewed by thirty expert dance educators in fall 2018 and possibly selected for viewing by 200 educators in fall 2019.

I understand that my child's identity will be protected and there are no known risks or discomforts associated with his/her image used in this study.

_____ _____

Signature Date

CONSENT TO PARTICIPATE IN A RESEARCH STUDY (PARENT)

You have been asked to grant permission to use videos of your child, recorded between 2009-2018 at Luna Dance Institute, in a research study conducted by Patricia Reedy, a graduate student in the Department of Learning and Instruction at the University of San Francisco. The faculty supervisor for this study is Dr. Patricia Busk, a professor in the same department.

WHAT THE STUDY IS ABOUT:

The purpose of this research study is to understand the extent to which expert dance educators agree when rating children's creativity in dance-making. Approximately 25 short video clips of student dances will be viewed by 30 experienced dance educators. The educators will view and rank the creativity of each dance study based on their subjective, yet expert, definition of creativity in dance. The dance product, not the dancer, is the level of assessment.

WHAT YOU ARE ASKED TO DO:

Patricia Reedy, researcher, is requesting permission to use a previously recorded video clip of your child dancing at Luna Dance Institute. Your child's dances were recorded during class, rehearsal, or performances when your child was 10-15 years of age. I request permission to use one to three sample clips of your child for this study.

DURATION AND LOCATION OF THE STUDY:

Expert dance educators will be provided 25 clips of solo studies choreographed and performed by children ages 10-15. Each clip is approximately 45-90 seconds in length. Expert viewers will be provided an anonymous link to the tapes through our vimeo account which is encrypted at the highest level of security. The study will take place November, 2018.

POTENTIAL RISKS AND DISCOMFORTS:

As the videotapes have been recorded years ago, there are no risks or discomfort to your child at this time. If you do not wish me to use your videotapes of your child dancing, I will not do so.

BENEFITS:

You and your children will receive no direct benefit from my using videotapes of your children dancing in this study; however, the possible benefits to others include an improved understanding about teachers' perceptions of creativity in dance.

PRIVACY/CONFIDENTIALITY:

Your children's anonymity will be maintained throughout the video selection, editing, viewing, ranking, and reporting of the study. All identifying information about your child will be removed from the tapes, such as assuring that teachers' voices using children's names will be erased. Study participants will be unable to copy or download video clips in any way. Upon completion of the project, all video clips will be housed on an external hard drive and stored in a locked and secure location at the Luna Dance Institute offices in Berkeley, California.

COMPENSATION:

There is no payment or other form of compensation for using a video of your child dancing in this study.

ADDITIONAL INFORMATION:

Please ask any questions you have before signing this consent form. If you have questions at a later date, feel free to contact me at _____ or call me at _____. If you have any questions or concerns about your rights as a participant in this study, you may contact the University of San Francisco Institutional Review Board at IRBPHS@usfca.edu.

I HAVE READ THE ABOVE INFORMATION. ANY QUESTIONS I HAVE ASKED HAVE BEEN ANSWERED. I AGREE TO HAVE ONE TO THREE PREVIOUSLY RECORDED VIDEO CLIPS OF MY CHILD USED IN THIS RESEARCH PROJECT AND I WILL RECEIVE A COPY OF THIS CONSENT FORM.

_____ _____

Parent Signature Date

Child's Name _____ Date of birth _____

Child's Name _____ Date of birth _____

_____ _____

Researcher Signature Date

Appendix B

Creativity Beliefs Questionnaire
Final version, Pilot Version, Original Version

Teacher Creativity Beliefs Study (Final version)

Thank you for agreeing to participate in my dissertation research. Please indicate your level of agreement with each statement on the questionnaire. Please answer ALL questions. After you have responded to the questions about creativity, please answer the demographic questions. There will be no association between your answers in either section and your personal identifying information, keeping all data anonymous and confidential.

Section I: Teacher Creativity Beliefs about Dance

1. **When considering dance in school, the most important word for me is creativity.**

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

2. **It is important to offer students a chance to be creative in a physical way.**

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

3. **Creativity is an ability that only a few students possess.**

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

4. **People are either creative or they are not.**

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

5. **Children who are creative in dance are creative in other subjects.**

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

6. **Students tend to be creative or technical in dance but not in both.**

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

7. **It is important that students have free expression assignments in dance.**

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

8. **Opportunities for free expression in school interfere with learning.**

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

9. **Students lose focus when asked to be creative in dance.**

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

10. Creative students have clear dance ideas right from the start.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

11. A student's dance is creative if it has elements of surprise.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

12. Children can improve their creativity in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

13. Improvisation is vital in school dance programs.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

14. All students can express themselves creatively in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

15. In your own words, please give your definition of creativity in dance or list words that you associate with creativity in dance _____

_____

_____

Section II: Demographic Information

A. Where do you teach?

❑Public elementary school ❑Public K-8 school ❑Private elementary ❑Other_____

B. What grade(s) do you currently teach? _____

C. What percentage of your students qualifies for free or reduced lunch?

❑<5% ❑5-20% ❑21-50% ❑51-75% ❑more than 75%

D. What is your teaching position?

- ❑ California teaching credential, multiple subject
- ❑ California teaching credential, physical education
- ❑ California teaching credential, special education certification
- ❑ California teaching credential, music or art
- ❑ Student teacher in process of earning credential
- ❑ More than one certificate or credential
- ❑ Other_____

E. How many years have you been teaching? _____

F. What is your experience with dance? *check any or all that apply*
- ❑ Enjoy dancing as hobby
- ❑ Studied dance extensively
- ❑ Currently choreography or perform
- ❑ Professional development in dance education
- ❑ Teach dance to my students
- ❑ Use the National Core Arts Standards for Dance in my teaching
- ❑ None

G. How is dance offered at your school? *check any or all that apply to any group of students at your school.*
- ❑ Taught weekly by specialist
- ❑ Taught in physical education classes
- ❑ Taught by teaching artists in 6-10 week residencies
- ❑ Taught in afterschool program
- ❑ Dance club
- ❑ Integrated into classroom by teacher other than myself
- ❑ Integrated into classroom by me
- ❑ Occasional dance party, dance jam, assembly, or similar event
- ❑ Other _____

H. What is your gender?

❑Female ❑Male ❑Trans ❑Fluid ❑Prefer not to state ❑Other _____

THANK YOU AGAIN FOR YOUR PARTICIPATION

Teacher Creativity Beliefs (version 2 Pilot Study)

Thank you for agreeing to participate in this pilot study investigating the reliability of a questionnaire I wish to use as part of my dissertation research. Please indicate your level of agreement with each statement on the questionnaire. Please answer ALL questions. After you have responded to the questions about creativity, please answer the demographic questions. There will be no association between your answers in either section and your personal identifying information, keeping all data anonymous and confidential. When you complete both sections, please send your responses to _____.org with *Creativity Beliefs Questionnaire* in the subject line.

Section I: Teacher Creativity Beliefs About Dance

1. Creativity is an ability that only a few students possess.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

2. People are either creative or they are not.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

3. It is important to offer students a chance to be creative in a physical way.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

4. Opportunities for free expression in school interfere with learning.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

5. I may not like dance, but I can appreciate its creativity.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

6. Bodily coordination is the most important factor of creativity in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

7. Dance technique is vital in schools.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

8. When considering dance in school, the most important word for me is creativity.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

9. Students lose focus when asked to be creative in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

10. It is important that students have free expression assignments in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

11. Improvisation is vital in school dance programs.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

12. All students can express themselves creatively in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

13. Children who are creative in dance are creative in other subjects.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

14. Students tend to be creative or technical in dance but not in both.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

15. Children can improve their creativity in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

16. A dance can be technically strong but not very creative.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

17. Creativity in dance requires a good sense of rhythm.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

18. Making order out of chaos is what creativity looks like in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

19. All students can invent new movements.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

20. When acting silly, students are not showing their creativity.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

21. Creative students have clear dance ideas right from the start.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

22. If a students' dance is predictable, it is creative.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

23. A dance is creative if it has a variety of movements.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

24. In your own words, please give your definition of creativity in dance or list words that you associate with creativity in dance _____

_____

_____

Section II: Demographic Information

A. Where do you teach?

❑Public elementary school ❑Public K-8 school ❑Private elementary ❑Other_____

B. What grade(s) do you currently teach? _____

C. What percentage of your students qualifies for free or reduced lunch?

❑<5% ❑5-20% ❑21-50% ❑51-75% ❑more than 75%

D. What is your teaching position?

- ❑ California teaching credential, multiple subject
- ❑ California teaching credential, physical education
- ❑ California teaching credential, special education certification
- ❑ California teaching credential, music or art
- ❑ Student teacher in process of earning credential
- ❑ Other_____

E. How many years have you been teaching? _____

F. What is your experience with dance? *check any or all that apply*

- ❑ Enjoy dancing as hobby
- ❑ Studied dance extensively
- ❑ Currently choreography or perform
- ❑ Professional development in dance education
- ❑ Teach dance to my students
- ❑ Use the National Core Arts Standards for Dance in my teaching
- ❑ None

G. How is dance offered at your school? *check any or all that apply to any group of students at your school.*
   - ❑ Taught weekly by specialist
   - ❑ Taught in physical education classes
   - ❑ Taught by teaching artists in 6-10 week residencies
   - ❑ Taught in afterschool program
   - ❑ Dance club
   - ❑ Integrated into classroom by teacher other than myself
   - ❑ Integrated into classroom by me
   - ❑ Occasional dance party, dance jam, assembly, or similar event
   - ❑ Other _____
   - ❑ Dance is not offered in any way at my school

H. What is your gender?

❑Female ❑Male ❑Trans ❑Fluid ❑Prefer not to state ❑Other _____

END OF SURVEY

Please return to hstockton@lunadanceinstitute.org or mail to Heather Stockton c/o Luna Dance Institute _____Berkeley, CA 94710

THANK YOU AGAIN FOR YOUR PARTICIPATION

Teacher Creativity Beliefs (version 1)

Please indicate your level of agreement with each statement. Please respond to every statement.

Views of creativity

1. New ideas must be generated to enact positive change.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

2. If there were more creative people, more problems would be solved.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

3. Children need opportunities to express their feelings.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

4. When individuals approach problems in unique ways, they add to humanity's knowledge of the world.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

5. Opportunities for free expression in school interferes with learning.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

6. Inventive thoughts are necessary for growth in any field of study.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

7. The world really needs creative people.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

8. All students can develop original ideas.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

9. People can improve their creativity.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

10. People are either creative or they are not.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

11. Students who are creative in one subject are creative in other subjects.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

12. All people can learn to produce something innovative.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

13. Creativity is an ability that only a few students possess.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

14. Students only demonstrate their creativity when making art.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

15. All students can grow in their creative problem-solving skills.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

Views of Creativity in Dance

16. I may not like dance, but I can appreciate its creativity.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

17. Bodily coordination is the most important factor of creativity in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

18. It is important to offer students a chance to be creative in a physical way.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

19. Dance technique is vital in schools.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

20. When considering dance in school, the most important word for me is creativity.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

21. It is important that students have free expression assignments in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

22. Improvisation is vital in school dance programs.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

23. All students can express themselves creatively in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

24. Children who are creative in dance are creative in other subjects.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

25. Students tend to be creative or technical in dance but not in both.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

26. Children can improve their creativity in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

27. A dance can be technically strong but not very creative.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

28. Creativity in dance requires a good sense of rhythm.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

29. Making order out of chaos is what creativity looks like in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

30. All students can invent new movements.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

31. When acting silly, students are not showing their creativity.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

32. Creative students have clear dance ideas right from the start.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

33. If a students' dance is unpredictable, it is <u>not</u> creative.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

34. A dance is creative if it has a variety of movements.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

35. In your own words, please give your definition of creativity in dance_____

Appendix C

Email Request and Expert Consent form for Pilot Study and Email Procedure Conveyance

Name individualized and sent by email

Dear (Expert):

I'm writing to request your participation in a research study on children's creativity in dance-making that will be used as a pilot toward my doctoral dissertation at the University of San Francisco, School of Education. The purpose of my dissertation research is to understand better how teachers recognize creativity in students' dance-making processes and products.

Approximately 25 short video clips of student dances have been prepared to be viewed by 30 experienced dance educators this fall 2018. Each expert will view and rank the creativity of each dance study based on their subjective, yet expert, definition of creativity in dance. **The dance product, not the dancer, is the level of assessment**. It is expected that the ranking will take between 1.25 to 1.5 hours to complete. If you agree to participate as a rater, you will receive a random-ordered video album and instructions by Heather Stockton to keep your responses confidential from me. Ms. Stockton will compile all response sheets, identified only by rater number, and give them to me for analysis. There will be no association between your name and your responses. The rating process will take place from November 1st through 14th. Each rater will be given their choice of a one-hour free consultation at Luna Dance Institute on a topic related to dance teaching and learning or a $25 gift card of their choice.

Once ranked, representative clips will be selected for inclusion in a more extensive questionnaire about creativity beliefs and perception distributed to 200 elementary educators across the state in fall 2019. The potential benefit of this study will be improved understanding of teachers' perceptions of creativity so that teacher education programs can appropriately support arts education. As one who has worked in dance education for several decades, I can attest that the field needs empirical studies to improve efforts to nurture creativity.

If you are willing to serve as an expert rater in this study, please read the attached consent form that describes that explains your rights as a research participant. If you consent to participation, please send a reply email to me indicating that you have read and agree to participate in the research study as described in the Consent Form.

Sincerely,

Patricia Reedy
Director Teaching & Learning

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

You have been asked to participate in a research study conducted by Patricia Reedy, a graduate student in the Department of Learning and Instruction at the University of San Francisco. The faculty supervisor for this study is Dr. Patricia Busk, a professor in the same department.

WHAT THE STUDY IS ABOUT:

The purpose of this research study is to understand the extent to which expert dance educators agree when rating children's creativity in dance-making. 30 experienced dance educators will view approximately 25 short video clips of student dances. The educators will view and rank the creativity of each dance study based on their subjective, yet expert, definition of creativity in dance. The dance product, not the dancer, is the level of assessment.

WHAT YOU ARE ASKED TO DO:

You are asked to rate 25 video clips of children taped 2009-2018 at Luna Dance Institute during class, rehearsal, or performances. Parental permission has been granted for taping and viewing these clips. The rating process will follow the guidelines of the Consensual Assessment Technique as follows: 1) no rubric or training will be provided as it is expected that each judge will have **implicit criteria** for creativity; 2) all assessments will be conducted **independently**; 3) raters are instructed to **rate the samples relative to each other**, rather than against a specific cultural standard; 4) samples will be presented in a **different random order** to each judge; 5) ratings will be collected on technical and aesthetic dimensions to provide evidence of **construct validity**. The unit of analysis is the **product, not the dancer** nor the rater. Ratings will be made on a scale of 1 to 6 with 1 being the least creative and 6 being the most.
Upon providing consent, you will be presented with specific instructions on how to complete the ratings.

DURATION AND LOCATION OF THE STUDY:

There are 25 clips of approximately 45-90 seconds in length. You will be provided an anonymous link to the tapes through Luna’s Vimeo account which is encrypted at the highest level of security. The study will take place in November 2018.

POTENTIAL RISKS AND DISCOMFORTS:

I do not anticipate any risks or discomfort from participating in this research, beyond the time spent rating the clips. If you wish, you may choose to withdraw your consent at any time during the study without penalty.

BENEFITS:

There is no direct benefit to you for participating in this study. Possible benefits to others include an improved understanding of teachers' perceptions of creativity in dance.

PRIVACY/CONFIDENTIALITY:

Your anonymity will be maintained throughout ranking, analysis, and reporting of the study. All identifying information will be removed from the rating forms. Vimeo security will assure that you will be unable to copy or download video clips in any way. Upon completion of the project, all video clips and rating sheets will be housed on an external hard drive and stored in a locked and secure location at the Luna Dance Institute's offices in Berkeley, California.

COMPENSATION:

You will receive a $25 gift card or a coupon for consulting with Luna Dance Institute faculty for your participation.

ADDITIONAL INFORMATION:

Please ask any questions you have before signing this consent form. If you have questions at a later date, feel free to contact me at _____.org or call me at _____. If you have any questions or concerns about your rights as a participant in this study, you may contact the University of San Francisco Institutional Review Board at IRBPHS@usfca.ed.

I HAVE READ THE ABOVE INFORMATION. ANY QUESTIONS I HAVE ASKED HAVE BEEN ANSWERED. I AGREE TO HAVE MY CHILDREN PARTICIPATE IN THIS RESEARCH PROJECT, AND I WILL RECEIVE A COPY OF THIS CONSENT FORM.

_____ _____ Dance

Teacher Signature Date

_____ _____

Researcher Signature Date

Email text about procedure sent from research assistant, Heather Stockton

Dear _____,

Thank you so much for agreeing to be a rater in Patricia's research project. You are hearing from me because from this point on, Patricia is not to associate people with their ratings in any way—anonymity is essential for validity.

In this email you will find **three** items:

- A link to your unique, customized video album; please note these videos **do not** have audio
- A unique rating form that matches your album; this 9-page item is attached to this email
- Rating instructions; also attached to this email

Before getting started, please read the instructions and ask any questions about the process that might not be clear. If they are questions about the procedure, you can ask Patricia directly (_____.org), if there is a question or confusion about the materials, please ask me.

Once you start, please try to complete the ratings in one sitting, do not leave blanks, and do not confer with anyone. Try to use the full range from 1 (low) to 6 (high). These are confidential tapes so we ask that you do not save them to your computer beyond the time it takes to complete the ratings. The entire process should take approximately one hour. The original deadline for completion was 11/16/18. If you need more time, please say so when you respond to the email as described below.

Please respond to this email saying:

1) YES, I received the materials. Please say now if you can complete by 11/16 or if you need an extension until 11/18.
2) As a thank you I would like
    a. A coupon for one-hour consultation with Patricia; or
    b. A $25 gift card

Thank you again for participating in this research!

Appendix D

Instructions to Raters for Pilot Study

INSTRUCTIONS TO CREATIVITY RATERS

This rating process uses the conceptual definition and follows the guidelines of the Consensual Assessment Technique.[1]

1. No rubric or training is provided. It is expected that each judge, experienced in the domain of dance, has **implicit criteria** for creativity.

2. All assessments are to be conducted **independently**. Please do not confer with anyone about the ratings and complete the assessments in one sitting.

3. The unit of analysis is the **dance product**, not the dancer in the clip. Each clip should be rated **relative to** the others, rather than to a specific cultural standard.

4. Ratings are to be made on a scale of 1 to 6 with 1 being the least creative and 6 being the most. As much as possible, please try to **use the full range** of the scale. Indicate your rating by placing a large X over the number.

5. Samples have been presented in a **random order** in a video album that is unique to you.

6. In addition to rating the **creativity** of the dance work, please provide a rating for **technique** and **aesthetics** as operationally defined below. These ratings are only used to determine construct validity for the creativity measure.

7. Students in these clips created original dance works in response to **open-ended tasks** given by their dance teacher at Luna Dance Institute 2009-2018. The task is indicated in the title description. Students were 10-15 years of age when the dances were recorded.

8. Please complete ratings on all 3 dimensions for all 24 videos. You may print the rating sheets & mail them to Heather Stockton c/o Luna Dance Institute, _____, Berkeley, CA 94710 or you may complete them electronically and return completed forms to _____.org.

Definition of Creativity
A product or response will be judged as creative to the extent that it is both a novel and appropriate, useful, correct, or valuable response to the task at hand.

Definition of Technique[2]
The extent to which the dance is performed using technical skills as understood by rater to be appropriate for dance including physical control, coordination, and agility.

Definition of Aesthetics
The extent to which the rater likes or enjoys the dance.

---

[1] Amabile, T. (1996). Creativity in Context. Boulder, CO: Westview Press

[2] Oreck, B. A., Owen, S. V., & Baum, S. M. (2003). Validity, reliability, and equity issues in an observational talent assessment process in the performing arts. *Journal for the Education of the Gifted, 27,* 62-94.

Appendix E

Customized Rating Sheet for Pilot Study

CREATIVITY RATING SHEET **Rater ID: 11-18-A page one**

Demographic Information

Please answer these three demographic questions to your best estimate.

1) Your age
2) Number of years choreography/performance experience _____
3) Number of years teaching experience _____
4) Age of students taught (check all that apply)

❑ <5 years of age ❑ 5-10 years of age ❑ 11-18 years of age ❑ adults

---

Ratings

Please complete all items for all videos. Place an X over the number that best represents your implicit definitions/values as indicated in the instruction sheet. Marking 1 (one) indicates the least creative, technical, aesthetic and 6 (six) is the most.

VideoClip ID: 1803

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

VideoClip ID: 1823

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

Rater ID: 11-18-A page two

Please complete all items for all videos. Place an X over the number that best represents your implicit definitions/values as indicated in the instruction sheet. Marking 1 (one) indicates the least creative, technical, aesthetic and 6 (six) is the most.

VideoClip ID: 1806

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

VideoClip ID: 1804

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

VideoClip ID: 1807

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

Rater ID: 11-18-A page three

Please complete all items for all videos. Place an X over the number that best represents your implicit definitions/values as indicated in the instruction sheet. Marking 1 (one) indicates the least creative, technical, aesthetic and 6 (six) is the most.

VideoClip ID: 1811

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

VideoClip ID: 1808

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

VideoClip ID: 1819

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

Rater ID: 11-18-A page four

Please complete all items for all videos. Place an X over the number that best represents your implicit definitions/values as indicated in the instruction sheet. Marking 1 (one) indicates the least creative, technical, aesthetic and 6 (six) is the most.

VideoClip ID: 1821

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

VideoClip ID: 1818

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

VideoClip ID: 1814

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

Rater ID: 11-18-A page five

Please complete all items for all videos. Place an X over the number that best represents your implicit definitions/values as indicated in the instruction sheet. Marking 1 (one) indicates the least creative, technical, aesthetic and 6 (six) is the most.

VideoClip ID: 1817

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

VideoClip ID: 1825

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

VideoClip ID: 1812

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

Rater ID: 11-18-A page six

Please complete all items for all videos. Place an X over the number that best represents your implicit definitions/values as indicated in the instruction sheet. Marking 1 (one) indicates the least creative, technical, aesthetic and 6 (six) is the most.

VideoClip ID: 1816

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

VideoClip ID: 1805

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

VideoClip ID: 1801

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

Rater ID: 11-18-A page seven

Please complete all items for all videos. Place an X over the number that best represents your implicit definitions/values as indicated in the instruction sheet. Marking 1 (one) indicates the least creative, technical, aesthetic and 6 (six) is the most.

VideoClip ID: 1815

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

VideoClip ID: 1820

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

VideoClip ID: 1809

Creativity

1 2 3 4 5 6

Technique

1 2 3 4 5 6

Aesthetics

1 2 3 4 5 6

Rater ID: 11-18-A page eight

Please complete all items for all videos. Place an X over the number that best represents your implicit definitions/values as indicated in the instruction sheet. Marking 1 (one) indicates the least creative, technical, aesthetic and 6 (six) is the most.

VideoClip ID: 1824

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

VideoClip ID: 1810

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

VideoClip ID: 1822

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

Rater ID: 11-18-A page nine

Please complete all items for all videos. Place an X over the number that best represents your implicit definitions/values as indicated in the instruction sheet. Marking 1 (one) indicates the least creative, technical, aesthetic and 6 (six) is the most.

VideoClip ID: 1802

Creativity

1	2	3	4	5	6

Technique

1	2	3	4	5	6

Aesthetics

1	2	3	4	5	6

END OF RATINGS

Please return to _____

If you wish to print & submit hard copies of your assessment, please mail to:
Heather Stockton, c/o Luna Dance Institute, _____

Appendix F

Frequencies, Totals, Means, and Standard Deviations of Video Ratings by Experts in Pilot Study

Table 2

Frequencies, Totals, Means, and Standard Deviations of Creativity Ratings of Student Choreography Video Samples by Expert Dance Educators

	Rating Frequency								
Video ID	1	2	3	4	5	6	Total	Mean	SD
1801	0	1	1	7	7	14	152	5.07	1.08
1802	0	0	1	0	3	26	174	5.80	0.61
1803	1	1	1	8	12	7	140	4.67	1.18
1804	1	3	9	10	7	0	109	3.63	1.07
1805	0	3	5	8	6	8	131	4.37	1.33
1806	0	3	10	3	12	2	120	4.00	1.20
1807	2	4	11	7	6	0	101	3.37	1.16
1808	0	2	5	6	11	6	134	4.47	1.20
1809	0	0	2	9	11	8	145	4.83	0.91
1810	0	4	3	6	11	6	132	4.40	1.30
1811	2	3	4	13	5	3	115	3.83	1.32
1812	0	2	7	7	7	7	130	4.33	1.27
1814	0	2	4	6	15	3	133	4.43	1.07
1815	0	0	2	11	8	9	144	4.80	0.96
1816	1	2	5	5	12	5	130	4.33	1.32
1817	0	0	4	9	8	9	142	4.73	1.05
1818	1	2	8	12	5	2	114	3.80	1.13
1819	0	4	3	8	11	4	128	4.27	1.23
1820	1	2	5	9	11	2	123	4.10	1.18
1821	0	1	8	9	8	4	126	4.20	1.10
1822	0	0	3	0	11	16	160	5.33	0.92
1823	1	9	11	4	4	1	94	3.13	1.20
1824	0	7	12	10	1	0	95	3.17	0.83
1825	8	6	10	6	0	0	74	2.47	1.11

Appendix G

Creativity Beliefs Questionnaire Pilot Study (23-items)

Teacher Creativity Beliefs Pilot Study

Thank you for agreeing to participate in this pilot study investigating the reliability of a questionnaire I wish to use as part of my dissertation research. Please indicate your level of agreement with each statement on the questionnaire. Please answer ALL questions. After you have responded to the questions about creativity, please answer the demographic questions. There will be no association between your answers in either section and your personal identifying information, keeping all data anonymous and confidential. When you complete both sections, please send your responses to _____.org with *Creativity Beliefs Questionnaire* in the subject line.

Section I: Teacher Creativity Beliefs About Dance

1. Creativity is an ability that only a few students possess.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

2. People are either creative or they are not.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

3. It is important to offer students a chance to be creative in a physical way.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

4. Opportunities for free expression in school interfere with learning.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

5. I may not like dance, but I can appreciate its creativity.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

6. Bodily coordination is the most important factor of creativity in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

7. Dance technique is vital in schools.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

8. When considering dance in school, the most important word for me is creativity.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

9. Students lose focus when asked to be creative in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

10. It is important that students have free expression assignments in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

11. Improvisation is vital in school dance programs.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

12. All students can express themselves creatively in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

13. Children who are creative in dance are creative in other subjects.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

14. Students tend to be creative or technical in dance but not in both.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

15. Children can improve their creativity in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

16. A dance can be technically strong but not very creative.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

17. Creativity in dance requires a good sense of rhythm.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

18. Making order out of chaos is what creativity looks like in dance.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

19. All students can invent new movements.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

20. When acting silly, students are not showing their creativity.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

21. Creative students have clear dance ideas right from the start.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

22. If a students' dance is predictable, it is creative.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

23. A dance is creative if it has a variety of movements.

❍Strongly agree ❍Agree ❍Neither agree nor disagree ❍Disagree ❍Strongly disagree

24. In your own words, please give your definition of creativity in dance or list words that you associate with creativity in dance _____

_____

_____

Section II: Demographic Information

A. Where do you teach?

❑Public elementary school ❑Public K-8 school ❑Private elementary ❑Other_____

B. What grade(s) do you currently teach? _____

C. What percentage of your students qualifies for free or reduced lunch?

❑<5% ❑5-20% ❑21-50% ❑51-75% ❑more than 75%

D. What is your teaching position?

- ❑ California teaching credential, multiple subject
- ❑ California teaching credential, physical education
- ❑ California teaching credential, special education certification
- ❑ California teaching credential, music or art
- ❑ Student teacher in process of earning credential
- ❑ Other_____

E. How many years have you been teaching? _____

F. What is your experience with dance? *check any or all that apply*

- ❑ Enjoy dancing as hobby
- ❑ Studied dance extensively
- ❑ Currently choreography or perform
- ❑ Professional development in dance education
- ❑ Teach dance to my students
- ❑ Use the National Core Arts Standards for Dance in my teaching
- ❑ None

G. How is dance offered at your school? *check any or all that apply to any group of students at your school.*
   - ❑ Taught weekly by specialist
   - ❑ Taught in physical education classes
   - ❑ Taught by teaching artists in 6-10 week residencies
   - ❑ Taught in afterschool program
   - ❑ Dance club
   - ❑ Integrated into classroom by teacher other than myself
   - ❑ Integrated into classroom by me
   - ❑ Occasional dance party, dance jam, assembly, or similar event
   - ❑ Other _____
   - ❑ Dance is not offered in any way at my school

H. What is your gender?

❑Female ❑Male ❑Trans ❑Fluid ❑Prefer not to state ❑Other _____

END OF SURVEY

Please return to _____.org or mail to Heather Stockton c/o Luna Dance Institute, 605 Addison Street, Berkeley, CA 94710

THANK YOU AGAIN FOR YOUR PARTICIPATION

Appendix H

Participants Request Letter and Consent Form

Dear California elementary teacher:

I'm writing to request your participation in a research study on children's creativity in dance-making that will be used toward my doctoral dissertation at the University of San Francisco, School of Education. The purpose of my dissertation research is to understand teachers' beliefs about creativity in dance and how they recognize creativity in students' dance-making processes and products.

This study asks elementary-level classroom teachers to respond to 15 questions about their beliefs about creativity in dance and to rate 9 short video clips of original student choreography. It is expected that the questionnaire and ratings will take 15 minutes to complete. If you agree to participate you will receive an electronic link to the questionnaire sent by Heather Stockton to keep your responses confidential from me. Ms. Stockton will compile all responses, identified only by participant identification number, and give them to me for analysis. There will be no association between your name and your responses. Any participation in this study is voluntary.

The potential benefit of this study will be improved understanding of teachers' perceptions of creativity so that teacher education programs can appropriately support arts education. As one who has worked in dance education for several decades, I can attest that the field needs empirical studies to improve efforts to nurture creativity.

If you are willing to participate in this study, please read the attached consent form that describes that explains your rights as a research participant. If you voluntarily consent to participation, please send a reply email _____.org indicating that you have read and agree to participate in the research study as described in the Consent Form.

Sincerely,

Patricia Reedy
Director Creativity & Pedagogy, Luna Dance Institute
Doctoral Candidate, University of San Francisco School of Education

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

You have been asked to participate in a research study conducted by Patricia Reedy, a graduate student in the Department of Learning and Instruction at the University of San Francisco. The faculty supervisor for this study is Dr. Patricia Busk, a professor in the same department.

WHAT THE STUDY IS ABOUT: The purpose of this research study is to understand teachers' beliefs about creativity in dance and to what extent those beliefs are associated with their ratings of children's creative dance products.

WHAT YOU ARE ASKED TO DO: You are asked to respond to 15 items in a questionnaire about your beliefs about creativity in dance. The first 14 items ask for your response to statements on a scale of one to five: 1 (*highly agree*), 2 (*agree*), 3 (*neither agree nor disagree*), 4 (*disagree*), or 5 (*highly disagree*). Item #15 is an open-response item. You are also asked to rate 9 video clips of students ages 10-15 performing original works they created as part of their creative dance program at Luna Dance Institute.

DURATION AND LOCATION OF THE STUDY: The questionnaire, video links and rating sheets will be sent to you immediately upon receiving consent and may be completed at your convenience until 12/31/19. I expect your responses to take approximately 15 minutes.

POTENTIAL RISKS AND DISCOMFORTS: I do not anticipate any risks or discomfort from participating in this research, beyond the time spent completing the questionnaire. Participation is voluntary. If you wish, you may choose to withdraw your consent at any time during the study without penalty.

BENEFITS: There is no direct benefit to you for participating in this study. Possible benefits to others include an improved understanding of teachers' perceptions of creativity in dance that might inform the field of arts education.

PRIVACY/CONFIDENTIALITY: Your anonymity will be maintained throughout data collection, data analysis, and reporting of the study. All identifying information will be removed from the questionnaire and email exchanges transmitting the documents will be deleted from Ms. Stockton's computer. Upon completion of the project, all questionnaires will be housed on an external hard drive and stored in a locked and secure location at the Luna Dance Institute's offices in Berkeley, California.

ADDITIONAL INFORMATION: Please ask any questions you have before signing this consent form. If you have questions, please contact me at _____.org or call me at _____. If you have any questions or concerns about your rights as a participant in this study, you may contact the University of San Francisco Institutional Review Board at IRBPHS@usfca.edu.

I have read the above information and agree to participate in this research project. Any questions I have asked have been answered. I will receive a copy of this consent form should I request it.

_____ _____
Teacher Signature Date
Email address if sent by US mail _____

Appendix I

Final Electronic Teachers' Perceptions of Creativity in Dance Instrument and Electronic Cover Letter

Email Cover Letter Template

On behalf of Patricia Reedy, I want to thank you for participating in this study.

[INSERT LINK HERE]

This link is to your personal version of the questionnaire. It is a unique link because the video ratings are in different random order for each person, however, your anonymity is preserved as there is no identification between your responses and your name or email address.

Responding to the instrument should take 15 minutes. Once you open the link, please answer all questions and note that you will not be able to return to a previously completed section. It is preferred that you answer all the questions in one sitting, however, if you need to take a break you can return to where you left off within 48-hours of opening the link.

Do not hesitate to contact me should you have any questions. Please complete the questionnaire by _____ (3 weeks from date you send each link).

Thank you,

Heather Stockton, Research Assistant

Welcome

Thank you for agreeing to participate in this study. This instrument is comprised of three sections: a questionnaire about your beliefs about creativity in dance; video viewing and ratings of student choreography; and brief demographic survey. It should take you approximately 15 minutes to complete. Please think carefully about your responses as you will not be able to go back into a prior section. If you can't complete this in one sitting, you can return to this page within 48 hours. Section 2, the video rating section, must be completed in one sitting however.

Beliefs About Creativity

Please indicate your level of agreement with each statement on the questionnaire.

1) When considering dance in school, the most important word for me is creativity.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

2) It is important to offer students a chance to be creative in a physical way.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

3) Creativity is an ability that only a few students possess.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

4) People are either creative or they are not.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

5) Children who are creative in dance are creative in other subjects.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

6) Students tend to be creative or technical in dance but not both.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

7) It is important that students have free expressions assignments in dance.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

8) Opportunities for free expression in school interfere with learning.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

9) Students lose focus when asked to be creative in dance.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

10) Creative students have clear dance ideas right from the start.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

11) A student's dance is creative if it has elements of surprise.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

12) Children can improve their creativity in dance.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

13) Improvisation is vital in school dance programs.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

14) All students can express themselves creatively in dance.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

15) In your own words, please give your definition of creativity in dance or list words that you associate with creativity in dance.

Video Ratings

INSTRUCTIONS TO CREATIVITY RATERS

This rating process uses the conceptual definition and follows the guidelines of the Consensual Assessment Technique[1].

1. Creativity is subjective and it is expected that each judge has **implicit criteria** for creativity.
2. All assessments are to be conducted **independently**. Please do not confer with anyone about the ratings and please complete all video ratings in **one sitting**.
3. The unit of analysis is the **dance product**, not the dancer in the clip. Each clip should be rated **relative to** the others, rather than to a specific cultural standard.
4. Ratings are to be made on a scale of 1 to 6 with 1 being the least creative and 6 being the most. As much as possible, please try to **use the full range** of the scale.
5. Samples have been presented in a **random order** in a video album that is unique to you.
6. Please provide a rating for all 3 dimensions for the 9 videos. In addition to **creativity**, **technique** and **aesthetics/enjoyment** as operationally defined below.

Definition of Creativity

A product or response will be judged as creative to the extent that it is both a novel and appropriate, useful, correct, or valuable response to the task at hand.

Definition of Technique

The extent to which the dance is performed using technical skills as understood by rater to be appropriate for dance.

Definition of Aesthetics/Enjoyment

The extent to which the rater likes or enjoys the dance.

Please complete all items for all videos. Mark the number that best represents your implicit definitions/values as indicated in the instruction sheet. Marking 1 (one) indicates the least creative, technical, aesthetic/how much you enjoyed it and 6 (six) is the most.

Creativity

- ○ 1
- ○ 2
- ◉ 3
- ○ 4
- ○ 5
- ○ 6

Technique

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6

Aesthetics/Enjoyment

- ○ 1
- ◉ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6

1) Where do you teach?

-

2) What grade(s) do you currently teach?

-

3) What percentage of your students qualify for free or reduced lunch?

-

4) What is your teaching position?

-

5) How many years have you been teaching?

6) What is your experience with dance?

Check all that apply.

- ☐ Enjoy dancing as a hobby
- ☐ Studied dance extensively
- ☐ Currently choreograph or perform
- ☐ Professional development in dance education
- ☐ Teach dance to my students
- ☐ Use the National Core Arts for Dance in my teaching

- [ ] Other
- [ ] None

7) How is dance offered at your school?

Check all that apply.

- [ ] Taught weekly by specialist
- [ ] Taught in physical education classes
- [ ] Taught by teaching artists in 6-10 week residencies
- [ ] Taught in afterschool program
- [ ] Dance club
- [ ] Integrated into classroom by teacher other than myself
- [ ] Integrated into classroom by me
- [ ] Occasional dance party, dance jam, assembly, or similar event
- [ ] Other

8) What is your gender?

-

Complete

Thank you for participating in this study that supports my research on children's creativity in dance-making as partial completion of my doctoral dissertation at the University of San Francisco, School of Education. Beyond publishing my dissertation, I plan to disseminate my findings widely. If you are interested in reading my results, contact _____after May 2020.

Appendix J

Classroom Teachers' Definitions of Creativity

Classroom Teachers Definitions of Creativity (Direct, raw data, no edits)

D001: The ability to freely express oneself through movement and intention.

D002: novel, exciting, surprising, new, fresh

D003: improvisation and choreography

D004: freedom, personal perspective, being true to yourself, trying something new

D005: creativity in dance = expression, emotion, storytelling, freedom of movement

D006: letting go of inhibition. All people are able to express something in their own unique way, giving their art a fingerprint. It is just a matter of them overcoming their inhibitions.

D007: freedom

D008: self-expression, exploration, taking risks, recognizing something beautiful, being in the moment

D009: adventure

D010: Risk

D011: Creativity is an ability to be aware of your body and tapping into what your body is asking you to do. Being fearless, curious, and sustaining the focus of awareness contribute to this creativity.

D012: Freedom. Expression. Joy. Love. Movement. Free. Storytelling. Fun. Fulfillment.

D014: Creativity in dance involves being able to show a story or share your emotions through movement.

D015: unique, special, unusual, different, thoughtful

D016: The ability to have dance tell a story through dance movements

D017: Creativity can be a form of expression . Children can be very creative in dance and movement because it can make them feel free.

D018: Students are able to use self expression, explore different ways to move and make their own use of the space.

D019: creativity- the ability to think freely/act with little or no limits.

D021: What makes the child happy.

D024: Communicating ideas, Feelings and experiences

D026: Creativity is the ability to use the imagination or original ideas. Words of creativity include imagination, innovation, originality, individuality, expressiveness, resourcefulness.

D027: I would associate the following words: choice, freedom, opportunity, self-expression, and imagination

D028: intrinsic; Organic; unique; Thoughtful; Surprise; Relatable; Outside the box

D029: Confidence, ability, artistic

D030: Creativity in dance is when a student uses the elements of movement and dance to express themselves, their thoughts, and feelings.

D032: Words I associate: independence, guidance with release, self-expression, vision, full experience

D033: Creativity in dance: Communicating through movement, spontaneous, feelings through physical expression, expressive movement using one's body, sensory expression through movement, emotions in movement

D034: Innovative, original, moving, cathartic

D035: intriguing

D037: Creativity in dance means that a person can express feelings through movement.

D041: Thinking outside the box

D042: Creativity in dance is about finding new and imaginative ways to express oneself in a physically. This often means "thinking outside the box", or looking at the world in a new way.

D043: Given the opportunity, students can be creative and need to be creative in all school activities as well as dance. Sometimes it takes practice for the students to know how to be creative in dance.

D044: Self-expression; change; movement; spontaneity; adaptation; generosity; flexibility; response; motion; surprise; knowledge of movement, steps; feeling music; symbiosis; partner response.

D045: self expression, freedom, curiosity, envisioning, development, motor skills, balance, collaboration

D046: Freedom, vision, interpretation, foundation to build on, guidelines, expression, emotion

D047: Tactile, spatial, relational, emotional, empowering

D048: Freedom to choose how to move, aided by choices, experiences, visual possibilities, grounded in rhythm, music, their bodies and space. Props such as scarves,

D050: Expression, freedom, collaborate, borrow and reinterpret, flow, laugh, engaged, happy, centered, focused, connected.

D051: Free; Feeling; Emotion expression; Smooth

D052: free form; open-ended; unbound by rules

D053: I feel that creativity in dance is the same as creativity in any area. The ability to mix multiple ideas together in new and interesting ways. The ability to fuse old and new ideas together to create.

D054: I associate creativity with variety, or thinking outside of the box. Doing something unexpected or out of the ordinary. A new way of looking at or approaching a problem. Trying out different ideas.

D056: expression, playfulness, joy, envisioning, problem solving, both internal and external in its expression,

D058: Dance is the way that a person interprets the music. They feel the rhythm in their bodies and express it through movement.

D059: Creativity in dance is natural. Even when kids are executing a movement or series of movements, they usually do it their own way. No children ever look the same, even doing the same choreography.

D060: Spontaneous, connected to self, built on prior knowledge of technique, authentic, emotive

DD063: improvisation; connections with the real world; freedom

D061: Wonder; Practice; Trying new ways; Adaption; Flexibility; Imagination; A new story; A new way

D064: Free flowing; Interputive; Mixture of modern and classic

D065: Dance is intellectual and the emotional, the physical and the spiritual and gives us a means by which we can explore ourselves

D066: "dance like no one is looking." I think creativity is the self confidence in knowing that what you try will be an experience that shows what and who you are about

D067: Creativity in dance is finding a way for your body and even music to express ideas, feelings, images, and even just a spontaneous connection that your body is having at a precise moment in time.

D068: Imaginative, inventive, innovative, original, clever, resourceful, inspiring, ingenious, novel, unique, genius, revelatory, stimulating, expressive, dynamic.

D070: Free movement in an ample space; Dance moves shared and explored with peers; Fun music

D071: Allowing your body to move they way you feel. Sometimes it is uncomfortable or scary and other times it can free you, relax you. It is not something that can be judged or graded.

D073: Moving in conjunction with your feelings; Freedom, no rule, no boundaries

D074: Individuals are able to make connections with feelings, ideas and expression through dance. The expression through physical movement can help to develop ones self.

D075: free, enjoyable, fun, confidence building, liberating, non-verbal expressions, transferable, relatable

D076: free expression

D077: risk-taking, fun, physical practice supports with cognitive aptitude, vulnerable, free to express through physical exploration, breathing intensity supports the release of anxiety

D078: Feeling, genuine, authentic, responsive

D079: personal expression, invention, storytelling, expressive body movements, joy

D080: Expression, originality, movement

D081: free, fun, intimidating, open-ended

D084: freedom, discovery, practice, rigor, it takes time and patience, embodied, doesn't look any certain way

D089: freedom of expression, feelings, body movement, emotions, connection with music

D092: expressiveness, rhythm variation, emotion, strength, skill, heart

D100: Having ownership of the way you want to use your body to express yourself.

D101: Freedom, thoughtfulness, inspiration, exciting, interesting, choice, surprise, happiness

D102: Creativity in dance is the freedom to express yourself as you see yourself move in the moment, fluid mastery is a far off concept or idea for a young apprentice that applies to all forms of creativity

D103: Expressing yourself through your body, showing emotions through movements, telling a story through dance, not worrying about how others perceive your dance.

D104: Joy. Freedom— from preconceived expectations of dance, from performance anxiety, freedom to explore and experiment. Take chances. Self expression through the body. Spontaneity and improvisation.

D105: Expressing yourself / telling a story through your body, feeling in touch with music and rhythm-expressive; internal shown external; responsive; reflective

D106: It's the ability to be self-expressive and have an opportunity to be accepted in a different learning ability. It's to have a chance to learn a different way and let out the "wiggles."

D109: Thinking; Expression in movement

Appendix K

Classroom Teachers' Responses to Embodiment Questions

Embody Question #1 Raw, unedited data

Recalling your observation of a student's dance that your rated high in creativity, how did you experience or sense it physically?

D001: The students used their whole facility to express themselves in multiple ways.

D002: warm, happy

D003: excitement

D004: I was engaged and excited to see what would come next. I imagined what it would feel like to dance myself.

D005: I was curious how the dancer would use the white skirt throughout the dance. I wondered it represented for the dancer.

D006: There was a prop that gave it novelty and an element of surprise and I wanted to see all the different ways it could be used. I felt that the technique was strong in that the movement was confident.

D007: It seemed like it had contours, and distinct yet connected moments. Interesting choices

D008: I was emotionally moved and intrigued. I wanted to continue to watch.

D009: I found myself holding my breath in anticipation of movement and I could feel my body moving with them

D010: I found myself feeling it in my body- almost taking on some of the movements and moving along with the video.

D011: I felt it as if I was questioning and then answering myself creating almost a physical tide of "in" and "out". And not just a "let me go here" but a "let me go here and then 'be' here as well.

D012: I imagined myself in their role and found they used props to add creativity. I imagined myself using the props for mystery and then found a tune in my head to match the dance.

D014: I had an emotional reaction to the dance that I rated high in creativity. I smiled throughout and wondered how the story would progress.

D015: The dance was a delight to watch.

D016: It was appealing and interesting to watch

D017: They were very physically

D018: It elevated my mood. I felt happy and impressed.

D019: lots of movements across the floor and using their body for communication.

D021: Through the students' sense of passion

D024: When I observed the students dancing with sharp movements I was more interested and it made me want to dance.

D026: It had some rhyme and rhythm to it. It was creative but it also contained a specific type of movement that made a dance.

D027: I noticed that they were unique and the student was expressing themselves through different movements.

D029: Movements were varying and engaging.

D030: I felt the movements the dancer was making and I enjoyed those movements.

D032: I unfortunately did no have sound on any of the videos (not sure if that is impacting my conclusions), but I rated those higher that had a variety movement that seemed to full explore the object/space
D033: Amused, laughing, charmed

D034: I felt mildly claustrophobic.

D035: The use of props made it more intriguing to watch and also made the dancers move their bodies in a different way than those that did not have a prop.

D037: I felt the dance moved fluidly and there was rhythm in the movements.

D41: Controlled movement

D042: I was draw in by the surprises. I liked that I did not know what would be next and the movement was exciting to watch with a particular attention to detail. The dance was original, quirky.

D043: In some ways yes.

D044: There was a change and a response; different techniques or movements were used.

D045: I had a smile on my face and was more carefully watching each of the dancer's movements. I also sat up, adjusted my computer screen, and moved closer to it.

D046: I enjoyed watching their body move through space- and was very aware of their motions.

D047: Even with sound or music accompaniment, I could sense a rhythm, and even a melody.

D048: Tempo of presentation focused this viewer's attention. The slow and smooth was very attracting and intriguing. Limiting then expanding the view also drew in the observer. The props of hoop skirt and c [word limit reached]

D050: Alertness, attentiveness, present

D051: The student's dancing as a lamp .. very creative to me!

D052: I wanted to join in and have the same physical experience the dancer was having

D053: The highly rated dances created an excitement in me. I wanted to see what was going to happen, how the moves were going to link.

D054: My posture inclined forwards. I was drawn into watching the dancer because I could not anticipate what was going to happen next. I was less distracted by my environment. Focused and attentive.

D056: I felt that this child was digging a little deeper and had made some connection with his body and thoughts/feelings/ideas.

D058: There seemed to be a purpose to the movements, something that took concentration and exhibited a skill that was previously learned.

D059: It seemed to have a plan. The motions were communicating a feeling, or were an expression of the dancer.

D060: There was an unexpected quality to the performance and an element of surprise and unfulfilled expectation. The prop was used unconventionally and all the while I was expecting itâ€™s conventional use.

D061: I could feel my breath catching when I sensed they went into a deep place of creativity

D063: It made me want to get up and dance.

D064: I was drawn in , smiled felt enjoyment

D065: Observation where creativity appeared to be nurtured and inspired by the dancer themselves

D066: I felt it in my muscles and tendons. I felt the angles and torque and force needed to perform the move. My brain felt like I was doing it and I wanted to dance!

D067: I felt that it was unexpected and beautiful to watch.

D068: I was lost in the thought of the dance....

D070: I felt the flow of air around the room as the dancer moved about

D071: It was more fun and made me smile

D073: controlled, original

D074: I tended to move with the dancer if it was a repetitive movement. I was happy to see the dancers expressing themselves.

D075: I looked at how there movement was expressed in both big and small movements, how they used space and their bodies to show expression, both standing and or on the ground.

D076: The use of the whole body, space, time and levels of energy.

D077: I felt the movement. I can tell there is a lot more feeling on the part of the dancer

D078: The student who used the hoop skirt prop had me surprised with most moves and wondering what was going to happen next.

D079: coordination, rhythm, percussive elements. Form

D080: Use of space, expression of emotion, intentional movement... choreography

D081: I was engaged in did not lose interest. It felt like there was a story being told through the dance.

D089: I saw how much emotion they incorporated into their dance routine. It made me think that there was a greater creative aspect to it.

D092: There was a sensation of surprise in my chest; of anticipation and curiosity in my face.

D100: There were high, medium and low movements. The space was used well. It looked like a lot of thought was put into creating the dance.

D101: I paid close attention to it and found myself happy to be watching it.

D102: I felt the fun of the movement, and the joy and laughter of the space.

D103: It made me smile, or want to continue watching, made me wonder what the student was thinking, feeling, and what experience they had.

D104: It surprised me. I was drawn in by the beauty of the movements and the fluidity of the moves as they connected from one moment to another.

D105: I really enjoyed the dance with the skirt, it made me really surprised and curious about what would happen next. I think I experience it most physically with my eyes, wanting to keep watching

D106: Yes, there was a chance to connect with them and feel their emotions through dance.

D109: Yes

Embody Question #2 Raw, unedited data

Recalling a time you participated in dance yourself, how did you experience it or sense it physically?

D001: Completely embodied, in flow.

D002: full, embodied

D003: excitement

D004: When I am really in the moment dancing, there is a sense of freedom and a natural flow.

D005: I felt connected to the music and wanted to move!

D006: I felt that I was expressing myself in a beautiful way and that it was good for my body as well as my soul and it fulfilled my need to express creatively while getting a good work out.

D007: What's the â€˜itâ€™ [as typed in form]? Dance , or creativity? Not clear. I love to dance. I especially love finding the edges of my own creative expression within dance.

D008: I loved the feeling of different parts of my body moving in a strong and exacting way. I felt good, happy.

D009: Last night in dance class I could sense the movement and creativity coming from a larger place than simply my conscious mind

D010: When I felt most creative, i found myself lost in the dance but at the same time being completely present.

D011: When creative dancing, I felt challenged to stay in contact with my body. When I was able to let go of fear and judgement, I felt spacious and privileged.

D012: I felt the rhythm/beat. When there was a hard beat, I'll do a more emphasized move. When the rhythm was quick. I moved my feet quicker. I used my body (like hands) to add mystery or suspense.

D014: I experienced the dance by feeling the rhythm of the music.

D015: It was difficult at first because I am not a very coordinated person. After I had practiced the dance, it felt more comfortable.

D016: I participated in dance in my younger years and remember it being challenging

D017: Fun and physical experience

D018: When participating myself, I don't feel comfortable. I feel constrained.

D019: It was very enjoyable!

D021: Following techniques as best as I could.

D024: The music being played.

D026: When I participate in dance, I guide my moves according to the music being played. Knowing some steps previously, I put it together to fit my style and the style of the music being played.

D027: I enjoyed the music and used the beat to help me decide my next movement.

D029: The beat of the music

D030: I love dance and have been participating in all kinds since I was very young. It is a powerful art form for me. I feel the music or parts of the music in every part of my body.

D032: I rarely participate in dance, but I usually experience it most in the pace of my breath and whether I can use the full space. I have the best time when space is available and I can just have fun!

D033: Poms poms and all that dancing in front of a crowd at a football game many years ago, bouncing, smiling, sweating, kicking, twirling

D034: I was impressed how she used a prop with abandon.

D035: I was very self conscious and constantly comparing myself to others. I still do it but am trying to let loose more and enjoy dancing because I really do.

D037: I felt the dance through the beat and rhythm of the music.

D041: Enjoyment

D042: I loved a dance where I turned for a long period of time. Although I trusted I was capable of being in control, I loved to extreme dizziness I felt.

D043: Definitely when I dance, I experience it physically.

D044: I experienced it by trying different things, responding to both the music and to partners if applicable. I used space and also highs and lows in space, changing my positions.

D045: am a shy dancer, so I found a spot in the back of the room. I make smaller motions and tend to stay in a small area/taking up minimal space.

D046: Sweat, some muscle fatigue but also feeling so very in my body.

D047: It has also been many years since I participated in dance. I do remember feeling both at times liberated, exuberant and other times trapped in a limited repertoire of movements/constraints.

D048: I imagined myself doing the motions, feeling the sensations of jumping, spinning, rolling, pointing toes, etc.

D050: Engaged, present, joyful.

D051: I am not a dancer, sometimes I just want to stretch my body and keep healthy :)

D052: Acute awareness of what my body was capable of in that space at that time

D053: When in the "groove" dancing, it was fun, exciting, happy, exciting. The movements flow and the physicality is like being in the "zone" while running or participating in sports.

D054: I experience dance physically through the feeling in my muscles. One movement leads into and influences the next. I feel more strongly when I am dancing. My emotions are heightened. I am vulnerable.

D056: Sensuous, of the gut, playful, deeply inspired

D058: I let the music dictate my movements, letting the beat/rhythm go into my ears and come out in the movement of my arms and legs as they move in time to the music

D059: The movement communicated the story of the music.

D060: It took place in a crowd and there was a feeling of deep connection to the group and a loss of self.

D061: I could sense myself lost in the movement - detached from my judgement or critic part of my brain even as I was fully engaged in the technique of the dance there was still something extra on it

D063: It made feel energized and motivated.

D064: Dance in a large group that onl requires pure enjoyment and flow with the music felt good. Those dances I had to learn with multiple different steps and layers to them were difficult to enjoy person

D065: My sense of experiencing dance physically is where creativity was encouraged and there was a balance between the discipline of dance and automomy

D066: For me dancing is sacred and for me it is a way to commune with the unknown. Its amazing!

D067: I enjoyed the feeling of energy my body got from dance, and from giving back to an audience. It was almost like I could step outside myself and "see" myself.

D068: I had fun!

D070: I watched. I appreciate it but do not get up and participate

D071: I enjoyed free form better than choreographed. I could never follow along. Lol

D073: thrilling

D074: I loved feeling the energy of the room- the music and - I closing my eyes and just feeling.

DD075: I looked for ways I thought the movements and ways we use our bodies to express art fun attention grabbing. I watched for how they used their body parts to fill up space and time.

D076: free

D077: It helps me feel free and aunthentic

D078: As an adult: I felt embarrassed and wanted to do it "right." As a child: I felt free, confident, and found the experience to be fun.

D079: best part is when you can feel dance and movement in all the parts of yourself

D080: Free, enjoy, rhythm

D081: I loved the interplay between the music and my bodily movements. It was joyful. I find that I enjoy dancing most when it is not choreographed.

D089: I used music to lead my movements in dance. I let the rhythm of the song influence my body and how it wanted to move.

D092: I previously did many plays. In musicals, and I remember dancing with pure joy, radiating throughout my body. Also working with James Donlon in theatre I felt completely alive and expressive.

D100: It was fun and challenging to think of what to do with my body.

D101: I felt joy, happiness, and a great sense of freedom!

D102: It is often very pressure filled for me, to dance. Unless I am can just be a beginner.

D103: Pure joy and release, happiness, feeling light, feeling a lessening of tension.

D104: Liberating. The sense that the dance is not a show but an exploration of self. Using my body and gestures to portray a feeling or moment. I could breathe deeply while exploring my body's willingness t [word limit reached]

D105: I experienced it as a very communal thing, it felt very grounding and like I was sinking into the earth and a part of it.

D106: Minimal.

D109: Yes