It has been a pleasure and an honor to serve simultaneously as president and executive director of the National Dance Society (NDS) for the 2016 to 2017 term. Serving in these two positions was possible only because of the support within NDS and the encouragement of many individuals outside of the organization. Although NDS still may be an infant in years, the accomplishments are well into the mature stage of organizational development. The NDS members, working with staff and members in other nonprofit professional associations, public entities, and for-profit corporations, have accomplished great things and have the potential for taking dance and dance-related activities to new heights. It is exciting to consider what dance can attain as an art form, a support for academic achievement, and a basis for population wellness in a multicultural society.

The NDS’s tagline “Dance for All” and its annual conference theme “Dance in Broad Perspectives” demonstrate the organization’s dedication to ensuring that all individuals, regardless of their ages and abilities, have an opportunity to experience dance and rhythmic activities at increasing developmental and experiential levels. There are many dance forms and styles in which people may choose to engage. No form or style holds rank over another. We hope to ensure that individuals may experience dance movements and activities safely from infancy throughout life.

The NDS is a unique organization that has a membership of career specialists who appreciate the diversity of dance, and many hold memberships in multiple organizations. The varied backgrounds and interests create a melding of ideas that can advance dance exponentially. We provide a model for the profession through our commitment to quality programming and access to affordable resources. This is possible because of the respect among the membership and a willingness to give and share beyond what is expected.

Within its three-year existence, NDS has created a system of councils for promoting action in advocacy, standards-based education, leadership development, performance art, professional development, research and assessment, safe dancing, scholarly writing, and living well. It has established the National Dance Society Journal, the On the Move newsletter, a website, and social media connections. NDS has a strong dedication to students through its Delta Eta Pi honor society (middle school through higher education), student dance-intensive workshops, and undergraduate and graduate excellence awards. It has designed a recognition awards process for identifying excellence among professionals with the following awards categories: Legacy, Honor, Scholar, Ovation, Advocate, Promotion in the Community, Young Professional, Global Educator, P-12 Master Dance Educator, P-12 Master Dance Educator in Physical Education, and Higher Education Master Dance Educator. Further, NDS is working on formal and informal connections and partnerships with international organizations; national associations; federal agencies; state dance, health, and physical education groups; and for-profit corporations with similar interests as NDS.

If NDS can continue gaining supporters and membership like the quality we currently have, the field of dance and dance promotion can grow effectively. I see the organization as a group that uses free technology successfully and comes together once a year for a purpose. I see an organization whose members are eager to serve and are ambitious about making a difference in the lives of others. I feel the power of this organization every day I talk with a member or a committee or council chair.

I am proud to be part of an organization that aims to help its members make a difference in the lives of others at all levels of P-16 school settings (in fine arts programs, through comprehensive physical education curriculums, and in before-school and after-school programs), through community-based...
dance studios and schools, within recreation and leisure settings, in performance arenas, and through multicultural venues. With such a broad focus, we sometimes need to remind ourselves of some important points to ensure success:

- Be persistent on the vision, mission, and purposes
- Be mindful of the range of perspectives: local, statewide, national, and global
- Be respectful of diversity and attentive to equality
- Be humble
- Be focused during the moment to make each moment count
- Be clear in communications
- Be flexible on the journey

I appreciate all that our membership does to embrace the wisdom of fellow members, recognize their talents, nurture emerging skills, and promote others’ competencies. All of this is necessary to ensure that NDS gains strength to honor the maxim that *dance is for all*, and that there is respect for *dance in broad perspectives.*
Now in our second year with the National Dance Society Journal, we continue to support our mission of Teachers Promoting Quality Dance for All with even more articles and features to help dance educators. For those unfamiliar with our review process, we use a mentoring approach to help guide authors through the editorial stages. We encourage submissions for future issues (see Author Guidelines at the end of this issue, or visit www.nationaldancesociety.org). We especially feature peer-reviewed dance research and theory-into-practice applications for improving the learning process for all forms of dance, including modifications needed when teaching different ages, skill and ability levels, and individual interests and goals in order to promote student success.

In this second volume of the NDSJ, I am pleased to feature the following eight articles and two book reviews:

• Whether you are currently or are considering working with boys in your classes, you will find the insights shared by Lynn C. Reynolds invaluable, including what motivates boys and how to channel their fun, energy, and bravado across different dance genres.

• What are the dance teachers’ responsibilities during class? Michelle R.B. Strong and Alexandra Pooley’s article reminds dance teachers of the importance of using efficient management techniques across the beginning, middle, and end portions of your dance classes, and they provide strategies for improving students’ learning and enjoyment—as well as applying motor learning concepts.

• Ever wondered what a “gifted” dancer is? Mary Ann Laverty, who is fortunate to work in a school district that recognizes dance as a form of intelligence and giftedness, answers the who, what, where, and when questions on this topic.

• Is it possible to prepare dance students to also be productive citizens? Keisha Breaker shares her journey of creating and developing unique, practical life skills and math-infused dance lesson plans that are teacher tested and student approved. What you find will inspire you.

• Do you have the foundation to successfully document your work? Professional photographer Diane Cahill Bedford will guide you through the basic functions of digital cameras and camcorders that will aid dance artists in achieving quality videos and photographs that can be used for promoting one’s choreography, company, school, or organization.

• In their unique research study, Lisa Lewis and her colleagues examine the effects of a nine-week creative movement program as a potential intervention with the mental health population. Their results are encouraging regarding a cost-effective and easily accessible intervention tool that may benefit persons who are diagnosed with depression and other forms of mental disorder.

• In order to identify the current research findings on Pilates training for dancers, Christine Bergeron and colleagues completed a systematic review to evaluate the evidence and quality of Pilates research conducted specifically on dancers to determine its effectiveness with regard to dance training and performance. Results for the nine studies are summarized in a table for easy access.

• Our 2016 NDS Dance Scholar Awardee, Gayle Kassing, shares recurring themes in dance education from the past as well as the present in order to establish a landscape from which to see possible directions for the future. She provides much to consider, especially with respect to the philosophy of Dance for All.
As a new addition to this volume, two student dance textbooks, *Discovering Dance* and *Experiencing Dance, Second Edition*, have been reviewed from the point of view of a high school dance teacher who has worked extensively with these books in her dance classes and as a reviewer during the adoption process for the state of Texas. Lisa Moya King provides specific examples of and insights into how these student textbooks may help teachers incorporate ways to meet dance standards.

In a final note, as my two-year role as the *NDSJ* editor-in-chief ends with this volume, I thank everyone who has helped contribute to this volume, as I could not have done this work without the following team efforts: associate editor, Sandy Weeks; the editorial review board members (see Credits page); the executive committee (president/executive director, Fran Anthony Meyer; past president, Mary Ann Laverty; and president-elect, Christine Bergeron); and our publisher, Human Kinetics (for their professional staff, design, and layout). My best to all dance educators! I encourage you to do two things: (1) bring your passions to NDS, and (2) share your expertise through writing articles for future *NDSJ* issues.
Successfully Teaching Dance to Boys in the K-12 Dance Classroom

By Lynn C. Reynolds, BFA, Houston, Texas

Abstract
There has been an influx of dance in videos, movies, and social media. As a result, boys want to experience what they see on the screen and are taking an interest in learning dance. K-12 public school dance rooms are the perfect place to accommodate boys. Once in dance class, boys attack movement with fearless energy using as much space as possible. They have a higher ratio of muscle mass to body weight and more fast-twitch muscle fibers, enabling them to move with high levels of acceleration, speed, and power. Combining the way boys move with the way girls move in choreography can be very exciting! Boys enjoy learning all of the dance genres, performing with commitment and purpose, and choreographing with themes. They love romping through folk dances, the faster the better. However, there are some aspects of dance that may make boys shy and uncomfortable. Many boys do not want to dance like ballerinas, move in feminine ways, or wear costumes that seem suited for girls. If the dance instructor takes these realities into account, boys will bring fun, bravado, and big hearts to the K-12 dance class. They become a joy to teach and well worth the effort.

Introduction
For public school dance teachers who have taught only girls, it can seem unsettling to have boys in the classroom. But as boys continue to be exposed to dance in movies and on YouTube, Vimeo, and television, more are becoming interested in experiencing some form of dance movement. Male dancers now compete on So You Think You Can Dance, America’s Best Dance Crew, and Dancing with the Stars. Male dancers perform with pop, rap, and hip-hop singers. In fact, Victor Perkins, a fifth-grade dance student at Emerson Elementary School in Houston, has been dancing ever since he saw Michael Jackson on video. He says, “I feel [like a] Superstar just like him when I am dancing” (personal communication, February 28, 2017).

The Step Up movie franchise showed men performing jazz dance, modern dance, tap, musical theater, hip-hop, b-boy, and techno. Even some of the animated characters in Disney and Pixar movies dance! Bill Evans, a 77-year-old dancer and choreographer, says that dance chose him when “at the age of three I first saw a film and witnessed the art of Fred Astaire” (personal communication, February 25, 2017). Many boys want to try what they see on the screen at the same time that school districts across the country are adding dance classes in elementary schools and more dance electives in secondary schools.

Once in a dance class most boys bring fun, energy, and bravado. This author’s first encounter with teaching boys was at a fine arts magnet elementary school in the Houston Independent School District. After a
kindergarten class had been instructed to dance like the wind, the boys began leaping, spinning, jumping, twisting, diving, and sliding on the floor. This was accompanied by shouts of “I’m a tornado!” and “I’m a storm!” This one experience demonstrates how young males like to use their energy, how they like to move, and what they want to achieve in a dance class.

On display that day was the unaltered, unfettered, nontechnical, and fearless male energy. Male energy attacks movement; the more challenging, the better. The male energy is huge, knows no boundaries, and uses as much space as possible. Boys will explore all natural paths of movement. They are the flying, daring, darting, twirling, leaping, and lifting part of dance.

This is not to say that girls cannot or do not perform these same movements. However, boys and girls have different bone size, muscle mass, and muscle fibers. Generally, males have longer and larger bones than females. This produces a wider frame on which to support muscles. This also means that males have a higher ratio of muscle mass to body weight, allowing for greater speed and acceleration (Latham, 2015). In general, male muscles have a greater capacity for anaerobic metabolism and generate a higher maximum power output than female muscles. However, during prolonged periods of intense physical activities, female muscles have been shown to be more fatigue resistant and to recover faster than male muscles (Glenmark et al., 2004). Male and female muscle fibers are also different. Males have more fast-twitch muscle fibers that contribute to power. Females have more slow-twitch muscle fibers that contribute to endurance and conditioning (Arellano Doctor, 2015). These physiological realities lead to the different manner in which boys and girls perform the same movements, such as leaps across the floor.

What is it about dance that boys enjoy? In 2009, Dr. Doug Risner, dance and theater professor at Wayne State University, conducted a three-year study that answers this question. He surveyed 75 males, ages 13 to 22, in dance academies, conservatories, private studios, and performing arts high schools. He administered a survey in which he asked the boys to answer, among other items: “I dance because ________.”

These were the responses:
• I like to perform.
• I like to move.
• I like the physical challenge.
• I can be myself.
• It is a creative outlet for me.

The boys indicated that they were interested in moving with greater expression and self-discovery, feeling that this was possible in a dance class. Across the board, they agreed that dance is definitely not sports.
What Boys Will and Will Not Do

Risner’s study (2009) conveyed that boys enjoy dance class in formal and professional settings. It is this author’s experience that public school boys enjoy dance class as well and echo all of the above sentiments about being in a dance class. As novice dancers, they will even tackle dance technique if it is presented in a way that does not feel awkward, confusing, or threatening to their masculinity. In general, boys will not wrap their arms across their chests, circle their hands, drape their arms over their heads, shake anything but their hands, move their hips (unless trying to emulate Michael Jackson), or dance “sassy.” These movements are all too small and equate with femininity, which is a major turn-off for most boys.

This author has found that many boys who are comfortable in a dance class want to feel physically challenged but do not want to participate in a sports activity. They will say that they want to be part of a group that is not a “team.” Dance allows them to do this and satisfies their need to move with others in a way that does not involve coaches, whistles, or daily competition. Dana Harper, a 65-year-old former dancer with the Houston Ballet, says, “When the dance and music came together it all flowed through me and I felt connected to my soul” (personal communication, February 21, 2017). And Darrell Pucciarello, a former ballet and modern dancer who is now 55 years old, says that for him, “performing dance was euphoric” (personal communication, March 5, 2017).

Warm-Up

Personal experience has shown that boys will participate in all exercises given during a warm-up, and they are the happiest when asked to demonstrate arm shapes in

- ballet—first, second, and fifth positions,
- jazz—jazz port de bras, especially to a fast tempo, and
- modern dance—angular arm shapes, especially when using dynamics.

They will work on

- pliés in parallel positions.
- tendus in parallel position.
- balance.

Stretches

Boys will stretch all body parts. Boys respond well to learning how to stretch their feet when directed to push the arches of their feet down and to push their toes to the floor. Boys do not respond as well to being told to “point” their feet because this is something that they know ballerinas learn. Because dancing like a ballerina is a real turn-off for most boys, the language used when working with them is important.

Movement Studies and Combinations

Boys will step-touch, step-pivot, grapevine, kick, slide, turn, spin, jump, leap, fall, roll, dive, lunge, and suspend. They will add arm shapes to these movements. They will clap, snap, dig, and stomp. Boys love the challenge of sight reading and memorizing choreography.

If it appears that some or all of the boys in dance class are hesitant or shy at first, creative movement or choreography assignments (or both) will break the ice. This allows the boys to move freely in the beginning and helps them feel more comfortable practicing dance technique in later warm-ups. Tobi Adeyemo, a seventh-grade dance student at KIPP Academy in Houston, says, “I like to dance because I forget about being shy” (personal communication, February 21, 2017).
Boys love the challenge of making body shapes in all levels, all sizes, and at all tempos. Girls love this as well, and experimenting with body shapes is a wonderful group activity that allows the students to get lost in their own creativity and stop worrying if anyone is watching. This is reassuring for boys at the beginning of the semester, as they may be secretly worried about what sort of movement they will be expected to perform in the class. Movement words are very handy for a first attempt at individual or group choreography or movement studies. Words like bend, hop, look, burst, dart, press, stomp, crumble, expand, reverse, and shrink are nonthreatening because they are open to physical interpretation and do not seem to be aligned with a strict dance technique. These verbs also allow the students to be as creative as they want to be.

James Robinett, a fifth-grade dance student at Emerson Elementary School in Houston, feels happy and relaxed when he dances. He explains, “I am myself when I dance and I don’t care what other people think when they see me” (personal communication, February 28, 2017).

Boys in Dance Genres

Boys are intrigued with the different dance genres. Some examples follow.

**Ballet**

Public school boys will suffer through the barre to get to the center where they can work on sauté and tour en l’air. They then feel challenged across the floor with grand jeté, tour jeté, and chaîné turns.

**Jazz**

Boys enjoy the fast pace of jazz dance. However, they will begin to look concerned if feminine movements are shown for them to perform. The girls can perform the feminine choreography while a different movement is substituted for the boys. For example, when practicing a step-pivot, the girls might demonstrate arm pushes forward with the step and the boys might demonstrate arm pushes overhead with the step. While performing a step to passé, the girls might be given arms that wrap their torso while the boys are given arms in second position. It is also possible for the girls to perform the same movements that the boys are performing. Boys will be challenged across the floor with chaîné turns, chassé, and leaps.

**Modern Dance**

In this author’s experience, modern dance is the boys’ favorite dance genre. Boys are fascinated with the off-center and connected way of moving in modern dance. They are challenged by the internal focus that modern dance requires. Boys like having a sense of purpose while dancing, telling a story when they dance, or conveying a message to the viewer. BJ Odunbaku, an eighth-grade dance student at KIPP Academy in Houston, feels that “dance is a way for me to express myself any way I want” (personal communication, February 21, 2017). Boys will try everything in a modern dance warm-up except the Graham hip series on the floor and small hand movements. They will suspend, fall, and recover; practice the three curves, roll down, slide out, turn, jump, dive, and roll.
Hip-Hop
Boys enjoy the weight shifts, level changes, and fast pace of hip-hop. This author has found that boys do not want to snake, thrash, crump any body part, go low, or make feminine gestures that are seen in female pop singers’ videos. They want to bounce, tut, robot, pop and lock, slide to the floor, and experience all other forms of hip-hop choreography.

B-Boy and Breakdance
Elementary school boys are not physically developed enough to perform breakdance tricks. But they can learn and perform simple versions of top rock, slides to the floor, and the baby freeze. The b-boy genre has a nice slide and swing style that both challenges and engages middle and high school boys. Secondary boys can perfect and perform all manner of b-boy routines and top rock. However, breakdance can be difficult for boys at the middle school level. Their necks and shoulders have not yet developed. Sometimes their legs are longer than their torsos, which makes breakdance balance difficult, especially when upside down! If consistently encouraged to have patience and keep trying, middle school boys can perfect the 6-step, the back spin, the back spin with popcorn, handstands with both hands, the chair freeze, and the K kick. High school boys can learn and perfect all of these breakdance moves, including handstands with one hand and spinning with one hand, varieties of the elbow stand, and drills and flares on one or both shoulders.

Folk and Social Dance
Boys of all ages enjoy folk dancing. Major favorites are square dance, the Virginia reel, African dance, the schottische, the Mexican hat dance (Mexico’s national dance), and the soul train. Boys love the challenge of responding to a caller, promenading with a partner, swinging with a partner, and showing off in the middle of other dancers. If the music is quick and lively, that is even better. Jose Ayala, an eighth-grade dance student at KIPP Academy in Houston, says, “Dance is not just fine arts. It is a part of my Hispanic culture too” (personal communication, February, 21, 2017).

However, most boys in public school become uncomfortable at the thought of a social dance. They are not prepared to stand facing a girl in close proximity, and they do not like being the one in charge when mistakes happen. Also, social dance does not move in a large way through space, does not go to the floor, and does not seem creative. That said, many boys will perform social dance if it is part of a choreographic mix or a large-group dance.

Partnering
Fifth-grade boys can partner with girls. They can hold a girl in a fireman’s carry, pull her across the floor, and perform simple versions of the West Coast Swing. Middle school boys love the challenge of partnering and take it seriously. They can carry, drag, and spin girls. They can put a girl over their shoulder or back, and dip her forward and backward. High school boys are fascinated with partnering and learn it quickly. They can lift girls overhead, dip them in the Fish or other shape, and move them across the stage by dragging or carrying. They are capable of performing partnering smoothly and confidently.

Boys in Costume
It is very important to costume boys carefully and respectfully. Most boys in public schools will not wear sequins on anything. They usually will not wear tights, leggings, shiny pants, shiny shirts, puffed sleeves, sashes, shiny socks, multicolored socks, or ballet shoes. They do not mind wearing any color (except pink in some instances), any kind of T-shirt, jacket, sweats, parachute pants, cargo pants, long shorts, jeans, or bandanas. They will wear Vans, Reeboks, Skechers, or socks, or go barefoot.
It is ideal when the costume clothing is comfortable and loose enough for the large movements that the boys will want to show on stage. There are many ways to coordinate what the boys are wearing with the colors and styles that the girls are wearing for their costumes.

**Male Role Models**

Boys in dance class are excited and inspired by male dancers. Seeing other boys and men dancing validates their own love of the art form and their decision to participate in dance. Male role models provide a bar of excellence that the boys can try to achieve and against which they can measure their own progress. Joseph Boswell, a high school freshman in level 6 at the Houston Ballet Academy, says, “I see that dance is a lifestyle. You have to eat, think, and breathe dance” (personal communication, February 26, 2017).

**Male Dancers**

Guest teachers and choreographers are wonderful role models for boys. Visiting teachers contribute new movements for the boys to learn. But the best guest is a male who dances locally. The boys can stay in touch with him, watch him perform, and take classes from him outside of school. Floyd Worsley, a senior at Westside High School in Houston, says that he did not even think about dance until he saw a male teacher at his middle school demonstrate a breakdance flare. He says, “Now I’m always in the dance room. Dance is a part of my everyday life” (personal communication, February 26, 2017).

**Quotes From Male Dancers**

Boys appreciate quotes from famous male dancers. Hearing what other males say about dancing gives purpose to their own involvement in dance. And some quotes can be good advice for life as well. Quotes can be displayed on whiteboards and posters. This author has seen boys react to these inspiring words:

“I don’t compete with anyone but myself.”
—Mikhail Baryshnikov

“What success I achieved in the theater is due to the fact that I worked just as hard when there were 10 people in the house as when there were thousands.”
—Bill “Bojangles” Robinson

“Dance isn’t about the steps. It’s about the soul in the steps.”
—Shane Sparks

**Videos and DVDs**

As already mentioned in this article, boys enjoy and learn from watching males dancing in videos and the movies. This author uses videos of
Summary

Many boys have a natural curiosity about the dance that they see in their world and want to experience it. Joining a dance class invigorates them and provides physical challenges that are not sports. Sidney Terrell Pritchett, a 25-year-old b-boy who dances with Fly Dance Company and the Houston Rockets Launch Crew, sums it up when he says, “Dance gives me a focus, structure and purpose to my life that I would not otherwise have” (personal communication, February 21, 2017).

Boys bring gutsy energy, big moves, and lots of heart to the dance classroom. Providing an engaging and respectful dance environment for them might cause more work for the instructor, as choreography...
and costume considerations are necessary. But when that first boy runs up excitedly and says, “I got it! Did you see me spin twice? I got it!”—that’s when teaching him becomes intensely rewarding and well worth the effort.

References


Abstract

Teaching dance can present many challenges. Dance teachers are unique in that they teach in a variety of environments to an assortment of ages and ability levels. Regardless of the situation, retention of the student body is important. Two factors that largely impact retention include efficacy, whether individuals are learning and progressing, and enjoyment, whether the students are experiencing a sense of pleasure and satisfaction during the class.

Dance teachers also have a varied background of pedagogy and technical experience as there is no one formal qualification or route to teaching in private studios or schools. This article is intended for dance teachers across all sectors; it addresses the different sections of a typical dance class, providing suggestions to help you structure a more successful class. Topics include how to set the tone for your class, as in welcoming students and building a warm-up. The article also addresses the middle of class, targeting aspects of feedback, engaging students, and fostering encouragement. Lastly is a discussion on the end of class after center combinations, across-the-floor work, and cool-downs have taken place. Suggestions have been developed through established research and the authors' experience in the field. Regardless of the situation and population, there are some common principles we can keep in mind to make classes more effective, efficient, and enjoyable.

Introduction

Dance is taught in a variety of settings, to different populations, under various circumstances. Regardless of the situation, retention of the student body is important. This could be along the lines of maintaining business for a private studio, or preserving the enrollment of a school dance program. Two factors that largely impact retention include efficacy, whether individuals are learning and progressing, and enjoyment, whether the students are experiencing a sense of pleasure and satisfaction during the class.

This article is intended to be useful for private studio teachers, public school teachers, collegiate educators, and beyond. Improving our classes can aid in the overall state of dance education for all our students. While each class presents some unique challenges, there are some common principles we can keep in mind to make classes more effective, efficient, and enjoyable.

One of the major issues with private studios is that a studio is a business that requires a delicate balancing act to retain students and turn a profit. The very nature of a business can make the education aspect challenging. Retention is necessary for the success of the business; but sometimes, in order to make clients happy, teachers do things that aren't necessarily pedagogically sound. This is particularly true in the competition scene, where there is a struggle to teach age-appropriate or level-appropriate skills and technique while avoiding injury and moving at such a pace that the students and parents are satisfied.

Likewise, even collegiate and high school programs may have a certain amount of pressure to maintain student populations. Administrators are concerned with growth and “building numbers” within their programs. This can influence teaching styles and teacher choices in favor of retaining students.

Additionally, not everyone teaching dance in studios and public schools has formal training in dance education. Some instructors come from a studio background and have danced for years but have no knowledge of pedagogy, kinesiology, and safe practices. Others pursue degrees in education or physical education, but have no personal prior study of dance specifically. Some teachers come from
a dance background, have some higher education specialization in dance or a dance-related field, but only briefly had exposure to pedagogy or safe teaching practices.

Regardless of your background, this article includes strategies that are relatively easy to implement in your teaching practice. The article focuses largely on structure, as having a consistent flow to class is tantamount to success and continuity for the students. The suggestions are presented based on where they fall in the general class structure: beginning, middle, or end of class. When designing a class, thinking in terms of “beginning, middle, and end” demonstrates the concept of taking students on a journey. Their experience should be a progression and follow a through-line from beginning to end.

**Beginning-of-Class Instructor Strategies: Setting the Tone**

How can we begin a class in a way that sets the tone for success throughout the experience? Selected strategies include welcoming students, creating an environment of growth and encouragement, and adequately preparing students physically and mentally for what is to come for the duration of class. A solid foundation at the beginning of class can inspire and engage your students to work hard and succeed each class meeting. What follows are a few suggestions for starting class that could influence the effectiveness and enjoyment experienced by you and your students throughout the lesson.

**Welcome Students**

When it comes to welcoming students, the most basic way to do this is to stand close to the entrance prior to the start of class and greet all students as they come in. Try to address all students by name; look in their eyes when you speak to them, and briefly ask about their day or mood. This begins to establish a rapport with each individual and encourages the students to be fully present when taking class. If the class is rather large or you are short on time before class, simply decide on a good number of students you want to reach each day and pick a different group each time so everyone is personally addressed at some point throughout the semester.

**Develop a Warm-Up Routine or Ritual**

Once students have come in and are ready to begin, having a beginning routine or ritual can really serve to bring your students together. This can bring students mentally into the fold, homogenize class attitudes, and unify the group toward a positive learning environment. Routines are critical tools for improving dance training. They allow you to be completely prepared and make class preparations predictable for students (Taylor & Estanol, 2015).

A beginning class routine can include a physical warm-up, breathing exercises, a mental warm-up, or some combination of these. Additionally, this is a good time to communicate goals and perhaps have students set an intention for class. Your routine could be as easy as having all the students stand in a circle, perform a few breathing exercises, communicate any intentions or goals for the day, and begin the physical warm-up.

If you are not currently making warm-up a priority in class, you absolutely should. Warm-up “intends to gradually prepare the body for increased physical activity” (Quin, Rafferty, & Tomlinson, 2015, p. 14).
A warm-up literally raises the core body temperature, increases breathing and blood flow, which provides more oxygenated blood to the body, and affects joint mobility by changing the viscosity of synovial fluid at the joints—this positively affects range of motion and shock absorbency (Quin et al., 2015).

It has long been a tradition in dance training to focus on flexibility. While increasing flexibility can still be an aspect of dance training, how and when we should focus on it during class is largely misunderstood. Warm-up and stretching are not synonymous.

Gradually increasing cardiorespiratory activity at the beginning of class for 5 to 7 minutes followed by dynamic stretching (dynamic stretching should be sport specific and not held for prolonged periods of time) has been shown to improve performance (Quin et al., 2015). Additionally, multiple dance science sources have demonstrated a positive correlation between adequate warm-up and decreased injury occurrence. We want our dancers above all to be healthy and technically skilled; providing a sound warm-up is a great start to meeting these goals.

Static stretching should be used when we are attempting to increase flexibility. Static stretching involves getting into a position and holding the stretch for a given amount of time, at least 30 seconds. This type of stretching should be done at the end of class. The muscles should be warm and malleable to avoid injury and target flexibility.

**Encourage Students to Set Goals**

Setting goals for your students and encouraging them to set goals for themselves can make class more effective and bring a sense of accomplishment to the learning process. “Motivation without goals is like wanting to get somewhere without knowing where to go” (Taylor & Estanol, 2015, p. 142). Goals serve to direct one’s path, increase one’s commitment and motivation, and track one’s progress in a measurable way (Taylor & Estanol, 2015).

Goals can include training goals that address physical, mental, and technical aspects; fulfillment goals that specify what you want to get out of class or feeling goals that deal mainly with how you want to feel during the experience are also valid (Taylor & Estanol, 2015). These can be set at the beginning of a semester or season for a long-term goal or at the beginning of a class for a short-term goal. You can also encourage students to set goals ranging over multiple seasons or years. Remember course learning objectives when discussing or setting a goal for the class. Also remind students to set challenging yet realistic goals that will help motivate them and build confidence.

**During-Class Instructor Strategies: Communicating Effectively**

The middle part of class is when the majority of technical foundation is established and skill progression developed. Within the middle part of class, we will look at how information is disseminated. This includes how we break down skills, demonstrate combinations, and offer feedback. These simple tools will make content delivery more effective and hopefully make class a more enjoyable experience in the process.
Limit the Amount of Initial Information

Many times we may not really consider how we communicate information and how it is processed by the dancers. A detailed understanding of motor learning (Krasnow & Wilmerding, 2015) would be optimal for each dance teacher; however, this is impractical for most. This doesn’t mean that you can’t incorporate strategies to make your class more effective, efficient, and enjoyable.

Dance teachers tend to demonstrate a sequence or movement and give multiple alignment cues, instructions for rhythmic execution, and performance suggestions all at once. Often, this is the first time the student is seeing the material, and all this information can be quite overwhelming. This pattern essentially guarantees that the student will fail in one aspect or another simply because of the amount of information presented. In addition to not being effective, this can be frustrating for the student as well as the teacher.

One basic method of improving the introduction of material in class is to limit the amount of initial information. First, demonstrate the sequence only. If the class is more advanced, you may be able to include counts as well. Give no information on execution, performance, or technique to start. However, if the material involves a particularly difficult movement that could potentially be dangerous to the dancers, teach just that movement first before putting it into the context of the sequence or combination. Once the students have had an opportunity to perform the material for sequence retention only, you can begin to provide feedback.

Provide Skill-Relevant and Quality Feedback

Teachers, particularly dance teachers, can overwhelm students with feedback. One suggestion is to give only three corrections or suggestions per run of the material. This accomplishes multiple goals: First, you don’t waste time listing out a ton of things the students need to do but probably won’t because they are overwhelmed. Second, the students feel that three corrections aren’t that bad and that they probably did a pretty good job on the combination if they’re receiving only three suggestions. Third, you will have a better chance of seeing the changes because the students are not overwhelmed with information.

Wrisberg (2007) reminds us that the quality of the feedback is more important than the quantity and to keep the information relevant to the skill the athlete is working on at the time. For example, a dancer presenting a plié barre exercise might have several aspects he or she needs to work on to correct. However, if the lesson objective is for the student to work on pelvic alignment, the correction should be about the pelvis and not overload the student with other issues such as arms, performance quality, and use of head.

The hardest part of this effort is disciplining yourself to carry it out when you are teaching. We tend to see many things to comment on when observing students. Force yourself to focus on only three points for any given run. Rest assured that students will probably do the other things incorrectly next class, and you can focus on three new things at that time.

When choosing what to focus on and how to prioritize feedback, keep in mind your personal goals for the student and the material. For example, some teachers always prioritize safety in a technique class. After safety has been addressed, you can focus on efficiency of movement followed by performance quality. If you are rehearsing a piece of choreography, maybe you feel you need to gear feedback more toward performance qualities immediately after safety.

Wrisberg (2007) also explains that the amount of feedback will depend on the athlete’s experience. For example, with students in beginning ballet, you would want to focus on just one or two fundamentals for them to think about at once. Once these skills have been mastered, you could extend the feedback. Recent research has also suggested that frequent feedback is not necessarily good for the student. Possible reasons include the idea that less feedback gives the students a chance to problem solve and therefore allows the students to take ownership of their learning (Wrisberg, 2007).
Creating a Positive Learning Environment

As teachers, we are aware that all students learn differently and that there are many strategies we use to accommodate individuality when teaching in class. As educators, we also need to provide students with different ways to access corrections in class. As Mainwaring and Krasnow (2010) discuss, it is the teacher’s role to provide the opportunities for motor and kinesthetic feedback. The students will thrive in a nurturing, positive environment where there is constructive criticism and time is provided for the students to embody the corrections mentally as well as physically.

One of the best ways to ensure student retention and enjoyment in your classes is to be honest yet positive. All too often today, things are sugar-coated to make individuals feel “warm and fuzzy.” Mediocrity abounds in favor of keeping clientele happy and not hurting feelings. Historically, the dance world had a reputation for evincing the exact opposite mentality and would break people down to make them better dancers. Neither of these extremes really works. We can certainly fine-tune our delivery of corrections and suggestions with a few simple strategies. First, try to avoid the word “no.” As in parenting, this isn’t a bad word and it isn’t horrible to use, but if you can use phrases like “Let’s look at that again” or “Wait, that doesn’t seem quite right, something is off, show me again,” this may keep students from closing down on you and feeling as if they somehow failed.

Additionally, if you can first tell students what they are doing right, they have more information to go on with regard to learning and also feel they are accomplishing something. Affirmative feedback is just as valid and helpful to a learner as corrections. Look for opportunities to address both in your classes. It may be a solid protocol to mention a positive before addressing a correction with a slower or less confident learner.

Lastly, with any feedback, be as specific as possible. Just telling students “good job” gives them no information whatsoever with regard to learning. After a while, they won’t even feel good about it because it doesn’t mean anything. Likewise, sometimes corrections fail or the student doesn’t seem to apply it because it really wasn’t clear or specific enough to elicit change. Telling students “That’s not right,” or having them do something repeatedly, expecting it to be different, is not sound teaching and often just leads to frustration for the student and the teacher.

Our job is to help students grow. One of the best lessons dance can teach us is how to take corrective suggestions and turn them into actions without negatively affecting the student’s psyche. There are many qualities to consider when giving constructive criticism in class; the focus is not just on the verbal language used, but on the tone, the teacher’s attitude, and the follow-up of praise (Mainwaring & Krasnow, 2010).

Mainwaring and Krasnow (2010) explain that it is more beneficial to take time to explore basic principles or skills to the whole class and give the students time to digest the information, reflect, and ask the teacher or peers questions than physically manipulating a student in the middle of an exercise. Leijena and colleagues (2009, p. 324) suggest that students are more open to constructive criticism from their peers than from the teacher because it is easier “emotionally to accept feedback from peers instead of that provided by the teacher.”

You are not responsible for being each student’s personal cheerleader, but you are responsible for encouraging students to succeed. You can be instrumental in facilitating positive growth in students just by being honest and
keeping the environment positive. Help them understand that learning is a process and that you are right there with them on their journey. Each teacher will accomplish this differently and employ different methods. Use what is organic and genuine to you! Students know when you are being fake and will lose trust in you if you don’t shoot straight with them.

**End of the Class: Bringing Closure to the Lesson**

It is just as important to bring closure to class as it is to set the tone at the beginning of class. During the last section of class, skills developed in the lesson are put into the context of larger combinations and practiced for performance. Students are excited about the new information and eager to dance. This can be the most enjoyable aspect of class for many dancers, as it most closely replicates performance. Additionally, saying good-bye to your students and transitioning the body back out of class mode are part of the overall experience and deserve attention when you are structuring class.

**Develop Relevant Across-the-Floor or Center Combinations**

Toward the end of class, traditional theatrical dance classes tend to focus on center or across-the-floor combinations. To make learning more effective, the teacher can include skill material developed earlier in the class. This allows students an opportunity to use their newly acquired technique in the context of a movement phrase. If possible, use the skill multiple times in different and challenging ways throughout the combination. You may find that this solidifies concepts for the students and makes teaching the combination a quicker process, as you are not breaking down the skill during demonstration of the phrase.

Teachers commonly question how long to make the combination and how frequently to introduce new combinations. A few things we want to consider in making this judgment are the level of the class, how often the class meets, and the duration of the class session. Generally speaking, as the level of the class increases, the combination should be longer and new combinations should be introduced more frequently. This practice aids in building the skill necessary to pick up information quickly, and the longer duration helps simulate performance requirements where dancing is more aerobic. Beginners and young dancers don’t necessarily require changing the combination every class.

It is also important to consider how often the class meets. If you teach in a private studio setting and see the students only once a week, you might not change a combination for a full month. This would also apply if you have a shorter class duration. If you have a short time span, you absolutely don’t need a new combination each class session. The reason is that if the students haven’t seen the material in a week, they will probably take some time to review the sequence before they can work on technique. In addition to offering only three corrections, a review for retention and then an additional attempt at the combination after feedback may be all you have time for each week. So, keeping with the same combination would allow you to delve deeper into multiple aspects of the technique within the time allotted for class.

**Incorporate a Cool-Down Into Class**

The very last part of class should be the cool-down, and much as at the beginning of class, there should be an end ritual or routine that brings closure for the student at completion of class. The students want to finish the class in a physically and emotionally balanced state (Quin et al., 2015). This reduces the chance of blood pooling and decreases the likelihood of injury. Despite the necessity of a good cool-down, it can get neglected and pushed aside. It is the teacher's responsibility to include a cool-down and lead the students through a predesigned routine, or to “support the participating group in understanding how and why to conduct these elements independently” (Quin et al., 2015, p. 73). The cool-down needs to start with actions that will reduce the student’s pulse and gradually reduce intensity before moving on to joint mobilization actions (Quin et al., 2015).
The last section of the cool-down would be to stretch out the muscles. The purpose of stretching at this point is to help the muscles recover and not to overexert. Stretching is particularly important to those students who have short or tight muscles. The total cool-down should take about 15 minutes of the class time (Quin et al., 2015). The cool-down will vary depending on the age of the students and the intensity of the class.

**Say Good-Bye**

Lastly, always end your class on a positive note. Remind students that dancing is a privilege and to be grateful for the wonderful things their bodies do for them every day. Ask them to review their intention or goal and note the progress they have made during class. Let them know that you appreciate their work and energy and that you look forward to working with them again. Ultimately, think about how you want to leave the class encouraged and ready to attack the rest of their day.

**Conclusion**

Being a dance teacher comes with great responsibility; you are not just a teacher but a role model and a mentor. It is seldom that a teacher just shows up to class and teaches with no preparation or prior planning. Students want to come to class and have fun; it is the teacher’s responsibility to provide a fun environment for all students to grow to their full potential. These strategies can help you teach effectively and efficiently and make the most of your time in the classroom. A new teacher can find it a daunting prospect to teach a class of 30 students; it can be challenging to find a class structure that works for you and your students. However, wherever you are in your teaching career, it becomes clear that what works for some classes might not for others. Following the structure suggestions in this article will hopefully help you retain students, have fun, and bring consistency and flow to your class while refreshing your preexisting ideas. Keeping your class structure logical can help the students reach their full potential in a safe environment.

**References**


Abstract
This article examines the Virginia Beach City Public Schools (VBCPS) Gifted Dance Education Program (GDEP), which has been in existence for over 30 years. These are some of the questions to be explored: What is gifted dance education? Who is considered a gifted dancer? Is there a difference between the VBCPS GDEP and other dance education programs in public education across the United States? Why does Virginia Beach recognize that dance and academic growth are unequivocally linked?

Introduction
Commitment to nurturing intellectually gifted and gifted and talented students in Virginia Beach is evidenced by the architectural plans and construction of a $65 million school to house both the intellectually gifted and those gifted in dance and visual art. Local controversy surrounds the money spent on gifted students, as some believe that the money would be better spent on bridging the educational gap. To counter that belief, we can look to the words of Walt Disney to redirect our thoughts as a way of fueling the positive belief of investing in our gifted children. Disney (n.d.) stated, “Our greatest natural resource is the minds of our children” (The Quotations Page, Quotation #30307). Along the same lines, President John F. Kennedy, when inaugurated in 1961, urged Americans to strive for academic excellence (Wiley & Brunner, 2013, p. 23), and in his 1963 report to Congress, reiterated the importance of giving full attention to educating our youth so that they could serve their country (Kennedy, 1963, para. 1).

Gifted students need to have their gift honed and nurtured to better serve society in a positive manner. To ensure that our gifted dance students are both artistically and intellectually challenged in the GDEP, our interdisciplinary curriculum allows students to work collaboratively and creatively each
day; this skill is at the top of Bloom’s Taxonomy (see figure 1) of higher thinking skills (Armstrong, 2017). Our future, and the future of our nation, needs bright, young minds that can think creatively to solve complex problems.

Giftedness and Dance Education

What is giftedness? There is no single definition of giftedness, and opinions on the definition vary from state to state and school district to school district, in general exhibiting great contrast among the sentiments of the leaders in the field of gifted education. There is no universally accepted definition either. The National Association for Gifted Children (NAGC), while acknowledging that there are many variants on how “giftedness” is viewed, assessed, and addressed, offers the following definition on its website:

*Gifted individuals are those who demonstrate outstanding levels of aptitude (defined as an exceptional ability to reason and learn) or competence (documented performance or achievement in top 10% or rarer) in one or more domains. Domains include any structured area of activity with its own symbol system (e.g., mathematics, music, language) and/or set of sensorimotor skills (e.g., painting, dance, sports). (NAGC, n.d., Gifted at a Glance)*

The VBCPS define gifted in the performing arts as “demonstrated by skills and creative expression and excelling consistently in the development of a product or performance in any of the visual and/or performing arts” (VBCPS, 2017, January 23, Gifted Education, Eligibility/Identification).

Who is considered gifted? Renzulli and Delcourt’s (2013) simple definition and emphasis on creative production fall most in line with giftedness in dance. Renzulli coined the *Three Ring Concept* of giftedness, with these overlapping and interconnecting rings: Above Average Ability, Creativity, and Task Commitment (pp. 42-47). Giftedness in dance is seen in the child who stands out with above-average ability or a natural aptitude toward technical proficiency. It is seen in the child who relishes a creative task that involves problem solving, or demonstrates a unique and uncanny take on improvisation. The gifted student exhibits a knack for choreographing and works well beyond the maturity level of his or her peers. The work ethic reflects an intensity with regard to completion of the finished product. Some scholars refer to this as task commitment or as being *in the zone*. One of the more consistent definitions includes some reference to creative production or development of a product, which relates directly to choreographing a piece of work in small or large groups. With respect to Bloom’s Taxonomy, gifted students are usually working at the top rungs of the pyramid, with the lower rungs firmly in place (refer to figure 1).

Characteristics of Gifted Dancers

Howard Gardner challenged the academic world when he published *Frames of Mind: The Theory of Multiple Intelligences* in 1983. Further, he changed how the general public viewed intelligence and gifted individuals (Lane, n.d., Gardiner’s Multiple Intelligences, para. 2). Traditionally, gifted intellectuals were considered to originate from a pool of engineers, mathematicians and scientists. With Gardner’s seven distinct categories of intelligence, which included visual-spatial, bodily-kinesthetic, and musical intelligence, he blasted the stereotypical image of the artist, musician, and dancer as tormented and emotional individuals. He elevated them to individuals who possess a distinctive intelligence profile. To push this thought further, consider what the difference is between intelligence and giftedness. Standardized tests to determine IQ or Intelligence Quotient have been in existence since 1905, yet traditionally, an IQ test would not determine if one is visually-spatially, bodily-kinesthetically, or musically intelligent. A gifted student with those specific types of intelligence in the arts may not perform well on IQ or standardized tests.

Notable figures in the field examined (Armstrong, T., 1999, 2009, 2010) and updated (Gardner, 2000, 2006) the puzzle of giftedness by looking holistically at both internal and external influences. Talents in
dance can be developed from natural abilities through learning influenced by inner and outer catalysts such as interpersonal factors, as well as intellectual abilities—reasoning, memory, sense of observation, judgment, and metacognition:

According to Gagné, a child may be born gifted, but if these gifts are not appropriately cultivated, they will not develop into fully-formed talents. A student may be musically gifted, but without training, these gifts will not be realized and potentially not even noticed at all. (Duke TiP, 2011, para. 4)

Given these characteristics of giftedness, we can ask, in particular, What would be considered a gifted dancer? The following sections will help answer the questions “What is gifted dance education” and “How do the Virginia Beach City Public Schools not only recognize giftedness in dance, but also offer gifted dance education in their curriculum?”

The VBCPS Gifted Dance Education Program

Uniquely, the VBCPS recognize and support the importance of providing gifted dance education to gifted dancers and contributing to education as a whole. The VBCPS are in the forefront in implementing the scientific research showing that many students are kinesthetic learners and that movement and “change of state” are crucial to learning and making connections for deeper understanding of material presented across the board in established or mandated curriculum. They are currently building new schools with modules that include “standing desks,” allowing students to move from module to module to enhance absorption of the instructional material. Coinciding with the publication and dissemination of Gardner’s Frames of Mind: The Theory of Multiple Intelligences, the VBCPS recognized the importance of dance education and initiated the GDEP.
which has been in existence for over 30 years. The philosophy behind GDEP is that some children have the propensity to learn better kinesthetically. For example, view the film Akeelah and the Bee (Atchison et al., 2006) and notice the different ways of learning. The lead character, Akeelah, displays a keen ability to spell words that do not even appear on SAT exams. Note that Akeelah taps her thigh to use rhythm to recall the correct spelling. Her coach, portrayed by Lawrence Fishburne, supplies her with a jump rope to further accelerate the kinesthetic learning process, accentuated by the rhythmic thumping of the rope against the floor. Another example of kinesthetic learning occurs “if someone asks for your phone number, you can’t verbally recall it, yet, you can physically punch the numbers out on the number pad of the phone” (V. Winborne, personal communication, September, 2015). These are clear examples of a kinesthetic learner. What the GDEP endeavors to succeed in is to tap into the kinesthetic learner’s propensity to learn physically and transfer that knowledge to cross-curriculum venues.

The VBCPS GDEP is unique also in that it is a pull-out model for students in grades three through eight, identified through an application and audition process. Once identified as gifted in dance through the complex assessment process, the students are enrolled in an all-day, comprehensive curriculum that emphasizes the areas of dance concepts, skill development, dance history and appreciation, and creativity (see figure 2). Gifted education must be differentiated within flexible classrooms, have real-world application, produce authentic performances for an audience, and offer students a reflection process at the end to self-evaluate their own works (Tomlinson & McTighe, 2006, p. 110).

![Figure 2: Six-year cycle of content themes.](image-url)
Since our GDEP serves grades three through eight, technically, a student can participate in the program for six years. Our curriculum is written in a six-year cycle of content themes, so that a student will never have curriculum repeated, although the themes are interrelated (see figure 2). There are four units per theme per year. The appendix provides an example of the content for the first nine-week unit (Age of Astonishment) within theme 5 (Change and Transformation), including an overview, rationale, goals, and assessments.

The VBCPS GDEP is called a pull-out program because it busses approximately 70 students to our facility every day—each day a different group of students. In all, there are approximately 350 students in the program each year, with an average of 10% males. While our students are with us, they rotate through the various classes of the day: two technique classes (ballet, modern, or jazz or fundamentals), perspectives (history and theory), creative (choreography, improvisation, creative problem solving), and cross-training. They typically rotate through the four faculty members, although at times we are all together. The students are grouped by technical proficiency or readiness, but at certain times, they work in mixed groups on collaborative processes.

We are housed in a school with the intellectually gifted, and many of our students are both intellectually gifted and gifted and talented. The VBCPS recognizes the link between dance and successful academic outcome. After tracking the academic growth of dancers in the GDEP for seven years, the VBCPS found that by learning in their preferred style, kinesthetic, the students’ academic progress and scores on standardized tests surpassed those of all other students of VBCPS, even those identified as intellectually gifted (K. Hedrick, personal communication, October 2015). These results were the evidence needed to prompt the design and construction of the new $65 million building to house both intellectually gifted students and those identified as gifted in dance.

GDEP Student Assessments and Interdisciplinary Connections

What makes the VBCPS GDEP different from other dance education programs may be the way we assess students for entry into the program. The VBCPS dance faculty do not necessarily look at the technical proficiency of students or how many years they have studied. We base our assessment process on Anne Green Gilbert’s brain dance principles (Gilbert, 2006, p. 34). Though rooted in these principles, the process is altered in depth and complexity based on grade and age. During a full day of assess-
ment, we take the students through a typical day that involves a technical warm-up; teaching center floor and across-the-floor combinations that identify the students’ understanding of distal/core, head/tail, body halves, and cross-lateral relationships; a creative session in which they are given the creative tools to explore in time, space, and energy; and finally, observation as they work in a group collaboration.

The goal in a standard dance education program is generally to enhance and advance technical proficiency of the dancer for optimal performance quality while emphasizing safe practices and dancer wellness. To supplement the technical aspect of dance, usually some attention is given to history, theory, and opportunity for students to create their own choreographic projects. The VBCPS GDEP differs in that, first, the students are with us for the full day, once a week. Secondly, although students take two technique classes during the day (modern and ballet), equal emphasis is given to the creative process (improvisation, collaboration, and choreography) and perspectives (history, theory, and making connections). It is the goal of the GDEP that through their gift of dance and their preferred learning style of kinesthetic movement the students can apply knowledge of self, gain confidence, and make interdisciplinary connections through dance to other areas of academic curriculum and to life choices. The third unique attribute of this program is that the technique, creative, and perspectives classes are all interconnected and the academic year becomes a multifaceted approach to one larger “big idea,” or overarching theme.

GDEP Teacher Preparations and Expectations

After teaching in both high school and university dance programs, I find teaching in the gifted program to be quite different and challenging. First, all faculty must be endorsed in gifted education, a two-year graduate program at University of Virginia. We study all of the gifted models, learn how to service gifted learners, learn to write differentiated curriculum, and learn how to assess gifted learners. The assessment process is quite different from others and relies heavily on concept-based teaching and performance or product-based assessment. All work must be actively engaging, and we cannot give meaningless tasks, worksheets, or tests based on rote memorization. We cannot grade on skill tests, participation, or proper dance attire. We can assess only what we have predetermined to be authentic.
evidence of what we want students to know, understand, and do. By differentiating our instruction, we create curriculum that is rich in depth and complexity and is engaging.

The students themselves, although young, are mostly committed to the process, at times more than others. Renzulli refers to this as the “revolving door” (Renzulli & Delcourt, 2013, p. 44). There are times when gifted students are in the “zone” and other times they are not creating. Creating is at the top of the pyramid of Bloom’s Taxonomy model of higher thinking skills (Armstrong, 2017, para. 1), and it is not always easy to collaborate in grades three through eight, let alone as an adult. What I do see in these students relates directly back to Renzulli’s Three-Ring Concept of giftedness. I do see above-average ability, creativity, and task commitment. The students’ commitment to choreography and performance is unequaled by what I have previously experienced. What I see each year as we audition over 300 students, to determine whether they are “identified as gifted” or “not identified at this time,” is that all children love dance and that dance education is essential to develop the whole child (Dow, 2010), but not all children are gifted in dance. The difference emerges in the students who must dance and the students who feel a sense of wonder and joy in experiencing dance and being allowed to tap into their gift and creativity. The GDEP addresses the issues of teaching the “whole” child by addressing his or her social–emotional needs, creativity through movement, and academics. The students are actively engaged in interactive and interdisciplinary learning, and our GDEP builds self-esteem by creating a safe environment for all students (Nelson, 2009). Our GDEP supports the ASCD (2012) tenets of educating the whole child in that it is healthy, safe, engaging, supportive, and challenging (p. 3).

**Conclusion**

We consider ourselves fortunate that we work in a school district that recognizes dance as a form of intelligence and giftedness. We believe our program is unique to public education and unique in its approach to dance education in that it addresses the need to educate the whole child through an interdisciplinary curriculum. Parents have witnessed marked results in their child’s academic progress upon entrance to the program, and the VBCPs have tracked the academic progress of those students, which accounts for their commitment to the GDEP for over 30 years. If gifted students, in particular, are not sufficiently engaged and challenged in school, they can easily become bored, which often
translates to behavior problems. The 1972 report of the Marland Commission, which documented classroom practice relative to the gifted child, found that if “Gifted and Talented children are, in fact, deprived, [they] can suffer psychological damage and permanent impairment of their abilities to function well . . . (Marland, 1972, pp. xi-xiii, in Callahan & Hertzberg-Davis, 2013, p. 7). It is not a luxury that our gifted and talented students receive gifted services; it is a necessity for their emotional and social well-being. Our students are trained both in critical and in creative thinking. When given a collaborative and creative task, they are essentially problem solving.

In the years ahead, children will enter a global workforce. We need to teach children to look at problems in new ways, to practice critical thinking skills, and to learn collaboration and cooperation in finding new solutions (Dow, 2010, p. 31).

We are not necessarily training our dancers to become professional performers, although this is a probability; we are training them to become creative and critical thinkers who can collaborate to problem solve in their choice of study, work, or research. To paraphrase the words of Walt Disney and John F. Kennedy, our gifted children are our nation’s greatest asset. If we wish to stay abreast in this new global economy, we need to service and nurture our gifted and talented students. The VBCPS have assumed this role and will hopefully continue to serve the gifted and talented learners of our community.

Appendix: Sample Unit for Content Theme 5

Stage 1: Desired Results

Unit: Age of Innovation/Age of Astonishment
Time frame: 9 weeks
Type of classroom: Dance studio, with two visits to the library and theater
Overview: The industrial revolution is thought of as one of history’s greatest times of change, due to innovations associated with that period. These changes not only resulted in the increase of productivity, but also occurred with an astoundingly rapid pace (Coleman, 2015).

Europe’s Age of Astonishment, which spanned the late nineteenth century to World War I, was a time of creative richness. Visual artists and musicians—including Matisse, Debussy, Picasso, Stravinsky, Kandinsky, Schoenberg, Toulouse-Lautrec, Satie, and dancers and choreographers from the Ballet Russes, Nijinsky, Nijinska, Pavlova, and Fokine—established standards of avant-garde production that continue to challenge artists and engage audiences to this day.

The industrial revolution and the Age of Astonishment, coupled together, propelled a new way of living. They were not isolated events on different continents, but two movements that went forward hand in hand, fusing ideas and influencing one another in trends of fashion, reforms in dance and choreography, and inventions. Early American modern dancer Loie Fuller was working in Europe. She personified art nouveau as she intrigued the artists Toulouse-Lautrec, Rodin, as well as Tiffany Glass to create images of her. She was working alongside Madame Curie to develop colored gels and lighting techniques for the stage. Michel Fokine’s choreography Scheherazade, based on One Thousand and One Nights, created a fashion trend for ladies to wear harem pants. The invention of the automobile changed fashion. Ballets went from three hours to three minutes, mimicking the rapid change of industrialization.

This was one of the most exciting time in dance, with the overlap of the emerging American art form of modern dance with the European ballet. It is said that when Isadora Duncan visited the Imperial Ballet School in Russia she changed ballet forever. It was after her visit that Michel Fokine choreographed Anna Pavlova’s signature three-minute solo, The Dying Swan. There was a marked difference in the freedom of the arms and contractions in the torso. The Age of Astonishment is a particularly rich time frame for the arts because the impresario of the Ballet Russe, Serge Diaghilev, created an innovation in ballet and modern dance by collaborating with the greatest artists, dancers, musicians,
and choreographers of the time.

The immense and interconnected changes of this period are the inspiration for this unit. The overarching concepts of this unit are change, innovation, and reform. From this unit, the students will understand that society is a system that requires change and that, throughout history, major events and individuals create changes, innovations, and reform through science and the arts.

The students will begin the interdisciplinary unit by looking at the Age of Innovation and Age of Astonishment (approximately 1900 to 1930). They will observe a variety of events and individuals who helped to shape the changes in society.

In this unit, students explore highly individual contributions of choreographers to the genre of modern dance in the 20th century.

**Standard 5. Demonstrates and understands dance in various cultures and historical periods.** Video presentations of original and recreated performances of traditional, ballet, and modern choreography provide a basis for students to compare various dance styles and themes. The students will eventually be grouped by interests and choreograph a dance work that somehow reflects an event; historical figure; or change, innovation, or reform during this time period. The students can blend any of these topics together as well.

**Standard 4. Applies and demonstrates critical and creative thinking skills in dance.** Students analyze and deconstruct the styles and themes of five to seven great works of modern dance choreography by using the elements of dance (body, time, space, and energy) and personal perspectives.

**Standard 7. Makes connections between dance and other disciplines.** Students will be informally introduced to other art forms and historical figures and events that were incorporated into choreography during this time.

**Standard 3. Understands dance as a way to create and communicate meaning.** Students will be encouraged to analyze the underlying themes in the work of these choreographers and to draw parallels from their own lives. As individuals, each student will journal and create an artist's statement to express his or her journey in this process. Students discover how dance can express a very wide range of feelings, moods, and ideas, shaped by individual perspectives and choice. Students are assisted in making connections through three learning strands: dance technique, dance perspectives, and creative dance. By incorporating dance vocabularies, teacher demonstration, and repeated practice with ongoing assessments (by the teacher, peers, and self), students develop physical and expressive performance skills.

**Standard 2. Understands choreographic principles, processes, and structures.** Students will integrate the four-step critique process (describe, analyze, interpret, and evaluate) into all strands. Attention will be drawn to Michel Fokine's reforms in ballet.

**Rationale:** There are many kinds of intelligence, including visual-spatial and bodily-kinesthetic. The object of this unit plan is to stimulate students to use their specific giftedness and transfer their kinesthetic learning capabilities to other areas of academic.

This lesson is interdisciplinary, using the students’ passion for dance to help them understand the concepts of change, innovation, and reform. According to Renzulli and Delcourt (2013, p. 37), “intellectual behavior must be considered within the context of cultural and situational factors.” Because dancers have creative-productive giftedness, the final product will include human activity and the development of original ideas that will target a large audience.

Another aspect of this unit is to mimic real-world application. A professional choreographer will first develop an idea or theme for a piece of choreography; next they will conduct research, including
searching for the proper music or having music written for the piece. The act of choreography itself is similar to writing a research paper—sometimes harder, since in modern dance, you are attempting to create new and unique movement, which is at the top of the higher-thinking skills pyramid of Bloom's taxonomy. In earlier ballet, the steps were already created, and the choreographer just sequenced the steps together. (During the formative pioneering years of modern dance, modern dancers did not consider ballet dancers to be artists, but rather technicians, because they were not really creating.) Building choreography and actually conveying or communicating an idea or theme are very difficult tasks to accomplish. This unit design fits into the ring of task commitment in Renzulli’s three-ring conception of giftedness (Renzulli & Delcourt, 2013, p. 42). Most gifted dancers definitely possess the trait of task commitment during the choreographic process, during rehearsals, and throughout the performance. Although task commitment and creativity are different (Renzulli & Delcourt, 2013, p. 45), once one enters into the zone, creativity and task commitment merge. Renzulli states that “creativity and task commitment almost always stimulate each other” (Renzulli & Delcourt, 2013, p. 46).

**Content Standards:**

- **Standard 1.** Identifies and demonstrates movement elements and skills in performing dance
- **Standard 2.** Understands choreographic principles, processes, and structures
- **Standard 3.** Understands dance as a way to create and communicate meaning
- **Standard 4.** Applies and demonstrates critical and creative thinking skills in dance
- **Standard 5.** Demonstrates and understands dance in various cultures and historical periods
- **Standard 6.** Makes connections between dance and healthful living
- **Standard 7.** Makes connections between dance and other disciplines

(Meyer, 2010)

**References**


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Practical Life Skills and Math-Infused Dance Lessons: From Rationale to Application

By Keisha J. Breaker, BS, Houston, Texas

Abstract

In the world of formal education, teachers strive to instruct today’s youth in areas formerly known as core subjects while instilling characteristics that would aid our children in becoming productive citizens. This process may include general knowledge of subjects deemed important by the states. The core subjects such as math, science, English, and history lend themselves toward academic intellect, but many argue that the public schools lack the ability to create a more well-rounded child. To combat this, many private and charter institutions are placing additional emphasis on preparation for the workforce by teaching essential life skills. Hoffmann (2011) provides the following definition:

*Life skills are psychosocial abilities for adaptive and positive [behavior] that enable individuals to deal effectively with the demands and challenges of everyday life. They can be grouped under three broad interrelated categories: cognitive . . . personal . . . and interpersonal life skills. . . . (para. 1)*

For the purposes of this manuscript, *cognitive* life skills refer to the analyzing and application of knowledge such as problem solving and mathematical functions. *Personal* life skills are the development of intrapersonal skills within yourself such as self-motivation and self-expression, and *interpersonal* skills are those that aid in positive interactions with others. The performing arts, in particular dance, possess the unique opportunity to merge movement, music, academic knowledge, and life skills.

Shifting Perspectives

As an instructor who teaches in lower-income areas, I have found that many students are lacking in fundamental skills that will aid them in their lives. At the onset of my career, I thought of my job as one that grooms dancers choreographically and builds their developing bodies for being dynamic performers. That attitude shifted after teaching at a high school that appeared to value dance as a developed curriculum. Fast forward to the end of year 4 when I polled my students and found that less than 7% wanted to use dance in their lives in any capacity. This included becoming a dance professional, using it as exercise, or being involved with any artistic group in any shape or form. Despite the three or four years of daily dancing classes, only 12 out of 175 students wanted to involve dance in their future. This became a clear indication that my teaching goals needed to shift.

Another shift in my thinking occurred when discussing my lesson planning with my college mentor in dance, who remarked that teaching by genre was no longer the norm, especially in lower-income schools. This statement hit me strangely since that professor was the very one who had taught me to teach that way. That is, dance classes, be they community classes or classes taught in an educational setting, were taught by genre. Students took classes in jazz, ballet, tap, modern, and so on. The disciplines were distinct, and their skills and styles seemed to be connected only by the thread of ballet language. I grappled with the concept of blending these thoughts for some time. I realized that in my role as an educator of underprivileged students, my skills could be used to teach bigger life lessons. I was not *just* a dance teacher but a teacher who would use the medium of dance as a vessel to teach life skills, lifelong physical health, creativity, and self-empowerment. Thus, concepts of travel, connecting passions to the arts, conflict resolution, problem solving, math and science enrichment, and creativity could become a part of my dance classroom lessons.
Rationale for Supporting Student Development of Life Skills

Our educational system was originally designed to inform the child of basic needs pertaining to reading, writing, and arithmetic. Since its inception, the educational system worldwide has grown to include matters of government, scientific theories, history, and various electives spanning from psychology to technology. When these systems go under reformation, states must ask themselves the following questions: “When the students ‘education’ is concluded, what skills do we want them to know?” “Are we effectively preparing the youth for the workplace?” “How can we assist in helping them be productive and efficient citizens in our world?” Other rationales taken on by many charter schools include the character development of the child, while other institutions focus on specific career tracks with the intention of proficiently preparing youth to handle everyday circumstances. The World Health Organization, WHO, responded to this same line of questioning with its list of 12 essential life skills as explained through the delphi method (Tonner, 2016, August 29).

It is my belief that dance and other artistic mediums can marry the state-required courses and the application of life skills. It is conceivable that movement can meet the demands of many of the WHO’s life skills, including decision making, problem solving, critical thinking, and self-awareness. Decision making paired with perceptual skills can bring informed clarity of thought. Costume creation with mathematical skills aids in problem solving. Student choreographic works created with the assistance of chance choreography enhance the understanding of math probability and critical thinking. Poetic interpretation affords youth opportunities for self-expression and self-discovery.

Practical Life-Skill Dance Lesson Plan Examples

The following three lesson plans focus on the concepts of conflict resolution, mapping through locomotor and nonlocomotor movement, and active word play. Many math concepts are discussed separately.

Lesson 1: Conflict Resolution (Grades 1-6)

Rationale: Often students have conflicts related to a matter of opinion in which they are passionately arguing based on their point of view without considering the other person’s point of view. We can reason that conflict will always be a part of human nature. When acknowledged, we may even see these conflicts as a positive tool for stating one’s opinion and attempting to get others to see the matter in the same way. With elementary students, this can show up as “He hit me with his pencil” while the pencil thrower may have accidentally flung the object from his hand while fidgeting nervously during a test. Before an apology can be issued or the teacher can intervene, a full-fledged angry war would begin. It is in moments like this that a dance-inspired lesson on conflict can be beneficial.

Life objective: Students will be able to see the other person’s perspective when in conflict.

Life skill: Interpersonal, personal

Dance skill objective: Students will be able to predict others’ perspectives and act or dance these ideas out.

Materials: None

Procedures:

1. Ask students to remain seated and look forward and notice what they see. The differences will be that some see the back of a classmate’s head with an intricate hair design while another student may clearly see the chalkboard.

2. Have one student lie on the floor and note what he or she sees. Possible answers are the ceiling tiles, underneath the desk, or the sprinkler system.

3. Have another student stand on a sturdy box that puts his or her perspective above the normal standing height.
4. Have students partner up, face one another, and describe what they see. Note and discuss the differences.

5. Have the students in the pair receive conflict cards typical to their classroom. Sample conflict: Student A thinks that student B has tripped him deliberately. Discuss what could have happened from each person’s perspective.

6. Have students create four “pictures” or poses to tell this story. Call out each pose by number as the students perform this story for the class, asking audience members to close their eyes during the transitions between poses and to reopen them to see the new image.

7. Change the perspective and create four more pictures to retell the story from another person’s perspective. The new story should be performed for the class in the same manner as the preceding.

8. Class should discuss how the perception changed.

9. The poses can also be performed as a longer movement phrase without the audience’s eyes closing during the transitions.

Lesson 2: Directions and Travel (Grades 6-12)

Rationale: As the director of a high school dance team in a struggling area of Houston, I became involved in a unique situation in which a child’s mother refused to pick the student up after school-related activities. Since the child was in my care and the area where the school was located was not the safest, I opted to drive her home. To my surprise, this teen could not give me clear directions to get her there. It took us a few twists and turns for her to finally recognize landmarks and guide me to her home. Could this be a fluke or was it a trend in today’s youth? This incident reinforced the need for me to stretch dance education beyond pliés, pirouettes, and jetés. In the days following, I asked students in one of my dance classes to draw a map to their homes from school. To my dismay, many could not identify street names or fully recall the pathway home. I clearly saw an opportunity to infuse this lesson into my class using the concept of space with locomotor and nonlocomotor movement.

Life objective: Students will be able to navigate between school and home with accurate directions using street names and directional turns.

Life skill: Cognitive, personal

Dance skill objective: Students will be able to use concepts of locomotor and nonlocomotor movement to travel across the room in a specified pattern. Students will be able to apply manipulative concepts of level and direction.

Materials: Paper, pen or pencil, colored yarn, tape

Procedure:
1. Homework the preceding day: Have students work with parents to draw a map between home and school.

2. Define locomotor movement as movement that travels from one spot to another.

3. Ask students to form lines that will travel across the floor. Each line will create a locomotor movement that will get them across the room. Explain that the steps may not be repeated (this is an opportunity to place struggling learners in the front of the line).

4. Discuss and record the numerous ways to use locomotor movement. Ideas might be walk, run, hop, skip, chassé, leap, hop, turn, slide, roll, jog, slither, crawl, scoot, roll on floor. Note any level or directional changes.
5. Have students return to their normal seating areas. Using the maps they made at home, have them write a locomotor movement on each street on which they travel, adding details such as levels, how high or low, and directions indicating which way the body will face.

6. Define nonlocomotor movement as movement of the body that does not travel from its place of origin.

7. Have students stand and move their bodies to key words and phrases such as twist, bend, fold, fall, single body part movement, lean, turn in one spot, reach, push, pull, crumple, rise, jump.

8. Have students discuss more options for nonlocomotor movement.

9. For each turn or intersection on the maps, have students write down a nonlocomotor movement.

10. Hand out a long strip of tape and precut pieces of yarn in a variety of colors.

11. Have students find “home” in the room. Note that home and school can be a place of their choosing and “school” does not have to be the same location for everyone. They should mark a place by attaching their string to the floor with a piece of tape. Students should continue to map out their route in the classroom without regard to other students’ maps (see figure 1). The various yarn colors will help them navigate on their own paths.

12. Allow students time to practice traveling on their pathways and stopping at each corner to perform a nonlocomotor movement.

13. Perform this movement as a class, in small groups, or in pairs to allow “audience” members to see the magic in action.

Modifications:
- Students who fail to bring their homework or have fewer than four streets to travel on can be given a prepared map from the school to a local landmark such as a store or park.
- For advanced learners, you can modify the assignment to include mandatory level changes, directional changes, and modifications to their tempo (see figure 2).
- Younger learners can begin on prepared pathways that have been mapped out as they enter the room. Starting points can be recognized by an “X” and ending points by a square. This method is also suitable for short class days.
Lesson 3: Descriptive Dance (Grades Pre-K-5)

**Rationale:** I work with dancers from ages 2 to 93. One day the students and I were vigorously working on being marionette puppets when a three-year-old exclaimed, “Miss, it is raining on your face!” After a good laugh, I explained that I was simply sweaty. In that moment, this young lady learned a new word by associating it with something she already knew. This simple but significant discovery confirmed for me that as dance educators we could enhance students’ vocabulary skills by giving movement to descriptive words in sentences, such as “The snake slithered through the grass.” Connecting this to a traditional reading or English class, newly introduced descriptive words could be engrained in the students’ memories and aid in student engagement.

**Life objective:** Students will be able to increase their vocabulary skills through critical thinking.

**Life skill:** Cognitive

**Dance skill objective:** Students will be able to interpret movement qualities through vocabulary enhancement.

**Materials:** Descriptive texts via stories, poetry, or fables

**Procedure:**

1. Select an age-appropriate poem or fable containing adjectives or other descriptive words or phrases. Some of my favorites are the poem “Homework” by Jane Yolen, “The Wind and the Sun” fable, and excerpts from *Romeo and Juliet* by Shakespeare.

2. Have the student read the text and guide them in identifying adjectives or phrases that have movement. Younger students may need vocabulary assistance with unfamiliar words.

3. Provide students with an example of translating words into action. For example, in Jane Yolen’s “Homework” poem, she asks “What is it about homework that makes me pick up socks. . . .” The instructor could creatively pick up an imaginary object with her hand.
4. Ask the students how else a sock might be picked up. Solicit answers using different body parts, facing different directions, and different things to do with the sock once it is retrieved.

5. Teacher should demonstrate the new examples decided on by the class.

6. Have students gather in groups of three or four. Assign each group a portion of the text highlighted in the reading discovery.

7. Student groups should create a short movement phrase to represent their text.

8. The instructor or a student volunteer should read the text aloud while each group performs the phrase as it is read.

9. If the text is assigned to be memorized, each movement phrase could be taught in the order in which it appears in the text and performed as a complete dance.

Rationale for Math-Infused Dance Lessons

Less than a year later I was truly challenged once more. My principal at Houston’s Lee High School called a meeting to say, “Staff, this week we will begin a new initiative to strengthen student’s standardized scores in math.” Great, I thought. The students could use some one-on-one instruction to increase learning since our school falls far behind the norm. Listening further, I heard, “We will be utilizing all of the instructors on campus to make this happen.” I thought he was surely referring only to math teachers. Soon it sank in that I, as a dance teacher, would be responsible for a small group of struggling learners in math! Before graduation from high school, I had failed and repeated both Algebra 1 and 2. Thankfully, back then, students were required to earn credit in only three math courses. Otherwise I may not have graduated.

Upon reflection, I analyzed my experience and dug deep to discover the source of my struggle and later success in those difficult classes. Why did I have success in geometry and not in algebra? It occurred to me that in geometry, I could mentally turn an object in the air and use deductive reasoning to look for relationships between angles, degrees, and radii, while algebra just seemed to confuse the numeric system with the alphabet, and those two just could not live in the same region in my head. So how did I make it through algebra classes the second time around? Epiphany: The letters became friends of mine in separate houses. Xavier and Yolanda lived in homes separated by the equals sign. If someone left Xavier’s house, he or she had to be added to Yolanda’s. This reasoning became rational and helped to explain the complex nuances of math to my brain and my presumably nonmathematically inclined friends who clustered around for help. Kinesthetically and visually, I needed to move the characters around!

A year later while embarking on my graduate studies journey, I decided to delve into this concept further. I found that many minority students failed math and science across all of the states. In the The Black-White Test Score Gap, Jencks and Phillips (1998) state the following: “[Testing gaps have] narrowed since 1970, but the typical American black still scores below 75 percent of American whites on most standardized tests. On some tests the typical American black scores below more than 85 percent of whites” (p. 1).

Scores of Hispanic students seem to mirror these statistics. The State of Texas Assessments of Academic Readiness (STAAR) revealed that only 1% of African Americans and 3% of Hispanics were ranked advanced. In direct contrast, 71% of African Americans’ and 52% of Hispanics’ scores were deemed unsatisfactory. Narrowing the focus further, we see that 47% and 75% of African Americans and Hispanics, respectively, score satisfactorily in mathematics in comparison to 80% of whites (STAAR Exam Statistics, 2016).

In his article “Minority Testing Bias Persists” (2013), Reese wrote that the inconsistencies between
testing raise questions about assumptions that do not align with minority students' backgrounds. Differences were often related to upbringing, lack of access, or absence of practices in homes. Reese further indicated that the test score gaps were a result of these biases. I similarly theorized that minority students, African Americans and Hispanics, were culturally raised to process information kinesthetically while core classes were taught in a manner that was preferred by the auditory and visual learners. I found that minority students, which in most cases included African American or Latino students, responded best to interactive lessons and self-discovery as opposed to teacher-taught lessons or seat work. This implies that hands-on lessons will benefit minority students and aid in their learning of intangible subjects such as mathematics.

In the book *Sparks of Genius: The Thirteen Thinking Tools of the World’s Most Creative People*, Robert and Michele Root-Bernstein explore several “thinking tools” that I feel are applicable to my theory (1999). Two of the concepts, body thinking and play, illustrate how the body has its own intelligence by knowing how to problem solve as it goes. I relate this theory to the way we instinctively know how to blink when something comes toward our face or how the body naturally knows how to adjust when accommodating for changes in the environment.

As we see in children’s games, play strengthens skills through activities, promoting problem solving and freedom of learning. Play allows students to learn without restrictions or apprehension. This “transforms knowledge and builds understanding as new worlds, personas, games, rules, toys, and puzzles are created - and through them new sciences and arts” (Root-Bernstein & Root-Bernstein, 1999). Given this information, I began *Moving Math Matters* concept development, lesson planning, and implementation.

### Math-Infused and Life-Skill Dance Lesson Plan Examples

In the following age-progressed lesson plans, the mathematical concepts that I undertook for students included the following: solving simple addition, subtraction, and division problems while moving, identifying the radius and diameter as applied to costume design, and exploring probabilities to create and choreograph dances.

#### Lesson 1: Move With Descriptive Numbers (Grades K-4)

**Rationale:** In every classroom the mundane tasks of lining up, gathering materials, or moving from class to class present an opportunity for lost engagement, decreasing the time available for effective learning. Using dance during these transitional times could expedite the process while increasing student focus.

**Life objective:** Students will be able to apply simple math skills such as addition, subtraction, and division.

**Life skill:** Cognitive

**Dance skill objective:** Students will be able to move in unique and descriptive ways while incorporating simple math concepts: addition, subtraction, and division.

**Materials:** Hula hoops, if desired

**Procedure:**

1. Take the students on a short walk through the campus. Ask them to look for items in their environment that have movement. These could be the flags just outside, clocks, doors, people, signs not fully secured to the wall, water at the fountain, and more.

2. Once back in the classroom, cold call or ask for volunteers to note the movements they observed in their environment.

3. Create a movement word wall using the examples students observed.
4. When needing to move from one place to the next, students can randomly choose a movement from the wall of choices and mathematical concepts. Examples:
   - “Please travel to line up at the door in multiples of two. Do so by moving like a flag waving in the breeze.”
   - “You are currently in groups of eight. Subtract three people from your group. How many are left?”
   - “Gather into groups of five. When you have a complete group, wiggle slow like a worm. Students without a group should come to the front of the room.” Teachers can discuss how the class is divided by the selected number and the leftover students become identified as “remainders” when doing division.

5. Use of hula hoops can be beneficial to young or struggling learners. Groupings of children will be visually clearer once they are inside the hula hoop. When adding groups together, the math concept is graphically available to the participants.

Lesson 2: Dress Design Using Radius and Diameter (Grades 5-8)

Rationale: Often when producing a dance for an audience, my students engage in big debates with me about costuming. I explain that costumes should suit the style of dance, as well as historical references if applicable, and must fit our budget. Asking students from a low-income environment “Who is willing to bring $35 for the costume?” stops the discussion dead in its tracks. I have found resilience in teaching students to make their own costumes. Skirts are a common choice in most forms of dance, and I have found that circle skirt construction allows me to teach elements of costuming while reinforcing some mathematical processes.

Life objective: Students will be able to analyze and create costume designs for various hoop skirt styles through brainstorming and problem solving.

Life skill: Cognitive

Dance skill objective: Students will be able to comprehend the use of radius and diameter in relation to costume design, applying mathematical concepts to tangible learning.

Materials: Newspaper, scissors, tape, tape measure, long string with pencil attached

Procedure:

1. Have students gather in groups of four. Explain that the daily objective is to create a pattern for a poodle skirt. This can be in conjunction with teaching a dance from the 1950s or viewing the Hand Jive dance from the movie Grease.

2. Have students brainstorm how this skirt will be made from two circles. Probing questions to ask might be these:
   - Where would the two circles exist on the dance skirt?
   - Will the circles be the same in size?
   - What mathematical concept is used to determine circle sizes?

3. Have the students select roles. The model will be the person the skirt will be designed for. The scribe will chart all measurements. The tailor will oversee construction of the skirt (see figure 3).

4. The scribe should measure and record the model’s waist. Divide that number by 3.14, which is called \( \pi \). As an example, say the model’s waist measurement is 30 inches; 30 divided by 3.14 = 9.6 (rounded), which is the waist diameter. To determine the model’s waist radius length, divide the waist diameter by 2, which in this example is 9.6 divided by 2 = 4.8 (rounded).
5. A symmetrical circle can be achieved by holding the marked end of the string in place and drawing an even curve with the penciled end.

6. Mark the distance of the model’s waist radius on a string that is attached to a pencil (see figure 4).

7. Use four open sheets of newspaper as fabric by taping them together to form a large square. Fold the fabric in quarters (see figure 5).

8. The tailor should draw a small semicircle using this measurement on the fabric starting at the folded edge.

9. Discuss how long students would like the skirt to be. Probing questions could be “Do we want all skirts to appear the same length to the floor?” “Should all of the skirts fall at the same place on the performer’s leg?”

10. Determine the length of the skirt from the waist.

11. Have the scribe measure from the waist to the desired length of the skirt. This measurement must be added to the center point of the waist circle already drawn.

12. Repeat the same string and pencil technique to create an outer circle.

13. Cut the inner circle out and have the model try on the clothing. What problems arise? (Model may not be able to get the skirt over the hips, which tend to be wider than the waist.)

![Anatomy of a circle skirt](image_url)

**Figure 3: Anatomy of a circle skirt.**
Ask students to brainstorm solutions. (Creating a slit at the waist can solve the problem but also creates a new problem of how the skirt will stay on the body.)

Creating a wrap skirt by adding a tie at the opening is a suitable answer.

Question students: “If we want the skirt to last many years and fit many dancers each time it is worn, how can we make the skirt less specific to this model in front of you?” (Refer to previous questioning about length.)

**Modifications:** Grade 9-12 skirts
- Show the Pilobolus untitled dance (2011, April 13). State that students will design a skirt for this tall dancer.
- Have students divide into groups of four.
- Probing questions: How tall will your “stacked dancer” be? What is the measurement from the top dancer’s waist to the floor? Given the fact that we want to hide another dancer underneath, what should be done to the skirt to allow this to happen? (Ideally, we want the model’s skirt to have more fabric to flair out more and still reach the ankle of the model.)
- Have the students select roles. The *model* will be the person the skirt will be designed for. The *scribe* will chart all measurements. The *tailor* will oversee construction of the skirt.
- Follow instructions as listed earlier to create the inner and outer circles with newspaper.
- Allow the model to try on the skirt.

**Lesson 3: Chance Choreography and Probabilities (Grades 6-12)**

**Rationale:** Creativity is a major component of my dance classes. When I desire the students to make individual creations, they tend to come up with the same things they have seen on television. To assist in making the leap between the movement that is dictated to them and creating something fresh on their own I use chance choreography, which is a process in which movement is arranged at random, chosen by a randomizer like a flip of a coin, the roll of dice, or an online selection tool. This lets them use the latest dance craze while generating new variations on what is given.
Life objective: Students will be able to predict outcomes using probabilities as a skill.
Life skill: Cognitive
Dance skill objective: Students will be able to apply mathematical probabilities to dance and choreographic creation.
Materials: An evenly weighted cube, photos of dancers posing or other elements you wish to include in a dance. Cube templates (2016) can be found online through the website Math Is Fun.
Procedure:
1. Day 1: Have students brainstorm the key movements you wish to include, and create poses to mirror them. Have students take pictures of movement that they believe should be included in the dance. For example, a class could be working on creating a story about a battle between two royal families. Poses could include oppositional movement with one student reaching high and another reaching low to show conflict.
2. Paste the photos on each side of the cube.
3. Day 2: Ask students to define probability. Answer: the likelihood that an event will occur. Question the class: “There are 27 of you in this class; if I were to rearrange seating having four rows of dancers, what is the probability that you will be placed in row 2?” Allow students to brainstorm this issue. Questions they may ask: How many students per row? Will you group by height, gender, or skill level? These questions can further help define the answer. Keep in mind that the discussion is the most important part of the process.
4. Explain that today students will learn to use probability and chance choreography while creating a dance. State that probabilities are commonly expressed as a ratio or with a decimal point. Cold call on students to define what ratio and decimal points are.
5. Either by whole class or by small group, have the students roll the picture-filled cube a total of eight times. Each time a photo is revealed they should add movement to the previous movement to create a short movement phrase.
6. Ask “What is the probability of you landing on the same picture twice? Looking at your cube, what is the probability of you landing on a photo that uses the lower levels?” The answers will vary based on the photos used.
7. Explain that if the cube lands on a repeat photo, the students manipulate the movement to reflect a level change, facing direction, or movement intention or dynamic. For example, the first roll may be a jump with arms straight in the air. This can be manipulated to have the dancer’s body performing the same extended body move while lying flat on his or her back.
8. Have the groups discuss if their predictions about probabilities were accurate or not. Example: A group may have noted that they landed on a specific picture three times. Ask that they write that ratio on the board: 3/8 to represent the three times they got the same answer out of the eight attempts at rolling the cube. Ask others to translate that into a percentage. To do so we would divide 3 by 8, yielding an answer of equating to 37.5%.

Conclusion
Movement-based instructors possess a unique opportunity to merge their content with life skills, academic skills, and self-awareness in their students. As the educational systems are rethinking the concept of developing the whole child, this creates an opportunity for the performing arts to shine a light on these values. Dance is as a valuable tool to develop student knowledge through the three
components of life skills: personal, cognitive, and interpersonal.

Through movement, students are able to apply prior knowledge, create, explore, and stretch their brain power. Personally, they connect with the process of self-discovery, learning the value of their talents and the strength of their opinions. Cross-curricular learning, combining movement with academics, enhances cognitive life skills through hands-on development of knowledge and skills. The kinesthetic application provides real-world problem solving, perception development, and enhancement of mathematical skills while strengthening interpersonal life skills.

References


Capturing Quality Dance Photos and Videos: Understanding Camera Equipment

By Diane Cahill Bedford, MFA, Texas A&M University

Abstract

In the digital age, obtaining quality dance videos and photos is an important aspect of promoting oneself as an artist and documenting important creative work. Unfortunately, most dance artists never receive basic knowledge regarding their camera equipment in order to obtain such photos and videos themselves. Because many dance artists would benefit from learning how to correctly document dance on their own, it is important that dance artists be given the foundation to successfully document their work. This article focuses on discussing and understanding some of the basic functions of digital cameras and camcorders that will aid dance artists in achieving videos and photos that are focused, well lit, correctly colored, and capture the essence of the dance. In familiarizing themselves with the basic manual control options on video cameras and digital single lens reflex (SLR) (still cameras), dance artists can more easily obtain quality photos and videos to promote their choreography, company, school, or organization.

Introduction

In today’s society, videos and pictures of dance are prevalent forms of advertising and self-promotion for individual artists, dance studios, colleges and universities, and professional organizations. When these groups design websites that aim to promote their work, they often fill the websites with breathtaking images and videos of dance. When individual artists write grants or submit their work for review, quality videos and photos capturing their work are essential to successful self-promotion. The list of needs and uses for professional photos and videos extends well beyond these examples. Therefore, to promote themselves successfully, it is necessary for dance artists to have quality videos and photos of their dance training and choreography.

However, many dance artists lack an understanding of their camera equipment that would enable them to properly capture quality videos or photos themselves. Dance artists find themselves frustrated by their own photographs and videos depicting their work poorly. The novice dance documentarian becomes frustrated when his or her photos of a dress rehearsal are blurry and dark, or when the video of a dance shifts in and out of focus with white splotches on the screen where dancers should be seen. So, if they have the budget, they turn to hiring a professional photographer or videographer. Yet this resolution can often become equally frustrating, as many professionals do not understand the important aspects of dance upon which to focus when attempting to capture an ephemeral art form. Too often, dance artists pay for a professional videographer only to find that he or she filmed a close-up on the dancer’s face, thereby completely missing the important dance choreography that simultaneously occurred as well as other elements. Or, a photographer is hired who misses capturing the highlights and essence of the choreography. In order to resolve these kinds of frustrations, dance artists would benefit from learning how to correctly use proper equipment to capture their own photos and videos. By developing an understanding of some of the basic functions of digital cameras, dance artists are more likely to achieve videos and photos that are focused, well lit, and correctly colored, all the while capturing what they believe to be the most important aspects of the dance. By learning how to operate the basic manual control options on video cameras and digital SLRs, dance artists can more easily obtain the quality photos and videos they desire. See appendix for selected photography terms and definitions.
Capturing Dance on Video

High-quality videos are easiest to obtain with use of a digital HD camera that offers manual settings and controls for a user to access. Many small camcorders provide some access to manual controls, but often these controls are tucked inside menus that may be difficult for beginners to navigate. A prosumer camera, such as the Canon XF100 HD, is larger, with access to many of the most needed controls on the outside, but this type of camera can also feel daunting to beginners. When one is purchasing equipment, either option can be viable so long as the camera allows for manual control of the focus, white balance, and exposure. Regardless of the size or price of the camera, quality videos can be obtained when the user correctly understands how to use these controls within the camera’s manual mode (Glenn, Noble, & Noble, n.d., Cameras, para. 1).

Focus on the Digital Camcorder

When viewing amateur dance videos, one often witnesses the dancers coming in and out of focus on the screen. The blurring of the images is a frustrating by-product of the camera attempting to auto-focus, especially in low-light situations such as a dance performance (Aiello, 1999). To obtain a clearer focus on dancers in a performance, the camcorder must have the ability to switch between manual and autofocus so that the camera operator may control the focus. The use of manual focus allows the videographer to determine the area to be focused on rather than allowing the camera to choose the focal point. Choosing the focal point is important “because of the ever-changing spatial arrangements in dance . . .” (Glenn, n.d., Issue Focus: Techniques/Recommendations, para. 1). Because dancers perform on various points of the stage at varying depths, the camera needs to be set up to focus on all these varying points with as equal clarity as possible. In order to achieve this goal, the sharpest point of focus or focal point should be preset approximately one-third of the distance onto the stage (see figure 1). Many cameras will continue to focus on objects one-third the distance in front of the focal point and two-thirds the distance behind the focal point. So, when one sets the focal point one-third of the distance onto the stage, any dancing occurring on the entire depth of the stage should ideally still remain in focus.

To obtain the focal point, a focus card should be placed approximately one-third of the distance onto the stage. A focus card can consist of a simple white poster board with a strip of black tape or tubing to provide high contrast. The videographer should then set up the camera on a tripod in the desired location of filming and place the camera into manual focus mode. Next, the videographer should zoom the camera lens in as close as possible onto the edge of the black tape with some white background visible in the viewfinder. Then, the videographer should press and hold the autofocus button (see figure 2) on the camera (or momentarily place the camera into autofocus mode) until the image becomes clearly focused. To lock this focus, the camera should then be returned to manual focus mode (or the autofocus button simply released). At this point, the videographer should also set the white balance control on the camera.

White Balance on the Digital Camcorder

When dance videos seem to portray costuming or lighting in different colors or hues than actually seen onstage, the white balance of the camera has not been properly set. To achieve proper white
balance, the videographer needs to fill the camera viewfinder with pure white. This step is easily achieved during the focusing portion of setting up the camera. Once the videographer completes the focusing portion, he or she can tilt the camera to fill the viewfinder with the pure white from the focus card. In a pinch, anything white will do, such as a sheet of plain paper or even a T-shirt. During this portion of setting up the camera, “a medium intensity lighting cue containing no colored gels should be used to create a neutral light situation” (Glenn, n.d., Issue-White Balance: Techniques/Recommendations, para. 2). Videographers who regularly work in the same theater or performing space can ask their lighting designer to save this cue for future use to help speed up the process. The videographer should check and make sure that the camera’s exposure is set to allow in as much light as possible without overexposing the image (see “Exposure on the Digital Camcorder” next), meaning that the white image on the screen should appear bright. Then, the videographer should press and hold the white balance button (see figure 3) or turn the camera on to auto white balance momentarily until the image onscreen appears truly white. Then the videographer is free to zoom out and frame the stage. However, if the camera is moved, the entire focusing sequence will need to be repeated. Typically, when cameras auto-power off, they will hold the previous focus and white balance settings.

Exposure on the Digital Camcorder

When videos feature dancers who appear more like shiny white blobs, or dancers who are barely visible on film, the camera’s exposure has not been properly adjusted to compensate for lighting changes. The exposure is controlled by the iris settings in the camera. The iris functions like the telescoping capability of the pupil in the human eye: When in low light, the pupil opens wide (dilates) to allow more light into the eye, and when lighting is too bright, the pupil closes down to allow a smaller amount of light into the eye. To begin manipulating the exposure, start by placing the camera on manual exposure mode (or pressing the iris button on a prosumer camera). On prosumer cameras, the iris can then be changed by an external dial (see figure 4) that allows the videographer to freely and easily control changing the exposure. This feature is highly desirable in performances where lights change from bright to dark quickly and often. To change the
exposure, the videographer simply has to spin the dial to allow more or less light into the camera. Ideally, the videographer will have seen the lighting that will accompany a dance before filming it in order to determine an ideal preset number before the start of each dance. If the videographer has not seen the dance with its lighting beforehand, the lighting designer or stage manager can provide a general idea of the lighting simply by discussing if the lighting is dark or bright for each piece. When in doubt, the iris can be set to 2.4 as a medium level to start filming each dance and then be adjusted accordingly from that point forward. If more light is needed for a particularly dark dance, and the iris is already fully opened, the camera’s gain function can be adjusted to medium or high in order to allow more light into the camera. The use of gain when not needed can result in slightly less than ideal picture quality and focus, so gain should be used only when absolutely necessary.

Capturing Dance Through Still Photography

In order to obtain the highest-quality photographs of dance, a photographer should use a digital single lens reflex camera (dSLR) set to manual control in combination with quality lenses. While professional photographers often debate which brand of camera is best, the two most often used brands are Nikon and Canon. Regardless of the brand, photographers need to understand the basic principles of focus, white balance, exposure (often referred to as aperture), ISO sensitivity, shutter speed, and the best types of lenses to use in various situations. While this list is longer and seemingly more complex than for video cameras, the main components a photographer will constantly manipulate are the exposure and shutter speed during an actual shoot. When these basic principles are better used, the quality of one’s photos can improve tremendously. While a video camera is a one-time purchase, the multiple pieces of equipment needed for SLR cameras can become quite a bit more expensive as the photographer collects camera lenses to perform different tasks. When it comes to lenses, the adage “You get what you pay for” is true. Photographers can easily wind up purchasing a great deal of high-end equipment, especially in relation to camera lenses that work well in low-light situations. However, the photographer on a budget can still obtain high-quality photos with a decent camera and one or two of the more versatile lenses available.

Focus on the Still Camera

Unlike what occurs with the video camera, a photographer most often uses autofocus on the still camera when capturing movement (see figure 5). Dancers move quickly, and attempting to manually focus a moment that happens in a split second is nearly impossible with manual controls. Therefore, when other settings on the camera are correctly adjusted, the camera has a greater chance of focusing correctly when in autofocus. Another trick to achieving correct focus quickly is ensuring that the camera is locked on the correct subject when focusing. Photographers who are watching the dance through the eye of the camera typically find themselves following the dancers closely while looking through the viewfinder;
during this tracking, photographers should place the focus indicator (a small red square seen through the viewfinder) on the dancer while pressing the shutter release button halfway down to autofocus. When photographers track a dancer with the autofocus already engaged, they are preparing for the split-second shot to occur. When nonfocused pictures occur, “a common cause is the autofocus locked on the wrong subject or [focused] past the subject” (Bucher, 2010, p. 91). Do not despair when this occurs, as typically dance photographers find themselves taking hundreds to thousands of pictures just in an attempt to find a handful of perfect pictures.

White Balance on the Still Camera

Also unlike what occurs with the video camera, the white balance feature can often be set on the automatic function. This menu item is still selected while the camera is in manual mode. One simply accesses the camera’s menu and photo settings, finds the setting for white balance, and selects “AWB,” which stands for auto white balance (see figure 6). Other setting choices exist, such as incandescent, fluorescent, and direct sunlight, and a photographer might play with these selections based on where the photos are being taken. For example, if photos are being taken in a studio during a class, the type of lighting in the room will often dictate the best setting for the white balance. Paying attention to the lighting source is important because “even if the setting looks ‘normal’ to your eye, because different sources of light have different color temperatures, your images may come out with a certain hue to them” (Frederick, 2013, p. 28). Typically, photos taken during a performance are fine when used with the auto setting, but a different white balance setting can also be experimented with if colors do not appear true to real life.

Exposure and ISO on the Still Camera

Exposure and ISO are both settings that control the amount of light entering the camera. Just like the
camcorder, the SLR camera also has an “iris,” which, like the human eye, opens and closes to allow more or less light into the picture. If a picture is overexposed (meaning too much light has been let into the camera), the picture will appear too white or bright or will lack color saturation. If a picture is underexposed, meaning not enough light was let in, the picture will appear very dark, and in extreme circumstances even difficult to see. In low-light situations, such as dance performances (where flash is prohibited or is distracting to the performers), it can be difficult to obtain a photo that has enough light to expose the image clearly. In order to obtain crisp, clear photos of dancers in action in low-light settings, the photographer must constantly adjust the exposure and infrequently adjust the ISO.

To clarify, exposure is also referred to as aperture. The aperture is determined by looking at the f-stop numbers, which can range from f/1.4 to f/32. These numbers determine how wide or narrow the diaphragm mechanism of the camera lens opens to allow light into the image sensor. Therefore, “a wide f-stop, such as f/2.8, allows more light to strike the image sensor. A narrow f-stop, such as f/16, lets in less light” (Bucher, 2010, p. 27). Camera lenses that can achieve lower f-stop numbers are particularly useful when one is shooting performances in dark theaters. Consider what happens when a person enters a dark room: His or her pupils dilate (grow larger) to allow more light into the eye. When a photographer needs to create the same effect in the camera, the lowest f-stop number must be selected. Therefore, if a photographer is aiming to successfully shoot in low-light situations (such as dance performances), investing in a camera lens that can go as low as f/1.4 or f/1.8 is important. Be mindful that when a low f-stop number is selected, “only the light that falls on the focused subject [the dancer most in focus] will be rendered as sharp” (Peterson, 2010, p. 43). This means that shooting with the camera lens wide open to allow in light limits the focus of the camera, so fewer dancers in the photo will be in focus.

When looking into the camera’s viewfinder, or when looking at the liquid crystal display (LCD) screen on the camera, the photographer should be able to see which f-stop number has been selected. To gauge if the correct f-stop has been selected and the photo is properly exposed, the photographer should look at the light meter in the viewfinder of the camera. The light meter will have a “0” with lines and a plus or minus sign on either side (see figure 7). The indicator lines should be as close to “0” or the middle as possible for a correct exposure. To change the f-stop number on a Nikon camera, the photographer adjusts an external dial on the camera body, which can raise or lower the f-stop number in accordance with what the camera lens will allow (see figure 8). When one looks at a camera lens, one sees an f-stop number on the

Figure 7: The LCD screen illustrating the light meter selection for the camera.

Figure 8: The dial on the front of a Nikon camera to change the f-stop selected.
outside edge of the lens, and this number will determine the range of f-stops that can be used with that specific lens. That is, if the camera lens has f/2.8 written on it, the camera itself will never be able to achieve a lower aperture (such as f/1.4) until a different lens with that possible range is used. So, while the camera body controls how one adjusts the exposure, it is the camera lens that determines how much light will be allowed into the picture.

If more light is needed for a photo than the aperture can provide, the ISO sensitivity setting can help. This setting operates much like the gain feature on a camcorder by allowing even more light into the camera, which can “improve the amount of detail captured in the shadows” (Busch, 2008, p. 62). But, as with gain, using too high an ISO number can cause graininess or “noise” in the photo (Kelby, 2010, p. 179). Therefore, when choosing an ISO level, the photographer should aim for a number just high enough to aid in getting any additional light needed. This feature is also accessed through the camera menu settings and is listed as ISO sensitivity settings (see figure 9). As Kelby (2010) explains, camera bodies with higher price tags (such as Canon’s Mark III and Nikon’s D700 and D3) have become extremely popular due to their ability to shoot at higher ISOs with minimal noise (p. 148). With ISO settings that can extend to extremely high ranges (such as 12,800), these more expensive cameras may aid in extreme low-light situations (e.g., in a dark theater with a dance very dimly lit). However, using an extremely high number ISO such as 12,800 is not recommended. Typically, the number selected will depend on the camera lens and the amount of light readily available when photographing. The entire reason for finding ways to allow more light into the camera through aperture and ISO is based on the principle that dance photographers will always need a fast shutter speed when photographing movement in action in order to obtain crisp, focused photos.

**Shutter Speed on the Still Camera**

Shutter speed determines how quickly the photo is taken. This mechanism is akin to the human eye blinking, meaning the faster the shutter speed, the faster the camera “blinks” to capture a moment. When attempting to capture dance or any moving subject, the photographer needs to use a high shutter speed to avoid the movement looking blurred. Imagine a dancer who is performing a grand jeté and the photographer who wants to capture the perfect split of the dancer in the air. In order to capture this split-second moment, the camera requires a very high shutter speed to essentially stop time. On Nikon cameras, the camera body contains a dial that allows the photographer to easily and quickly adjust shutter speed (see figure 9). When looking through the viewfinder, or on the LCD display of the camera, the photographer can see the shutter speed number displayed. The number is written like a fraction with low numbers such as 1/30 and higher numbers such as 1/1,000 (or even higher). The lower the second number, the more slowly the camera will “blink” to capture movement. Conversely, the higher the second number, the faster the camera “blinks” to stop movement. While low numbers allow a great deal of light into the photo that can also aid in exposing the image, they also can create blurry images when attempting to capture movement. This approach is typically useless during photographing dance unless the dancers are still or are moving very slowly. Higher shutter speeds more effectively stop the movement, thereby creating clear, focused pictures. The downside to using high shutter speeds is that they also allow less light into the camera. For this reason, when dance is photographed in performance on a dark stage, the ability to increase the exposure is fundamental to having enough light to see the image. Therefore, since dance photography typically requires high shutter speeds and high exposure, photographers need to ensure that they have purchased at least one or two good lenses that will meet this requirement.
Purchasing the Most Efficient Camera Lenses for Dance Photography

Although camera bodies can range in expense and perhaps offer a few more bells and whistles as the price increases, the camera lenses that a photographer uses will ultimately determine the quality of the photos. According to Frederick (2013), “You should always buy the best lens you can afford,” because professional photographers agree that the lens is “the most important factor for producing great photos” (p. 34). As an example, a very basic starter camera body such as a Nikon D90 can take wonderful pictures with a very nice lens. Typically, when dSLR camera bodies are sold, they come with a lens that is often referred to as a “kit” lens. These lenses may be useful for taking some nicer photos of family or travels, but will not have the qualities required for capturing the fast action of dance. Photographers should seek out lenses that have the ability to shoot in low aperture numbers such as f/1.4 or f/1.8 to allow maximum light exposure (which is critical in dark theaters). From there, photographers can begin selecting the focal length of their lenses.

Focal length, which is referred to in millimeters (mm), does not measure the actual length of the lens itself, but how much of the scene will be captured or magnified (Black, n.d., Lens Focal Length, para. 1). A camera lens with a focal length of 18 mm captures a wider view (like zooming out as far as possible), while a focal length of 300 mm will zoom in or magnify the scene greatly. Depending on the photographer’s budget, a few lenses can be considered basic necessities for building the photographer’s “glass” collection. For maximum versatility, a zoom lens such as the 24-70 mm (f/2.8) is a great lens that will allow the photographer to capture some wide shots as well as close-up shots and still perform well in low-light situations. A prime or fixed lens, such as a 50 mm (f/1.8 or f/1.4), does not offer...
any zoom capabilities, but typically offers the lowest aperture numbers. The 50 mm also “allows the camera to shoot a scene very close to the way the human eye sees it” (Frederick, 2013, p. 34). This feature makes prime lenses highly useful if a photographer frequently shoots performance photos in low-light situations. If photographers shoot in a theater in which they sit a little farther away from the dancers, then an 85-mm prime lens (f/1.8) is a great choice for getting a closer view of the dancer. The most expensive lens of the lot is the 70-200 mm (f/2.8), which offers both incredible zoom and excellent performance in low light for situations in which the photographer is quite some distance from the dancers. Most budding photographers will find the greatest use from the 24-70 mm (f/2.8) and at least one of the aforementioned prime lenses.

**Summary**

To review, the use of manual controls on both the camcorder and dSLR camera offers dance documentarians greater quality control over their work. Remembering to set the focus and white balance initially will help to ensure clear, focused images with color true to life. Because dance entails fast movements and often occurs in low-light situations, both the camcorder and SLR typically need to have greater levels of exposure or light brought into the film or picture. Remember that on the video camera, this means that the iris is typically set at a lower number such as 2.4; on the SLR camera, the equivalent is the f-stop number, which also often needs to be set at a low number such as f/1.4. To avoid blurry photographs with the still camera, be sure to shoot at higher shutter speeds. The camera serves as the documenting “eye” on our dance world. The eye’s pupils must dilate to see in the dark, so the camera’s “eye” needs to dilate through low exposure numbers. The eye must blink fast to stop movement in action, so the “eye” of the camera must blink quickly through fast shutter speeds. When dance artists employ the use of these features, they have a much greater chance of successfully obtaining the quality photos and videos desired in order to promote the choreography, company, school, or organization.

**Appendix: Photography Terms and Definitions**

- **aperture**—The opening of a lens’s diaphragm, through which light passes. Referred to on video cameras sometimes as iris. Measured in f/stops such as 1.4, 2, 2.8, 4, 5.6, 8, 11, and 16.
- **dSLR**—Digital single lens reflex camera.
- **exposure**—Controlling the amount of light entering the lens of the camera. Allows for images to be brighter or darker.
- **focus**—Creating the sharpest image of the subject.
- **gain**—The ability of a video camera to increase the exposure or amount of light on an image by removing detail.
- **iris**—The telescoping feature of the camera, akin to the pupil of the eye, which controls the amount of light entering the camera.
- **ISO sensitivity**—The measure of the camera’s ability to capture light. Higher numbers allow for more light.
- **shutter speed**—The speed or length of time at which the camera is exposed to light or an image. Akin to how fast the camera “blinks” like the human eye. Faster shutter speeds freeze fast action and slower shutter speeds create blurriness with fast action.
- **white balance**—Matching camera settings to the color temperature of the light source.
References


The Effects of Creative Movement on Psychiatric Outpatient Clients

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Abstract

This study examined the effects of a nine-week creative movement program on depression level, quality of life, and basic physiological measures of clients with persistent mental illness in an outpatient psychiatric day treatment program. Creative movement uses a wide variety of movement styles and is both cost effective for mental health treatment and easily accessible. Demographics and characteristics of the participants included age, education level, income, and physical activity level. The Beck Depression Inventory II (Beck, Steer, & Brown, 1996) was used to collect data on depression level at baseline, at week 6, and at postintervention. Quality of Life Inventory (QOLI) was used to collect data on QOL (Frisch, 1994).

The study sample consisted of 11 participants in an outpatient day treatment program for those with persistent mental illness. A series of Friedman tests was performed to determine impact on depression, quality of life, and five physiological variables: weight, systolic and diastolic blood pressure, heart rate, and respiratory rate. There were no statistically significant differences in medians over time for quality of life or any of the five physiological variables. However, there was a statistically significant difference in depression over time, $\chi^2(2) = 8.510, p = 0.014$, and the Kendall's coefficient of concordance of 0.033 indicated that this was a fairly strong difference.

Creative movement could benefit persons who are diagnosed with depression and other forms of mental illness and is a tool that is both cost effective and easily accessible. Further research is needed to determine statistical benefits of this intervention with the mental health population.

Introduction

Dance movement therapy is defined by the American Dance Therapy Association (2016) as the psychotherapeutic use of movement as a process that promotes the emotional, social, cognitive, and physical integration of the individual. This type of nonverbal therapy was developed in 1942 by a dancer named Marion Chace, before the use of psychotropic drugs and due to the extremely large number of psychological casualties from World War II (Chaiklin, 2009). Psychiatrists in Washington, DC, found that their patients were obtaining great benefits from attending Chace's unique dance classes. As a result, Chace was asked to work at St. Elizabeth's Hospital with patients who had been considered too mentally ill to participate in regular group activities. A nonverbal group approach was needed, and dance/movement therapy met that need. Dance/movement therapists have used nonverbal and nonconscious experiences with patients through body-to-body dialogue. They translate the language of how the person moves into how he or she feels. By allowing the patient to lead, the therapist may be more emotionally expressive by matching and mirroring through the nonverbal style of therapy (Tortora, 2011).

Dance therapy is implemented by a certified dance therapist who undergoes extensive training in both psychology and dance. These individuals work closely with other professionals to treat the whole person. Dance therapy sessions are structured to enhance the quality of life, and creative dance, exercise, and other forms of dance have been found to improve patients’ self-esteem and to improve depression. Creative movement uses a wide variety of movement styles in a less clinical and more fun atmosphere. Creative movement, though similar to dance therapy, can be led by a noncertified instructor. Creative movement is a tool that is both cost effective and easily accessible.
In the study reported here, creative movement was used as a tool to help clients to understand how they moved and how movement increased or decreased positive feelings. This use of creative movement was designed to help better understand the mind–body experience.

Because depression is the leading cause of disability among adults in the United States, affecting nearly 1 in 20 persons (Halter, 2014), and because a limited number of evidence-based treatments have been proven effective in the management of this mental health condition (Meekums, Karkou, & Nelson, 2015), creative movement is a form of treatment that could benefit persons who are diagnosed with depression and other forms of mental illness as either an alternative to medication or a supplement to medication or talk therapies.

Many studies have suggested a relationship between how individuals move and how they feel. One qualitative study found a relationship between movement patterns and emotional/psychological factors in nonclinical participants (Levi & Duke, 2003). Berger and Mott (2000) found that mood enhancement was greater after moderate exercise. A 10-week social partnered dance program was conducted for individuals with mental illness. Though participants recorded a desire to continue, no significant change was found in depression or anxiety (Hackney & Earhart, 2010). Music and dance therapies have been used in the geriatric population to enhance the well-being of clients in nursing homes (Palo-Bengtsson & Ekman, 2000). A small pilot study suggested that dance movement therapy may have a positive effect on language abilities in clients with Alzheimer’s disease (Hokkanen et al., 2003). Dance therapy has been shown to improve balance in the geriatric population as well (Alpert et al., 2009).

Xia and Grant (2009) found that dance may be therapeutic for negative symptoms of schizophrenia. Depression is ubiquitous among clients with mental health disorders. Tsang, Chan, and Cheung (2008) explored the effects of mindful (slow, low-impact) versus nonmindful (aerobic) exercises in reducing levels of depression. The practice of body movement activities such as dance and tai chi may enhance a person’s ability to connect with inner sadness and loss, and as such, may be a valuable tool in the therapeutic process (La Torre, 2008). Effects of dance movement therapy were found to stabilize the sympathetic nervous system, increase serotonin levels, and lower dopamine concentrations, which improved mood of adolescents with a diagnosis of mild depression (Jeong et al., 2005). Enhancement of mood and feelings of increased well-being have been associated with dance movement therapy in a variety of populations and settings (Lane et al., 2003; Ravelin, Kylma, & Korhonen, 2006).

Major depressive disorder is a mood disorder characterized by significant suffering and pain that lead to decreased function in the social, occupational, and psychological aspects of life (Varcarolis, Carson, & Shoemaker, 2006). Chronic depression can also lead to a variety of physical ailments. Depression is a major cause of disability among older adults. Antidepressant medication is the most frequently used treatment for major depression. Around 35% of adults do not respond to this treatment, even though new medications are continually being created (Blumenthal et al., 1999). Untreated depression may result in psychosis characterized by dementia, delusions, and hallucinations (Varcarolis et al., 2006). If left untreated, depression can lead to suicide.

Schizophrenia is a debilitating disorder that affects approximately 1% of the population. Schizophrenia results in altered neurological status including language deficit, incoherent thought patterns, and altered perception of reality (Varcarolis et al., 2006). Schizophrenia can lead to depression, and left untreated, can lead to suicide. This disorder affects social, psychological, occupational, spiritual, and physical aspects of self and impedes optimal functioning and well-being. Incoherent speech patterns, hallucinations, delusions, and violent behaviors are common in untreated schizoaffective disorder (Varcarolis et al., 2006).

Bipolar disorder is physiological in nature yet is experienced psychologically. This illness affects nearly 3% of the population (Varcarolis et al., 2006). Individuals diagnosed with bipolar disorder have mood alterations that fluctuate between mania and depression. Manic episodes are characterized by impaired judgment, insomnia, hyperactivity, and risk-taking behaviors (Varcarolis et al., 2006). Depressive symptoms have already been described. Schizoaffective disorder affects less than 0.5% of the population and can best be described as a combination of symptoms similar to those found in schizophrenia and bipolar disorder (National Alliance on Mental Illness, 1996-2010, para. 4).
All of these disease processes are treated with a combination of medication administration and psychotherapy. Medication regimens may include antipsychotics, antidepressants, serotonin- or norepinephrine-altering drugs (such as selective serotonin reuptake inhibitors), psychostimulants, anticonvulsants, benzodiazepines, beta-blockers, and monoamine oxidase inhibitors (Healy, 2008). These medications can cause many side effects and are prescribed on an individual basis under close supervision of a psychiatrist or other licensed care provider. Psychotherapy is an important aspect of treatment, as many of the individuals affected feel socially isolated and need a high level of support.

Recently, noninvasive complementary alternative modalities (CAM) have begun to be added to treatment regimens for clients with these mental illnesses (Varcarolis et al., 2006). Dance therapy is one form of CAM that has been used and studied as a part of therapeutic remediation. Akandere and Demir (2011) implemented a 12-week dance training program with a total of 120 males and females. The Beck Depression Scale was used for the pre- and posttest measurements. The scale is 0 to 9, normal; 10 to 15, low levels of depression; 16 to 23, medium levels of depression; and 24, depression. Results of this investigation revealed that dance decreased participants’ depression levels from 15.72 to 13.90. Regular exercise has also been shown to keep individuals from depression relapse. A study conducted in Hong Kong found that low-impact aerobic dance significantly improved the physical and psychological well-being of older individuals (Hui, Chui, & Woo, 2009). Similar results have been found in many studies conducted in the United States as well. Babyak and colleagues (2000) found that exercise therapy was equal in effectiveness to antidepressant medication for patients over 50 years old who suffered from major depression. In individuals who are elderly, social isolation contributes to the development of depression, and dance can be taught in a group setting, thereby offering a means of social interaction (Prince et al., 1998).

**Purpose and Hypothesis**

The purpose of the study was to determine the effects of a nine-week creative movement program on depression level, quality of life, and basic physiological measures of clients with persistent mental illness in an outpatient psychiatric day treatment program. The research hypotheses included the following:

1. The level of depression of the participants will decrease from baseline at midintervention, and then postintervention, after a nine-week creative movement intervention.

2. The quality of life scores of the participants will increase from baseline at midintervention, and then postintervention, after a nine-week creative movement intervention.

3. The participants’ heart rate, respiratory rate, blood pressure, and weight will decrease from baseline at midintervention, and then postintervention, after a nine-week dance/movement intervention.

**Methods**

The study was a quasi-experimental, time series design that involved collecting data on participants, ages 21 to 80, in an outpatient day treatment program designed to assist those with persistent mental illness. Quasi-experimental studies involve collection of data on subjects without randomization. The time series aspect involved collecting data at baseline before the intervention began, midway through the intervention, and after the intervention ended on the same subjects at each time period. Thus, there was no control group and subjects served as their own control for intrinsic variables. The independent variable was the dance/movement activity. The primary dependent variables were depression and quality of life. Additional dependent variables included basic physiological measures of weight, heart rate, respiratory rate, and blood pressure.
Intervention

Creative movement was conducted each week on Wednesdays for 50 minutes. The first 10 minutes comprised a centering/warm-up exercise to prepare the clients to move (see the appendix). The introductory section elevated the body temperature and mentally prepared the clients to focus their mind through breathing. The next 10 minutes were devoted to “How do you move?”—clients chose any movement based on how they felt at the time. Participants volunteered to describe to the class how they felt and explain what their movement meant to them as individuals. Participants were then asked if they would like to change the way they moved to experiment with other movement feelings. Conversations were based on how a happy person moves, with comparison to the manner in which a sad person may move. Participants were encouraged to try to move in a different way and then volunteered to explain if in fact their movement changed the way they felt. Another activity was called “Fun with Dance,” in which objects such as beach balls, scarves, and parachutes were used. Music played as the clients used each of the props throughout their creative movement. Some clients threw, hit, and bounced the beach balls while others used scarves to the beat of the music. The parachute was by far the highlight of this segment of the class. The clients would raise the parachute up to the beat of the music while others ran under, trying to reach the other side before the parachute descended. Using props to music assisted people who were a little intimidated to move on their own.

Participants were also introduced to many different dance styles (swing, line dance, jazz, aerobic dance, cha, and so on). Simple steps in each category were introduced to give each client an introduction to dance styles (see the appendix). Swing music was played, and the clients would shake their hands up in the air while performing a lindy. Grapevines were used to introduce line dance, while locomotor movements were performed as aerobic dance. Another favorite activity was the Soul Train Line; participants would line up facing each other, and two at a time would move to the music across the floor between the two lines.

Cool-down and wrap-up exercises assisted in recentering each participant, along with another opportunity to describe their feelings (see the appendix). The clients were asked to list pleasant feelings (happy, good, free, glad, cheerful, wonderful, merry, and so on). They were asked what part of the activity gave them pleasant feelings. Next, they were asked to list unpleasant feelings (angry, upset, alone, irritated, useless, and so on). They were asked if any part of the activity made them feel unpleasant. Counselors were present at every class to assist any participant experiencing unpleasant feelings. The counselors were also available for any participant needing to talk about what was going on with him or her positively or negatively. Clients were then allowed to express their feelings regarding the session and to share ideas that they would like to have incorporated into the next session.

Sample

A convenience sampling design was used in the study. All participants were clients in an outpatient day treatment program for those with persistent mental illness. Due to agency constraints, it was not possible to randomly assign participants. The agency required that all clients attending the program who consented had to have access to the intervention. A total of 11 participants volunteered to participate out of an estimated 40 potential participants.

Ethical Considerations

Ethical considerations for this endeavor were particularly delicate as the population was considered a vulnerable one. All participants were diagnosed with some form of severe and persistent mental health issue and were under the care of a psychiatrist. The setting was a day program designed specifically for the population.

Institutional Review Board (IRB) approval was obtained from the IRB committee at the university where the researchers were employed at the time of the investigation. Additionally, the regional administrative team as well as the site facility staff met with study investigators to determine any potential risks that may have existed for the participants in order to grant agency approval for the study.
There was little likelihood of physical harm occurring in this investigation, as movements were gentle and carefully transitioned by an experienced and highly trained dance therapist who served as primary investigator for the study. Each session was video or audio taped with participant consent. Care was taken to avoid including nonparticipating clients in these tapes. Participants were given plenty of time to ask questions, and investigators ensured that participants had a full understanding of the study.

Confidentiality was vigilantly maintained. All data were kept in locked file cabinets by the investigators. Anonymity was maintained through the use of randomly assigned participant numbers. To further protect confidentiality of the participants, neither the site nor the location of the study is named. No conflicts of interest were present among facility staff, administrative staff, clients, or investigators.

Data Collection

Data collection was completed by the researchers. Due to the reading level of some clients, the researchers had to read the data form questions. Participants were encouraged to be honest in their answers, and basic directions were reviewed at each of the three data collection points.

Demographic data. Basic demographic data (i.e., age, sex, and race) were collected using a form developed by the researchers. The demographic form also collected data on baseline activity level. Medical record data were used to obtain the participants’ psychiatric diagnosis and a list of their medications.

Weight. Each participant was weighed on the same scale, a portable Health-O-Meter digital scale. The scale was reset after each participant was weighed, and two researchers confirmed the readings. The majority of participants at each data collection point were weighed in the midmorning after their arrival at the outpatient day treatment program and before the noon meal and the intervention. Due to program activities and medical or counseling appointments, in a few cases participants were weighed after the noon meal.

Vital signs. Heart rate (HR), respiratory rate (RR), and blood pressure (B/P) were measured by the researchers at baseline, at week 5, and at week 9. When participants were not present for the data collection on designated weeks, vital signs were taken the next week before the intervention. These measures were taken in a resting state while sitting. Blood pressure was taken with a Prestige Medical Professional manual sphygmomanometer.

Depression. Beck Depression Inventory II was used to collect data on depression level at baseline, week 5, and week 9. The BMI-II is a self-administered scale that contains 21 items, and it takes approximately 10 minutes to complete. Items address depressive symptoms like sadness, guilt, suicidality, worthlessness, crying, changes in sleep and appetite, and fatigue (Beck et al., 1996). Each item is measured on a 4-point scale from 0 to 3 with a summed total score. Level of depression is rated as follows by total score: 0 to 13 minimal, 14 to 19 mild, 20 to 28 moderate, and 29 to 63 severe. The reliability and validity of the BMI-II were established during tool development by Beck and colleagues (1996). The tool developers reported an internal consistency index of \( r = 0.92 \) for psychiatric outpatients and \( r = 0.93 \) for college students. In addition, stability using a test-retest with psychiatric outpatients was determined to be \( r = 0.93 \). Then the tool developers established construct validity, determined via a factor analysis; convergent validity was established between the Beck Depression Inventory (BDI)-IA and the BMI-II at \( r = 0.93 \), and using the Hamilton Psychiatric Rating Scale for Depression at \( r = 0.71 \) (Beck et al., 1996).

Quality of life. Quality of Life Inventory was used to collect data on QOL (Frisch, 1994). The QOLI contains 32 items and takes approximately 15 minutes to complete. Items address areas including health, self-esteem, goals and values, money, work, play, learning, creativity, helping, love, friends,
children, relatives, home, neighborhood, and community. Each item is rated on degree of importance (not important, important, and extremely important) and degree of satisfaction (−3 to +3: very dissatisfied to very satisfied). The reliability and validity of the QOLI were well established during tool development. Frisch (1994) reported a test–retest (stability) index of 0.73, internal consistency (alpha coefficient) of 0.79 for the summed weighed satisfaction ratings based on a study of nonclinical participants. The comparability coefficient between the original and the current version was 0.79 (p < 0.001). In addition, convergent validity of the QOLI was measured against the Satisfaction with Life Scale at r = 0.056 (p < 0.001) and the Quality of Life Index at r = 0.75 (p < 0.001). Finally, Frisch established test–retest reliability in a Department of Veteran Affairs outpatient population as r = 0.91 and internal consistency r = 0.89 with that population.

Data Analysis

A series of Friedman tests was performed to determine impact on depression, quality of life, and five physiological variables: weight, systolic blood pressure, diastolic blood pressure, heart rate, and respiratory rate. A series of Friedman tests was employed as a nonparametric alternative to a series of one-way repeated measures analysis of variance (RM-ANOVA) due to marked deviations from normality in participant scores, a violation of an assumption necessary to run RM-ANOVA. Following the procedure recommended by Friedman (1937) allowed us to analyze this type of participant data and determine whether the population medians were equal for all levels of the independent variable, with dependent variables measured on ordinal scales. In order for the results to be valid, the data were checked to meet four assumptions: (1) The sample was measured on three or more different occasions; (2) the sample was randomly selected from the population; (3) the dependent variables were measured on ordinal scales; and (4) the distributions of scores for the dependent variables, though not normal, were of similar shape in each comparison (Sheskin, 2006). The Statistical Package for the Social Sciences (SPSS), version 23, was used for this analysis.

Results

The results of the study provide descriptive statistics summarizing the demographic characteristics and psychiatric diagnosis of the subjects. Following this is a summary of the descriptive statistical analysis of the major study variables: depression, QOL, and the physiological variables. Finally, statistical analysis of the study hypotheses is addressed with the supporting inferential analysis.

Sample Characteristics

The mean age of the participants was 45.69 (standard deviation = 17.33) years, range from 21 to 71 years. All of the participants were unemployed at the time of the study. Table 1 summarizes other demographic characteristics. This table also includes information on attendance and activity level.

All participants had at least one major psychiatric disorder based on the Diagnostic and Statistical Manual of Mental Disorders Text Revision (DSM IV-TR) (Heffner, 2000) criteria. Five had two major DSM IV-TR diagnoses. Three were diagnosed with some form of schizophrenia, one with schizoaffective disorder, one with schizophreniform disorder, and five with nonspecific psychotic disorders. One participant was diagnosed with major depression with psychotic features, three with nonspecific depression, and two with bipolar I disorder (last episode depressive with psychotic features). Two clients had additional diagnosis of anxiety disorders and one was diagnosed with alcohol abuse.
Table 1 Demographic Characteristics

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
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<td><strong>Age (years)</strong></td>
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<td></td>
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<tr>
<td>21-30</td>
<td>4</td>
<td>31%</td>
</tr>
<tr>
<td>31-40</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>41-50</td>
<td>5</td>
<td>38%</td>
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<tr>
<td>51-60</td>
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<td>61-70</td>
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<tr>
<td>71-80</td>
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<td><strong>Education</strong></td>
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<tr>
<td>Less than high school</td>
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<td>46%</td>
</tr>
<tr>
<td>High school diploma</td>
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<td>31%</td>
</tr>
<tr>
<td>College less than 2 years</td>
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<td>23%</td>
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<tr>
<td><strong>Income</strong></td>
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<tr>
<td>Less than $10,000/yr</td>
<td>11</td>
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</tr>
<tr>
<td>$10,000 to $20,000/ yr</td>
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<td>8%</td>
</tr>
<tr>
<td>$21,000 to 30,000/yr</td>
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<td>8%</td>
</tr>
<tr>
<td><strong>Physical activity level: baseline</strong></td>
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<td></td>
</tr>
<tr>
<td>No exercise</td>
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<td>46%</td>
</tr>
<tr>
<td>Less 1 mile/wk</td>
<td>6</td>
<td>46%</td>
</tr>
<tr>
<td>Over 10 miles/wk</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Physical activity level: end intervention</strong></td>
<td></td>
<td></td>
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<tr>
<td>No exercise</td>
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<td>23%</td>
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</tr>
<tr>
<td>1 to 5 miles/wk</td>
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<td>31%</td>
</tr>
<tr>
<td>Over 10 miles/wk</td>
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<td>8%</td>
</tr>
<tr>
<td><strong>Attendance (number of times)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Six</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>Seven</td>
<td>3</td>
<td>23%</td>
</tr>
<tr>
<td>Eight</td>
<td>2</td>
<td>15%</td>
</tr>
<tr>
<td>Nine</td>
<td>7</td>
<td>54%</td>
</tr>
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</table>
Descriptive Results: Major Variables

Table 2 summarizes the data for depression, quality of life, weight, systolic blood pressure, diastolic blood pressure, heart rate, and respiratory rate of the participants for the three times that these variables were measured. As can be seen from examining the standard deviations and quartiles for the data, the distributions of the data did not follow a symmetric or normal pattern, which warranted nonparametric testing as prescribed by Friedman (1937).

Table 2  Descriptive Statistics of the Dependent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Time</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
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<td>34.00</td>
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<td></td>
<td>2</td>
<td>13</td>
<td>13.6</td>
<td>8.6</td>
<td>1</td>
<td>28</td>
<td>6.50</td>
<td>14.00</td>
<td>19.00</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>13</td>
<td>14.2</td>
<td>10.6</td>
<td>0</td>
<td>33</td>
<td>5.00</td>
<td>12.00</td>
<td>24.00</td>
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<tr>
<td>Quality of life</td>
<td>1</td>
<td>10</td>
<td>48.9</td>
<td>17.5</td>
<td>23</td>
<td>77</td>
<td>32.75</td>
<td>52.50</td>
<td>61.75</td>
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<tr>
<td></td>
<td>2</td>
<td>10</td>
<td>58.8</td>
<td>17.4</td>
<td>40</td>
<td>98</td>
<td>46.50</td>
<td>54.50</td>
<td>68.00</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10</td>
<td>57.0</td>
<td>13.3</td>
<td>33</td>
<td>73</td>
<td>48.75</td>
<td>58.50</td>
<td>69.50</td>
</tr>
<tr>
<td>Weight</td>
<td>1</td>
<td>10</td>
<td>212.1</td>
<td>38.2</td>
<td>157</td>
<td>273</td>
<td>179.00</td>
<td>209.50</td>
<td>250.25</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10</td>
<td>212.4</td>
<td>40.9</td>
<td>155</td>
<td>281</td>
<td>174.25</td>
<td>212.00</td>
<td>250.25</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10</td>
<td>213.5</td>
<td>40.0</td>
<td>153</td>
<td>281</td>
<td>177.00</td>
<td>212.00</td>
<td>248.25</td>
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<tr>
<td>Systolic blood</td>
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<td>8</td>
<td>121.6</td>
<td>19.7</td>
<td>88</td>
<td>140</td>
<td>104.00</td>
<td>128.00</td>
<td>138.75</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>8</td>
<td>131.0</td>
<td>22.3</td>
<td>110</td>
<td>178</td>
<td>118.50</td>
<td>122.00</td>
<td>144.50</td>
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<tr>
<td></td>
<td>3</td>
<td>8</td>
<td>130.8</td>
<td>20.8</td>
<td>102</td>
<td>160</td>
<td>110.50</td>
<td>135.00</td>
<td>148.00</td>
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<tr>
<td>Diastolic</td>
<td>1</td>
<td>8</td>
<td>77.5</td>
<td>7.8</td>
<td>62</td>
<td>88</td>
<td>73.25</td>
<td>78.50</td>
<td>82.00</td>
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<td>8</td>
<td>80.5</td>
<td>14.5</td>
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<td>70.50</td>
<td>73.00</td>
<td>98.00</td>
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<tr>
<td></td>
<td>3</td>
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<td>100</td>
<td>70.50</td>
<td>85.00</td>
<td>98.00</td>
</tr>
<tr>
<td>Heart rate</td>
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<td>8</td>
<td>76.1</td>
<td>16.6</td>
<td>60</td>
<td>103</td>
<td>65.25</td>
<td>69.00</td>
<td>94.75</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>8</td>
<td>77.3</td>
<td>9.6</td>
<td>64</td>
<td>94</td>
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<td>76.50</td>
<td>84.25</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>8</td>
<td>86.0</td>
<td>10.9</td>
<td>68</td>
<td>100</td>
<td>87.00</td>
<td>87.00</td>
<td>95.50</td>
</tr>
<tr>
<td>Respiratory</td>
<td>1</td>
<td>8</td>
<td>18.5</td>
<td>2.8</td>
<td>16</td>
<td>24</td>
<td>16.00</td>
<td>18.00</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>8</td>
<td>17.0</td>
<td>3.5</td>
<td>12</td>
<td>22</td>
<td>14.00</td>
<td>17.00</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>8</td>
<td>16.0</td>
<td>1.5</td>
<td>14</td>
<td>18</td>
<td>14.25</td>
<td>16.50</td>
<td>17.00</td>
</tr>
</tbody>
</table>

Results: Hypothesis Support

Only hypothesis 1 was supported. Both hypotheses 2 and 3 were rejected. There were no statistically significant differences in medians over time for quality of life or any of the five physiological variables (see table 3). However, there was a statistically significant difference in depression over time, \( \chi^2(2) = 8.510, p = 0.014 \), and the Kendall’s coefficient of concordance of 0.033 indicated that this was a fairly strong difference.
Table 3 Results of the Friedman Tests

<table>
<thead>
<tr>
<th>Physiologic variables</th>
<th>Statistic</th>
<th>Depression</th>
<th>Quality of life</th>
<th>Weight</th>
<th>Systolic blood pressure</th>
<th>Diastolic blood pressure</th>
<th>Heart rate</th>
<th>Respiratory rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>13</td>
<td>10</td>
<td>10</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
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<tr>
<td>χ²</td>
<td>8.510</td>
<td>1.897</td>
<td>0.667</td>
<td>3.935</td>
<td>0.250</td>
<td>3.935</td>
<td>3.250</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>.014*</td>
<td>.387</td>
<td>.717</td>
<td>.140</td>
<td>.882</td>
<td>.140</td>
<td>.197</td>
<td></td>
</tr>
</tbody>
</table>

*p < 0.10.

Post hoc analysis with Wilcoxon signed-rank tests was conducted with a Bonferroni correction applied to control for Type I error across multiple comparisons, resulting in a significance level set at \( p < 0.33 \). Median interquartile ranges for depression at the three time points were 22 (11 to 34), 14 (6.5 to 19), and 12 (5 to 24). There was not a statistically significant difference between the second and third time points \( (Z = -0.316, p = 0.752) \), yet there were statistically significant reductions in depression between the first and second time points \( (Z = -2.626, p = 0.009) \) and the first and third time points \( (Z = -2.237, p = 0.025) \), indicating an overall reduction in depression in the participants due to the treatment.

Discussion

The sample size was very small and is a highly probable reason for the lack of significance and differences in medians over time for quality of life as well as the five physiological variables that were measured. Additionally, time constraints limited this study to once-per-week sessions over nine weeks. More frequent creative movement over a longer period of time could have led to a variance in the levels of significance.

Another potential factor that must be considered is the possibility that the change in seasons had an influence on improvement in depression. Though recent studies have shown that seasonal affective disorder is largely cultural, as well as socially influenced, and may not be a valid construct (Murray, 2017; Dzogang, Lansdall-Welfare, & Cristianini, 2016), evidence still indicates that mental health complaints statistically decrease toward the end of March (Rough, 2016; Dzogang et al., 2016). This study began in February and ended in April.

Investigators spent significant time with participants obtaining informed consent and preliminary data collection. Furthermore, one of the investigators had a prior relationship with clients and staff at the facility where the investigation was conducted. In addition, the primary investigator was positive and dynamic in her communication and interaction with the participants. All of these factors could have contributed to participants’ desire to cooperate and submit positive responses.

The investigators agreed that the complexity of the QOLI questionnaire may have skewed results. Because the population consisted of participants diagnosed with severe and persistent mental illness who were all taking psychotropic medications, the dual questioning components may have been challenging for participants to comprehend and answer. Most questions had to be read as well as repeated to participants. Recommendations for future investigations to further explore the effects of creative dance movement on depression, quality of life, and physiological levels in long-term psychiatric clients are fivefold. First, conducting the investigation at various times of the year, to challenge any perception
that the change in seasons has an influence on levels of depression, could enhance construct validity of the findings. Second, increasing the number of weeks that the intervention is employed, as well as the number of times per week that the intervention is offered, could increase the reliability of the intervention. Next, expanding the number of participants in future studies could also further the reliability of results. Further, expanding the scope of the investigation to include clients in residential programs as well as varying types of outpatient programs could determine generalizability as well as external validity. Finally, a study using an experimental design with a randomly assigned treatment and control group should be performed to confirm the results. Further research is needed to determine statistical benefits of this intervention with the mental health population.

Conclusion
The purpose of the study was to determine the effects of a nine-week creative movement activity program on depression level, quality of life, and basic physiological measures of clients with persistent mental illness in an outpatient psychiatric day treatment program. Limited interpretation of the results is necessitated by the low statistical power of the analyses that derives from the small sample size used for the study. The only variable found to be statistically significant was depression, so only hypothesis 1 was supported. Hypothesis 1 was that the level of depression of the participants would decrease from baseline at midintervention, and then postintervention, after a nine-week creative movement intervention.

Acknowledgments and Funding Source
The authors would like to thank Debi Hood, MSN, RN, for her hard work on data collections and Austin Peay’s School of Nursing for funding the Beck Depression Inventory II (BMI-II) for this study.

Appendix

Intervention Creative Movement Outline Centering/Warm Up (10 minutes)

1. 1 minute of deep breathing
   - Inhale while bringing the arms in and up while closing the feet together
   - Exhale while expanding the arms out and separating the feet
2. 2-3 minutes using upbeat music (124 beats per minute)
   - Toe taps, heel raises, and lunges to warm up the lower legs
   - Shoulder rolls, head rolls, slow twist of upper body, and ribcage isolation and hip movements side to side to warm up the upper body
3. 5-6 minutes using upbeat music (124-130 beats per minute)
   - Marches forward and back
   - Side steps
   - Knee raises
   - Leg flicks
   - Squats
   - Other locomotor and balance movement (stand on one foot—stork stand)
How Do You Move? (10 minutes)

5 minutes  **What are we feeling today?** “Are you happy, sad, mad, or glad? If happy could move, what would it look like? How would sadness move? Would anyone like to share what they are feeling through movement? What are other feelings? Can we move to those feelings? If we move differently, will our feelings change? Let’s move sad [or happy, angry, etc.].”

5 minutes  Let’s pretend: “We are flower seeds. What do we need to grow? Make yourself very small and tiny, just like a seed. You feel the sunshine and rain—how would that make you move? You are now getting larger; how would you move? You are blooming; what does that look and feel like? The wind is blowing; how would you move? You are a large open bloom and your seeds are starting to blow away in the wind. What does that look like?”

Fun with Dance (15-25 minutes) (play upbeat music such as swing, country, hip hop, disco, or cha cha)

5-10 minutes  **Move around to the music.** “I would like to show you some movement that you can do to this style of music.” Line dance—grapevines, swing, shake hands, cha cha.

5-8 minutes  **Move with props.** Using beach balls, hit, throw, and toss to the beat of the music. “Use the scarves any way you want to the music. How does a beach ball move differently from the scarves? Move your body as if you were a scarf or a beach ball.”

5-8 minutes  **Parachute movement:** “While holding the parachute as a group, let’s move to the right, left, up, down. Let’s bend all the way down to the floor and stand up to raise the parachute up. Who would like to run under the parachute? What are some ways we can move as a group with the parachute?”

4-5 minutes  **Soul Train line:** “Let’s get into two straight lines. Music will be played while each of you will move any way you would like between the two lines of people. Let’s cheer everyone on! Who would like to move by themselves? Who has a different way of moving? If you do not want to go down the line, you can move in your own personal space.”

5-10 minutes  **Wrap up/recentering:** Cool-down movement: light stretches for the lower legs, lower back, upper back, neck, and arms. “Everyone, think about how you are feeling right now. Is it different than you were feeling at the beginning of the class? Would anyone like to share their favorite activity today? What did you like about the class, and what would you like to change about the class?”

1 minute  **Inhale and exhale:** “Close your eyes and think of being in your favorite place.”

End of class

References


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Xia J., & Grant, T.J. (2009). Dance therapy for schizophrenia. Cochrane Database of Systematic Reviews Issue 1, CD006868. doi:10.1002/14651858.CD006868.pub2
Pilates Training for Dancers: A Systematic Review

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Abstract

Previous literature has defined Pilates as a form of exercise that embodies six main principles: breathing, concentration, control, centering, precision, and flow. It can be argued that the same principles are present in dance technique, and therefore that Pilates would be a beneficial conditioning program for dancers. The twofold purpose of this review was to evaluate the evidence and the quality of research on Pilates conducted specifically on dancers and to determine its effectiveness in dance training and performance. Using the EBSCO search engine, an extensive literature search was conducted, using the search phrase Pilates and Dance and related words such as ballet, modern dance, reformer, and Cadillac. Between the years 1980 and 2015, a total of 253 outputs were found with three duplications. Articles were excluded for the following reasons: Pilates was not the intervention; dancers were not the population; the study was not a clinical trial; or the article had not been peer reviewed. Thus, a further 241 articles and abstracts were excluded. The nine studies included in this review were analyzed using the Physiological Evidence Database (PEDro) scale. According to the standards set by the PEDro scale, the majority of the research on Pilates and dancers is considered fair. Overall, studies lacked blinding protocol, showed insufficient statistical data, and needed testing methods designed specifically for dancers. Based on the limited results of the included studies, Pilates shows effectiveness for muscular strength and flexibility but appears to be ineffective to increase vertical jump and balance.

Introduction

This section briefly overviews the origins of Pilates: how the Pilates method evolved into a form of exercise that may be useful both for the general population and for dancers. Then, specific connections between the Pilates method and dance training and rehabilitation are presented.

Origins of the Pilates Method

Joseph H. Pilates was born in 1880 in Germany and as a young child was plagued with ailments such as rheumatic fever, rickets, and chronic asthma. In pursuit of better health, Pilates sought out physical activities including gymnastics, bodybuilding, diving, fencing, and other physical regimens. He studied yoga, Zen meditation, and karate, but was drawn to exercise programs of ancient Greek and Roman origin. After moving to England, he was interned as an “enemy alien” at a civilian camp during World War I. It was here that he developed his exercise regimen in an attempt to remain healthy (Latey, 2001). At the end of the war, he was transferred to the Isle of Man, where he worked as a hospital orderly and helped rehabilitate injured soldiers. Working with patients who were unable to leave their hospital beds, Pilates experimented with the use of the hospital bedsprings to add resistance to his exercises and discovered that this allowed his patients to regain muscle tone more quickly (Latey, 2001). This led to the development of complementary equipment, the first being the Cadillac, incorporating the concept of the hospital bedsprings.

After the war, Joseph Pilates returned to Germany where he built relationships throughout the dance community; most notable was his lasting relationship with Rudolph Laban. By the mid-1920s, the German army became increasingly interested in his work, which led to his immigration to the United States in 1926. Pilates opened a studio in the same building as the New York City Ballet, where he continued to
improve his work and develop more equipment, such as the reformer with a movable carriage and the Wunda chair. Soon, dancers such as Martha Graham, Hanya Holm, and George Balanchine endorsed his work not only for rehabilitation, but also for increasing muscular strength and balance. Dancers were drawn to the Pilates method due to the objectives of flexibility, muscular strength, control, and body awareness.

Although Joseph Pilates began a teacher training program, he didn’t trust that others would stay true to his philosophies, as he believed that each body is different and exercises needed to be adapted to meet the individual’s needs. He taught only a few individuals who opened their own Pilates studios throughout the United States. Many of his protégées disagree on how Pilates should be taught, and this led to two different Pilates schools: Classical Pilates and Modern Pilates (Latey, 2001). Classical Pilates remains close to Joseph Pilates’ original exercises including the order of exercises, while Modern Pilates embraces current ideas on movement principles, modifying the original exercises and using new pieces of equipment. Over the years, another form of Pilates has evolved, Clinical Pilates (Owsley, 2005). Clinical Pilates is influenced by physical therapy and biomechanics to create new exercises and modifications focused on injury rehabilitation.

The Pilates Method and Dance

The Pilates method was designed as an exercise regimen that focuses on six main principles: breathing, concentration, control, centering, precision, and flowing movement or rhythm (Page, 2010). However, over the years, the Pilates method has been used not only for fitness but also for rehabilitation (Bryan & Hawson, 2003; Latey, 2001; Parikh & Arora, 2016). Joseph Pilates believed that early mobility in rehabilitation decreased the recovery period after a musculoskeletal injury (Segal, Hein, & Basford, 2004; Parikh & Arora, 2016). Medical practitioners describe the Pilates method as a form of physical fitness that uses muscle strengthening and lengthening, along with a focus on breathing, to develop trunk muscles and restore muscle balance (Bernardo, 2007; Cozen, 2000; Kloubec, 2010; Parikh & Arora, 2016; Smith & Smith, 2005). In the past decade, Pilates has increased in popularity in mainstream fitness and in injury rehabilitation (Segal et al., 2004; Parikh & Arora, 2016).

As its popularity increases, more research is being conducted on the general population to determine the effectiveness of Pilates for increased muscle strength, injury recovery, increased balance, and weight loss, among many other areas (Cruz-Ferrerura et al., 2011). Since dancers were one of the populations that first embraced the Pilates method, it would be reasonable to assume that there would be significant research on this population. However, as indicated in more than one literature review (Bernardo & Nagle, 2006; Segal et al., 2004), there has been limited research determining the impact Pilates has had on dancers and how it affects overall training and performance (Bernardo & Nagle, 2006). One would expect to see more publications since the last literature review in 2006, but disappointingly, little additional research has been conducted. Furthermore, the research lacks evidence on the various pieces of equipment and apparatus. Most studies use mat or reformer, and no publications included Pilates equipment such as the Spine Corrector, Cadillac, Wunda chair, ladder barrel, CoreAlign, or other small apparatus to demonstrate their effectiveness on the dancer population. Since dancers suffer from unique injuries (Wiesler et al., 1996) and Pilates is a method of training used by dancers to recover from injury, more research is needed. The purpose of this review was to systematically review the research on Pilates and its effectiveness on dance training and performance.

Procedures

Excluding patents and including publications from 1980 to 2015, the MeSH terms Pilates and Dance were used within the EBSCO search engine (n.d.), including MEDLINE (PubMed), Scopus, SportDiscus, Art and Humanities Index, and CINAHL (Cumulative Index to Nursing and Allied Health Literature) databases. To improve the search in these databases, other key words for dance and Pilates were used. For dance, the following alternative words or phrases were used: ballet, modern dance,
jazz dance, tap, social dance, ballroom, and pointe. For Pilates, the following words or phrases were used: reformer, Cadillac, trapeze table, somatics, Wunda chair, Exo chair, CoreAlign, Pilates arc, and Spine Corrector. Study inclusion criteria included human subjects, published in a peer-reviewed journal, clinical trials, Pilates as the main intervention, and dancers as the population of the study (see figure 1). Dance was included in all genres including ballet, modern, jazz, tap, pointe, and all cultural forms. Articles were excluded if Pilates was not the intervention, dancers were not the population, the study was not a clinical trial, or the work was a dissertation or part of conference proceedings or a consumer publication.

Figure 1: Flow chart summarizing study inclusion criterion.
Two separate reviewers assessed the inclusive clinical trials for method quality using the PEDro scale. The PEDro scale has been reviewed in the Physical Therapy Journal of the American Physical Therapy Association (Maher et al., 2003), and its reliability has been deemed acceptable. The PEDro scale includes 11 criteria: specified eligibility criteria, random allocation, concealed allocation, baseline similarity, blinded subjects, blinded therapists, blinded assessors, measures of key outcomes from more than 85% of subjects, intention-to-treat analysis, between-group statistical comparisons, and point measures and measure of variability. PEDro scale scores range from 0 to 10 (higher score relates to a higher method quality) because the specified eligibility criteria are not used to calculate the score. A PEDro score of less than 3 indicates poor quality, a score of 4 to 5 is considered fair quality, and a PEDro score of 6 or higher designates high-quality research (Physiotherapy Evidence Database, n.d.). Independently, two raters scored the inclusive articles, and it was found that the randomized controlled trials (RCTs) received the same score from the assessors.

Results

The initial searches conducted through five different databases revealed 253 articles, of which 3 were duplicates, leaving 250 records to review. Of the remaining 250 records, 52 were conference papers, 2 were unpublished dissertations or thesis papers, and 189 were articles in peer-reviewed journals. Of those in peer-reviewed journals, 113 were not clinical trials, 49 did not use Pilates as the main intervention, 14 were not on dancers, and 4 were literature reviews. PEDro scale scores, in reviewed inclusive clinical trial articles, ranged from 5 to 6; eight studies scored a 5, and one scored a 6. Thus, the available nine studies included in this review are addressed according to their effects on dance training and performance as follows: muscular strength, flexibility, and range of motion; muscular strength and balance; posture, technique, and aesthetic movement; and pelvic alignment and vertical jump.

Muscular Strength, Flexibility, and Range of Motion

Amorim, Sousa, and Rodrigues dos Santos (2011) (PEDro scale: 5) studied the influence of Pilates training on muscular strength and flexibility in dancers. A controlled repeated-measures experimental design was used on 15 dance students from the same school. Participants all had 10 years of daily practice in dance with no current injuries. Participants were divided into two groups, experimental and control. However, it is unclear whether the groups were randomly divided or selected for their group based on criteria such as scheduling. The experimental group consisted of seven dancers, six female and one male, age 15.7 ± 0.8 years with 11 ± 2.7 years of training. The control group consisted of eight dancers: six female and two males, age 16.3 ± 0.9 years, with 11.9 ± 3.7 years of training. Both groups continued their regular dance schedule throughout the study. Specifically, the experimental group had 8 hours of dance a week (6 hours of ballet and modern technique, 1 hour pas de deux, and 1 hour of character dance) and the control group 9.5 hours per week (7 hours of ballet and modern dance technique, 1.5 hour pas de deux, and 1 hour of character dance). The experimental group performed mat-based Pilates exercises for 11 weeks consisting of 60-minute sessions twice a week, supervised by an experienced Pilates instructor. The Pilates-based intervention progressively intensified over the 11-week period, and the exercises were chosen based on their similarity to dance-specific movement: for example, the hundred, scissors, side bend, side kick, and back support. The session was divided into three parts: warm-up (15 minutes), Pilates exercises (35 minutes), and cool-down (10 minutes). Each group attended pre- and posttesting. Muscular endurance was measured using a protocol similar to that of the Fédération Internationale de Gymnastique (Physical Testing Program), with participants maintaining the ballet positions of penché and développé (front, side, back) at the barre for as long as possible. Range of movement was measured using two high-definition cameras and a calibration scale while dancers performed both right and left sides of arabesque, cambre back, and développé (front, side, back). Results indicated that the two groups performed similarly in the pre-
tests for muscular endurance and range of movement. At posttest, the experimental group showed significant improvement in muscular endurance and range of movement on the arabesque (right limb) and développé (front, side, and back). There was no significant change in range of movement for the cambre and arabesque on the left side.

Fitt, Sturman, and McClain-Smith (1993) (PEDro scale: 5) observed the effects of Pilates-based conditioning on strength, alignment, and range of motion in university ballet and modern dance majors. Twenty-nine participants who completed the trial were selected for the study on four different criteria: (1) a dance major in ballet or modern dance technique class, (2) recommendation by faculty for participation in the study, (3) availability at the times the sessions were to be conducted, and (4) willingness to commit the time to the class and independent practice sessions. The quasi-experimental pre-posttest study consisted of experimental ($n = 14$) and control groups ($n = 15$). The experimental group was required to attend one training session of 1.5 hours per week, work out individually on the reformer for two 0.5-hour sessions per week, and work out individually, performing Pilates mat exercises daily over a seven-week period. New exercises were introduced throughout the study in both the reformer and mat work. Exercises were supervised in the first phase of the study, but participants were expected to continue doing the mat exercises without supervision. The control group continued their regular schedule of technique classes, rehearsals, and conditioning practices, as did the experimental group. At the end of seven weeks after the posttests, the control group was given the opportunity to complete a modified version of the experimental group’s treatment plan. All participants were assessed for muscular strength, range of motion, alignment, and one complex task pretest and posttest. Muscular strength was determined using a pressure scale, which measured pounds of pressure exerted. The same examiner administered eight tests for muscle strength, which included hip extension, knee extension, shoulder extension, and shoulder flexion. Range of motion was measured using a protractor and included four tests. The four tests included seated outward rotation of the hip joint, spine outward rotation of the hip, flexion of the hip, and horizontal extension of the shoulder. Each test was administered on both the right and left sides of the body. Alignment was assessed from the side, recording the number of degrees of pelvic inclination. The vertical standing jump was used to reflect a complex skill. Evaluators noted at the end of the study that the experimental group showed substantial improvement of alignment ($p = 0.001$), and those who performed the reformer work showed a positive effect on hip and knee strength as well as mobility of the hip joint and pelvic alignment.

Wang, Lin, Huang, Liang, and Lee (2012) (PEDro scale: 6) detected the effects of an eight-week Pilates program on the limits of stability and abdominal muscle strength in young dancers. The experimental pre-posttest comprised 24 female dancers (age $17 + 3$ years), who were randomly assigned to an experimental or a control group. Overseen by an experienced Pilates instructor, the experimental group underwent a 40-minute Pilates class three times a week for eight weeks. Limit of stability was evaluated using the Biodex Balance system, and abdominal endurance was evaluated using the 30/60 second sit-up test. Findings indicated considerable improvement of dynamic posture stability and abdominal strength over the period of the eight-week study.

**Muscle Strength and Balance**

Amorim, Sousa, Machado, and Santos (2011) (PEDro scale: 5) looked at the effects of a Pilates training program on muscular strength and balance in ballet dancers. The experimental study was conducted on 15 ballet students (3 males and 12 females) with more than 10 years of ballet and modern dance experience. The dancers were divided into an experimental group ($n = 8$) and a control group ($n = 7$). Participants in the experimental group were asked to perform a series of progressive Pilates mat exercises over 11 weeks. Each session consisted of basic and intermediate Pilates mat exercises with advanced exercises being added as the study progressed, but it was unclear as to the specific exercises used. Dancers from the control and experimental groups were evaluated before and after the study. Muscular endurance was measured using the Fédération Internationale de Gymnastique (Physical Testing Program). Participants executed a penché and développé (front, side, back) at the
barre while assessors noted the maximal time obtained in each position. Balanced was measured using a Bertec force plate (4060-15) with a sample frequency of 1,000 Hz. Dancers were asked to maintain first position with the arms in bras bas and perform attitude derrière first flat for 5 seconds and then to rise to élève for 5 seconds. The Pilates group showed significant improvement in muscular endurance especially in their technical skills of executing penché and développé back. However, no significant change was seen in the ballet dancers’ balance.

Amorim, Sousa, and Rodrigues dos Santos (2012) (PEDro scale: 5) conducted an experimental study with 12 dancers over an 11-week period. The participants were split into two groups, a control group and an experimental group. The experimental group performed Pilates mat exercises twice a week while the control group did no Pilates. Both groups maintained their dance schedule and did not do any other conditioning during the length of the study. Both groups were measured before and after the study for muscular strength, flexibility, and balance. Isometric muscular strength was determined by recording the length of time participants were able to sustain a développé (front, side, and back). Flexibility was determined using a digital camera to capture the height of the leg during développé, front, side, and back, on both sides. Balance was measured using a Bertec force plate. Results of the study determined that Pilates mat exercises improved muscular strength and flexibility, but no significant changes in balance between the groups occurred. Since participants were able to increase the time they sustained a développé movement and the height of the leg in développé increased, it was determined that overall dance performance was positively affected by the use of Pilates.

Posture, Technique, and Aesthetic Movement

McMillian, Proteau, and Lebe (1998) (PEDro scale: 5) conducted a quasi-experimental 14-week study that asked the question whether Pilates-based training would have an impact on a dancer’s dynamic posture. Ten ballet dancers (ages 15 + 4 years), who had trained in ballet for 20 to 25 hours a week for four years, participated in the study. In addition to their regular technique schedule, five students in the experimental group participated in 23 one-hour private Pilates lessons using mat work, reformer, and rotator discs for 14 weeks. Additionally, dancers were asked to perform a daily regimen of Pilates exercises at home. At the beginning of the training, the program consisted of supine mat exercises, favoring exercises that focused on body awareness and control. Exercises also included limb movement while maintaining neutral spine and pelvis. By the end of the study, sessions focused on conditioning of the muscles of the pelvic girdle. Reformer exercises moved into positions in which participants were sitting, kneeling, and standing on the carriage. The control group maintained their regular technique schedule with no Pilates training. Posture during a grand plié was assessed using a WATSMART system pretest and posttest. During this test, markers were affixed to each participant in each of the following locations: earlobe, tuberculum majus, anterior superior iliac spine, the greater trochanter, and the epicondylus lateralis of the femur. Heel location was provided by infrared light-emitting diodes (IRED) affixed on a custom-made support attached to their heel. The last IRED was placed on a support fixed to the lab floor and served as a fixed reference. Participants were asked to perform five consecutive grand pliés starting from relevé in first position while the arms were held in second position. Participants performed the grand plié action to a metronome set to 1 beat per second. Looking specifically at pelvic placement during grand plié, researchers found that Pilates may be beneficial in improving dynamic alignment in dancers.

Parrott (1993) (PEDro scale: 5) conducted a study that had three aims: (1) to develop a standard by which improvements in dance technique can be evaluated, (2) to quantify what changes result from additional exercise protocols, and (3) to develop a program to improve the movement qualities of dancers. Eighteen female dancers age 19 + 11 years who were enrolled in a level I or II modern dance class and who participated in a winter concert were divided into three equal groups: a Pilates group, an aerobic conditioning group, and a control group. In addition to their regular dance schedule, the Pilates group attended 80-minute sessions three times a week. The aerobic conditioning group participated in 80-minute aerobic dance class three times a week as well as continuing to attend their
regular dance schedule. The control group maintained their regular dance schedule with no additional training. Pre- and postintervention, four judges blind to the group assignments evaluated two modern dance sequences, an adagio sequence and a rhythmic combination. Evaluation was based on the Federation for International Gymnastics Code of Points with modifications more specific to dancers. Five categories were evaluated during the study: alignment, clarity of intention of the movement, precision of movement, expressivity of the body, and musicality. Alignment was further divided into subcategories including sense of center, carriage of the body, and maintenance of correct position in motion. **Intention of movement** clearly defined in lines and shapes was divided into two categories including range of motion (ROM) and involvement of the entire body in movement. Articulation of the feet, articulation of the spine, balance and control, and coordination and transition of movement were the subcategories included in *Precision of movement*. The subcategories of *Expression of the body* were use of weight, appropriate use of energy, and facial expression. The participants in the Pilates group showed substantial increase from pre- to posttest. The Pilates group showed the most significant improvement \((p = 0.029)\) in the categories of alignment, intention of movement, and expressivity of the body. The aerobic conditioning group showed no significant difference overall \((p = 0.98)\). The control group did not show any improvement in any of the dance technique categories \((p = 0.101)\). The study determined that Pilates training might be helpful to improve a dancer's technique and aesthetic.

**Pelvic Alignment and Vertical Jump**

McLain, Carter, and Abel (1997) (PEDro scale: 5) examined how a Pilates reformer would affect supine jump height and pelvic alignment. Twenty-four first- and second-year dance majors from the same university were divided into two groups, an experimental group \((n = 14)\) and a control group \((n = 10)\). In this quasi-experimental study, participants were tested before and after the experiment. Over eight weeks, dancers in the experimental group were enrolled in a conditioning class in which participants spent 30 minutes being instructed on proper alignment on the reformer followed by 60 minutes of unsupervised intervention. The group practiced 30 exercises and variations over the eight-week period. The exercises focused on developing muscular strength, ROM, and muscle elasticity for ankle-tarsus, legs, torso, and arms. Exercises were selected for intervention because they appeared to be the most applicable to supine jump. The control group maintained their regular dance schedule but refrained from participating in any conditioning program during the length of the study. Both groups were evaluated for jump height and pelvic alignment before and after the test. Jump height was measured using markers on the reformer; this was recorded while participants executed a supine jump on the reformer using the footplate. The spring load for female participants was set at two medium \((18 \text{ kg} \ [39.7 \text{ lb}])\) and for the male participants at two medium and one light \((25.5 \text{ kg} \ [55 \text{ lb}])\). Pelvic alignment was assessed through videotape and then evaluated by three assessors blinded to the group assignment. Spherical 3M reflective markers were bilaterally attached to the anterior superior iliac spine and the posterior superior iliac spine. Judges evaluated each participant's pelvic alignment based on the amount of deviation from the desired neutral position. Assessors were told to score pelvic alignment using a 1 to 5 scale, 1 being the greatest deviation from neutral and 5 being the least deviation. Results from the study indicated that both groups improved significantly but that there was no significant difference between the control and Pilates group in jump height overall \((p = 0.45)\). Intraobserver reliability varied greatly among the assessors when looking at pelvic alignment. Researchers indicated that reformer training has no significant impact on pelvic alignment during execution of a supine jump.

George, Vetter, Ludwig, Smith, and Gench (1996) (PEDro scale: 5) used reformer exercises to determine their effectiveness with regard to abdominal strength, hip flexibility, pelvic alignment, and vertical jump in modern dancers. The quasi-experimental study used 22 participants from two different university dance programs. Participants from one university acted as the control group while the other was divided into two experimental groups. Experimental group I exercised on a Pilates reformer once a week, and experimental group II performed exercises on the reformer three times a week. The
control group had no Pilates reformer training. All participants were tested for abdominal strength, hip ROM, vertical jump, and pelvic alignment pre- and posttest to determine the benefits of Pilates training. Abdominal strength was determined using a goniometer while executing a double leg-lowering test. Participants were filmed using a Peak 5 motion analysis system to assess pelvic alignment, hip ROM, and vertical height. The hip ROM and pelvic stability were measured during execution of a grand battement in parallel and external rotation. The vertical jump was assessed in parallel and external rotation. Each participant was asked to execute the vertical jump and grand battement four times, and the first correctly executed action was chosen for assessment. Experimental groups I and II executed the same Pilates exercises, but these groups varied on how many times the exercises were performed each week. The exercises during the 10-week trial consisted of demi plié, prances, jumps, hops, scooter, hamstring stretch, semicircle prep, grand battement, pointer, hip flexion in straps, and frog. All but the pointer and semicircle prep were executed in parallel and external rotation. Participants started with 1.5 spring load for five repetitions. The repetitions increased to 10 and the spring load increased to 3 springs over the 10-week period. All participants increased in resistance and repetitions over the trial, and prior strength capabilities were not taken into account throughout the study. The study show no substantial difference among the three groups in abdominal strength, hip ROM, pelvis stability, or vertical jump.

Discussion

This section elaborates on the use of PEDro scale scores to evaluate quality of research. Then some of the limitations of the nine studies included in this review are addressed.

Interpreting PEDro Scale Scores

The PEDro scale scores for the reviewed articles (see table 1) ranged from 5 to 6, with a mean score of 5.11. Eight studies scored a 5 and one scored a 6. According to the PEDro scale’s rules for quality research, 6 and above are considered high-quality research (Physiotherapy Evidence Database, n.d.). Fair quality is indicated by a 4 to 5 score, and poor-quality research is any score below a 3. Therefore, 88% of research done on Pilates and dancers is considered fair quality, with only 12% of the articles being high-quality research. The weakest criteria among these trials are the questions regarding blinding: whether blinding referred to participants, therapists, or assessors. In reviewing these articles, one sees that many of the blinding questions on the PEDro scale were not addressed in the literature, were stated unclearly, or were based on the logistics of scheduling and therefore not blind in the process. For example, in McLain and colleagues’ (1997) study on Pilates effects on supine jump height and pelvic alignment, participants were chosen from a particular academic class. In Fitt and colleagues’ (1993) study on Pilates effect on alignment and ROM, the participants were recommended by the faculty. In addition, the majority of these studies occurred in a conservatory or university dance program with members of the dance faculty being part of the research team who either conducted the intervention or collected and or analyzed the data; the assumption can be made that most of the participants were known to at least some of the researchers. Although steps may have been taken to attempt to be blind in the process (assigning numbers, for example), this relationship makes it difficult for the participants to remain blind throughout the entire process, thereby introducing a degree of bias.
<table>
<thead>
<tr>
<th>Article</th>
<th>N=</th>
<th>Length of study</th>
<th>Pedro score</th>
<th>Weekly workouts</th>
<th>Main Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amorim, Sousa, &amp; Rodrigues dos Santos (2011)</td>
<td>15</td>
<td>11 weeks</td>
<td>5</td>
<td>Experimental Group: 2X/week</td>
<td>Significant improvement in muscular strength and flexibility on the arabesque (right limb) and developpe (front, side and back). Flexibility on cambre back and arabesque (left limb) had no significant change in flexibility</td>
</tr>
<tr>
<td>Amorim, Sousa, Machado, &amp; Santos (2011)</td>
<td>15</td>
<td>11 weeks</td>
<td>5</td>
<td>Experimental Group: unclear of how many times per week</td>
<td>Significant improvement in muscular strength however no significant change was seen in the ballet dancers' balance</td>
</tr>
<tr>
<td>McLain, Cater, &amp; Abel (1997)</td>
<td>24</td>
<td>8 weeks</td>
<td>5</td>
<td>Experimental Group: 2X/week</td>
<td>Reformer training has no significant impact on pelvic alignment while executing a standing jump or on overall jump height</td>
</tr>
<tr>
<td>McMillian, Proteau, &amp; Lebe (1998)</td>
<td>10</td>
<td>3 months</td>
<td>5</td>
<td>Experimental Group: 2X/week with instructor; daily home program</td>
<td>Pilates may be beneficial in improving dynamic alignment</td>
</tr>
<tr>
<td>Parrott (1993)</td>
<td>18</td>
<td>unclear</td>
<td>5</td>
<td>Pilates Group 1: 80 min. session; 3X/week</td>
<td>Pilates may be helpful to improve a dancer's technique and aesthetic</td>
</tr>
<tr>
<td>Fitt, Sturman, &amp; McClain-Smith (1993)</td>
<td>29</td>
<td>7 weeks</td>
<td>5</td>
<td>Experimental Group: 1X/week with instructor; 2X/week reformer; daily floor exercises</td>
<td>Substantial improvement of alignment and the reformer work showed a positive effect on hip and knee strength as well as mobility of the hip joint and pelvic alignment</td>
</tr>
<tr>
<td>Wang, Lin, Huang, Liang, &amp; Lee (2012)</td>
<td>24</td>
<td>8 weeks</td>
<td>6</td>
<td>Experimental Group: 3X/week</td>
<td>Considerable improvement of dynamic posture and abdominal strength over the period of the eight week study</td>
</tr>
<tr>
<td>George, Vetter, Ludwig, Smith, &amp; Gench (1996)</td>
<td>22</td>
<td>10 weeks</td>
<td>5</td>
<td>Experimental Group 1: 1X/week</td>
<td>No difference found on abdominal strength, hip ROM, pelvis stability or vertical jump</td>
</tr>
<tr>
<td>Amorim, Sousa, &amp; Rodrigues dos Santos (2012)</td>
<td>12</td>
<td>11 weeks</td>
<td>5</td>
<td>Experimental Group: 2X/week with instructor performed Pilates mat exercises</td>
<td>Muscular strength and flexibility improved for the experimental group. Balance was not significantly different between groups. Overall, dance performance improved due to longer duration in holding developpe positions and increase in leg height.</td>
</tr>
</tbody>
</table>
Limitations of the Included Studies

It is obvious that the largest limitation in determining the effectiveness of Pilates in dancers is the relatively small number of studies that have been conducted. The total of nine studies limits the scientific evidence needed to support the effectiveness of Pilates in dancers. In comparison to the literature review conducted by Bernardo and Nagle (2006), additions to this area of research have been very limited. Four of the nine studies were also included in Bernardo and Nagle’s review in 2006. If dancers are incorporating this type of conditioning into their daily routines, more research is needed to support acceptance of the practice of Pilates.

Looking more closely at the group of nine studies, one sees that three are from Amorim and colleagues (2011, 2011, 2012) and appear to be the same study divided into three parts and published in three different journals. Therefore, the overall number of studies looking at Pilates and dancers is brought down to seven published studies with the three Amorim studies counted as one study. The participant number for each study is also significantly low. Participant pools need to be increased in order to provide stronger statistical data.

However, there are many other limitations to the published research. In the studies by Amorim and colleagues (2011, 2011, 2012), the words “endurance” and “strength” are used interchangeably. The authors state that researchers were looking for muscular strength, but the testing protocol addressed muscular endurance, not strength. Many of the reviewed studies used “homemade” testing tools or low-tech testing methods to determine outcomes. This dramatically decreased the validity of the data collected and therefore lacks significant statistical power. Additionally, many of the testing protocols included tests created for the general population rather than tests specific to a trained dancer. It is reasonable to conclude that tests developed for the general population would not be challenging enough for the trained dancer. This could be a factor in overall results showing minimal improvements, especially in standard balance testing where Pilates has been shown to have no or limited effects on dancers. According to the data collected, not only is the limited number of studies a factor, but also the scope of the study. Participant numbers ranged from 10 to 29 in the studies included in this review; consequently, the statistics on Pilates effectiveness are limited. These limited participant numbers are most likely a result of the single institutional setting in the majority of the studies. In order to have more statistical data to support the effectiveness of Pilates, larger participant pools are needed. The longitudinal studies were limited to eight weeks, with no information on how long these benefits lasted postintervention. Although conditioning effects on muscular strength can be seen in four to six weeks, a question that needs to be answered is “What are the long-term effects of Pilates?” More extensive studies could include the impact of Pilates on overall injury rate and proprioception.

Not all studies identified the specific Pilates exercises used or how the exercises were chosen for inclusion in the study. In view of this, it is unclear which Pilates exercises were effective and what the main purpose was in the selection of the exercises. In some of the studies, participants were asked to perform mat exercises daily at home. The studies did not report how this protocol was recorded; in view of this, the validity of the overall study comes into question. The published research indicates that studies are using the Pilates mat and reformer as intervention, yet other pieces of equipment need to be examined. Most likely the lack of research in this area is due to inaccessibility of equipment, as the mat and reformer are the most commonly used. In future studies, not only should equipment such as the Cadillac and wall unit, the Wunda/Exo chair, Spine Corrector, and CoreAlign be included, but comparisons of the effectiveness of one piece of equipment to others are needed. Pilates needs to be compared to other forms of exercise to determine its true effectiveness. Currently, no published studies look at Pilates in comparison to other forms of exercise such as running, CrossFit, Zumba, yoga, or other movement forms.

One of Joseph Pilates’ main beliefs was that there is not only one way to do a specific exercise. He had several variations of each exercise in order to zero in on the person’s strengths and weaknesses as well as adapt for injuries. A modification is to focus on a weakness or alter for an injury, whereas
a variation is used to increase the difficulty of an exercise. In Pilates training, session exercises are personalized for each individual. If RCTs are not adjusted to include this methodology, how can the true Pilates method be tested? Scientifically, if exercises are individualized and executed differently, how would it be determined that one way to do the exercise is more effective than the other?

**Conclusion**

The purpose of this review was to evaluate the evidence and the quality of research on Pilates conducted specifically on dancers and to determine its effectiveness on dance training and performance. Although there are many testimonials and articles about the Pilates method, there is insufficient research showing its effectiveness in dance performance and injury rehabilitation. Other literature reviews (Bernardo & Nagle, 2006; Cruz-Ferrerura et al., 2011) have noted the small number of research studies examining Pilates, specifically in dancers. One would have expected to see more publications since the last literature review in 2006, but disappointingly, little additional research has been conducted. Furthermore, the research lacks evidence pertaining to the various pieces of equipment and apparatus. Most studies use mat or reformer, and no publications have included Pilates equipment such as Spine Corrector, Cadillac, Wunda chair, ladder barrel, CoreAlign, or other such equipment to demonstrate effectiveness in the dancer population.

The strength of the studies on Pilates and dancers lies in who conducted the Pilates training sessions within the study. In each study, experienced Pilates instructors performed the training sessions, ensuring the validity of the Pilates method. Each study had a strong purpose, asked clear questions, and had a well-defined hypothesis. Weaknesses within the studies lay within the design. Some lacked control groups; many were not random in their selection of participants; and therapists or assessors were not always blind to the groupings. More statistical data are needed to measure effective outcomes in order to make the research on the usefulness of Pilates for dancers more reliable.

A limitation of this review may be that articles were unavailable through the selected search engines (requested between 1980 and 2015). The search indicated seven conference proceedings and two dissertations involving studies on dancers that used Pilates as the intervention; these for one reason or another have not been published. Clearly more research is needed; but overall, the nine studies included here generally supported the effectiveness of Pilates in dancers with respect to muscular endurance, posture, alignment, and flexibility. However, based on the limited research available, Pilates seems to be ineffective with respect to balance and vertical jump in dancers.

**References**


Dance Education: Finding Pathways for the Future

By Gayle Kassing, PhD, 2016 National Dance Society Dance Scholar Awardee

Introduction: Dance for All

In a sense, throughout history, Dance for All has been a reoccurring theme; it has resurfaced in 21st century society and education with some new directions for the future of dance education. The philosophy of Dance for All gives everyone the opportunity to participate or contribute in all dance genres, forms, and activities through the life span. This broad view of Dance for All affects all people who teach, research, or advocate for dance and dance education. Underneath this inclusive view of Dance for All are some issues and gaps that have emerged throughout the history of dance education that continue to exist and should be considered in order to move to the next level of Dance for All.

This paper presents some prominent reoccurring themes in dance education from the past as well as from the present in order to establish a landscape from which to see possible directions for the future. This first section briefly summarizes Dance for All within the contexts of shifting from the past to the present and moving into the future. The second part of this paper looks at some of the themes within dance education as well as some of the distinct aspects within the dance discipline that have become interwoven from the past and are integral to dance education and its future. The third section addresses emerging issues and identifies research gaps within dance education that provide both challenges and potential opportunities for the future of dance education in general and specifically for the philosophy of Dance for All.

Dance for All: Shifting From the Past to the Present

Since prehistory, dance has been a part of people’s lives and life events. In the community, dance initiated planting crops and celebrated harvests, helped warriors prepare for war and hunters for hunting. Dance was valued for its role in a person’s life and honored the living and the dead. Dance was integral to the community’s health and spiritual life.

Since the beginning of the new millennium, the world has seemed to continue shrinking as a result of multimedia communications. Living in a global society has changed relations among people from different regions of the world. Each individual creates a personal infoscape that connects with others through social networks. The perception of time is that events last until the next update (Williams, 2014, December).

Welcome to the transmedia era, which some artists have called post-postmodern. In this transitional era, some scientific research focuses on how the brain connects to art and dance, creating neuroaesthetics or the neuroscience of aesthetics of art. This combination of science and aesthetics presents new information about how individuals use movement and how its meaning is streamed through the body’s neural systems (Chatterjee & Vartanian, 2016). Works of art seen through the lens of scientific, aesthetic, and world views serve as a conduit to enter the age of creative and critical thinking or “creative thinking” (Ohler, 2016, July).

In the transmedia era, on television, on the Internet, and in our communities, Dance for All has flourished as a performing, competitive, entertainment, cultural, or recreational pursuit. Choreographers and other artists continue to collaborate with other artists and incorporate media to create new works that merge or fuse into new integrated and novel forms. Dance has expanded through the health and fitness industry, into training for athletes, as a physical and cognitive activity for people of all ages, as a mental health modality, and as an educational force in the classroom and the community. Traditional social dances have gained more participants from middle schoolers to senior citizens because of TV reality shows. Social dancing gained new attention for its physical, cognitive, and social wellness benefits.
Cultural awareness and personal heritage connections led to a resurgence of doing folk dances from around the world as part of one's identity and celebrating heritage and community. Square and round dancing have regained momentum as a younger generation of dancers grabbed their partner to gain the healthful benefits of participating in these traditional dances (Kassing, 2017, p. 395). These 21st century dance directions have expanded the role of dance and dance education in schools and communities.

**Dance for All: Moving Into the Future**

For the global society, the Internet provides a portal to a world of endless information in the form of text, video, audio, and social communications that connects family and friends or groups with shared interests. The Internet has become a major conduit for Dance for All audiences.

As the Web transforms, its functions change. According to one analysis of the evolution of the World Wide Web, Web 1.0 connected people to vast amounts of information about dance. Web 2.0 with its communications and social media platforms allowed people with common interests to share their opinions about dance. On Web 3.0, humans and machines work together to organize content and data from social media sources. Web 4.0 will be an interrelation of human minds and machines creating dance works (Aghaei et al., 2012, as cited in and adapted for dance in Kassing, 2017, p. 395).

Moving into the future, the three R's of reading, writing, and 'rithmetic are joined by arts as the fourth R. In this new age, arts and media will serve as the conduit and the dimension for learning and experiencing the multiverse (Ohler, 2016, October 12).

Living in the transmedia age we inhabit a hyperconnected culture, an “enhanced” society, with students spending a lot of their time in virtual worlds. So there is a need to balance this direction. Real-world experiences of movement and dance are needed to connect to body, creativity, perceptions, expression, and emotions for mental and physical health and wellness (Kassing, 2017, p. 386).

Predicting the future is often difficult. However, reviewing the past and the present provides a starting place from which to forecast. Looking closer, major themes appear. Each of these themes has developed over time. They provide a way to more closely examine topics to analyze strengths and gaps that have surfaced over time. The second part of this paper looks at dance education today and some of the themes that have become interwoven from its past development. Topic summaries help characterize areas of the field that present opportunities for future sustainability and development of dance education. Each topic is a distinct aspect of the dance discipline, but together the topics are integral to dance education and its future directions.

**Foundations of Dance Literacy and Interdisciplinary Work**

The foundation of dance literacy is the nonverbal, verbal, and written languages of dance that convey concepts and vocabulary of various dance genres, forms, and styles. These languages of dance expand through the conduits of dance literacy: kinesthetic, choreographic, and critical analysis. In turn, using the languages of dance and dance literacy creates ways to communicate with other arts and media literacies. Drawing upon dance, arts, and media literacy provides a powerful base for engaging in interdisciplinary research, teaching, and advocacy for the power of dance and dance education.

**Using the Language of Dance**

Dancers, choreographers, and teachers fluently speak the nonverbal language of dance. Dance professionals are most often multilingual, performing and speaking dance in a wide range of dance genres, forms, and styles. They assimilate movement language variations from inventing movement and choreographing, viewing, and performing dance as part of creating a personal style.

All of the dance professions are undeniably centered in or on dance in ways that formally or informally involve dance education. We have a unique arts position of reaching people from preschool
children through seniors of all abilities through performance, teaching, and creating dances. Regardless of our professional roles in dance, we are dance educators—through either performance, informal education, formal education, or research. For the dance profession, using the language of dance creates a solid voice for dance and support of dance in broad perspectives. Dance as an arts discipline has a language used across the world to express dance concepts and processes (see figure 1). Using the language of dance develops dance literacy and arts literacy, as well as media literacy—one of the skills needed for the 21st-century workplace.

**Developing Dance Literacy Foundations**

Dance literacy, along with a host of other literacies and skills, is part of 21st century learning. Students should be multiliterate in order to pursue work and careers as citizens of the world. Dance literacy expectations are that dancers are kinesthetic, choreographic, and critical analyzers using the dance processes of dancing, dance making, and dance appreciation. Using dance literacy as a foundation, students should acquire arts and media literacy. Dance and arts literacy transfers to other disciplines of study for college or career readiness. Likewise, a student’s dance studies connect to the 4 C’s of 21st century learning—creativity, collaboration, communication, and creative thinking—embedded in dance processes. The intent of 21st century learning is to prepare students for the workplace. Being fluent in a number of literacies facilitates application of these knowledge bases in interdisciplinary ways for real-world problem solving.

**Making Interdisciplinary Connections Through Dance**

Dance performance and choreography interrelate with arts and other disciplines. Dance education has been part of interdisciplinary education for decades—dance provides a conduit for seeing, knowing, and understanding concepts and ideas through dance. In the paradigm of interdisciplinary education, dance is at the core of the learning process.

Dance professionals and educators make multiple connections with other disciplines through their work. More than ever before is a need to explore and assimilate the research and applications of other disciplines into dance research and dance literature. Movement as the medium has often been the basis or a part of other disciplines. Likewise, movement and dance provide conduits of support to expand the need for dance and dance education to existing, emerging, or currently underserved audience segments. The theme of interdisciplinary dance with existing or new collaborations positions Dance for All to form new relationships. Using interdisciplinary connections enables a more diversified research base for dance education and for espousing the philosophy of Dance for All from young children through seniors.

**Emerging Issues in Dance Education**

Dance education in the United States serves all ages and sectors—public, private, and nonprofit. Though U.S. dance education is rich in diverse talents and offerings, there are some ongoing issues and gaps to be aware of or to address in order to ensure a strong future. Some topics are examined here, but each topic should be appraised in depth through the literature, research, and data to gain a
more comprehensive view of the topic and issues that connect to dance education to ensure that it has a strong future.

**Change in Focus for Dance Degrees**

In the 20th century, dance migrated from physical education departments to fine arts departments. The focus changed from a general or comprehensive dance degree to one primarily focused on performance and choreography. Although performance and choreography are the heart of the dance as a performing art, one must ask whether students with this preparation can get a job or have a foundation for a career now or later.

**Job Statistics for Professional Dancers**

The U.S. Department of Labor, Bureau of Labor Statistics, provides a snapshot of dancers and choreographers in the United States (Occupational Employment Statistics, 2016-2017 edition). These statistics, along with the Occupational Outlook Handbook (U.S. Department of Labor, Bureau of Labor, Dancers and Choreographers: Summary, 2016-2017 ed.), present the following information. They do not provide information as to whether the dancers and choreographers were high school graduates or college graduates:

- The number of professional dancers and choreographers employed in 2014 was 20,114.
- The median hourly wage for dancers and choreographers in May 2015 was $16.85.
- The Occupational Outlook Handbook predicts a possible 5% average growth, or 1,100 new jobs, between 2014 and 2024. That could increase the total number of dancers and choreographers to 21,214.

The number of dancers working as professionals is a part of the bigger picture of graduates of dance programs in higher education.

**Pathways for Dancers With Undergraduate Degrees**

Students graduating with an undergraduate degree in dance may have completed a general degree in dance, a specialized major in a dance genre such as ballet or modern dance, or a dance degree with teacher education courses to prepare them for K-12 public school dance programs. Depending on the year the data were collected and the source or sources, the number of postsecondary schools that offer dance major or minor programs varies significantly (Dance Schools Offering, 2017). Some of the latest information, collected in 2015, indicates that in the United States, 366 colleges and universities offer dance degrees. Among these schools, this source lists 75 schools that offer dance programs with teacher education (Top 25 Teacher Education Schools, 2017).

A 2012 survey of teaching artists in dance and theater published in Arts Education Policy Review investigated teaching artists who worked in P-12 school and afterschool programs across the United States. Survey data of 133 teaching artists reflected (1) lack of preparation, (2) workplace issues and challenges, and (3) mixed attitudes regarding teaching artists’ professionalization and credentialing (Anderson & Risner, 2012). Teaching artists with undergraduate or graduate degrees in dance are
employed in K-12 schools and postsecondary education. They provide economical delivery of arts or
dance in school districts and as adjunct instructors for college courses.

**Status of Dance Graduate Degrees and Higher Education Programs**

Kahlich’s 1990 dissertation analyzed MFA degrees. His analysis led to a prediction that 90% of students
graduating with MFA degrees would probably teach in postsecondary education. Currently, informal
research tends to reflect that the majority of dance programs in U.S. higher education hire faculty with
MFA degrees for permanent staffing positions.

Most MFA dance program coursework focuses on performance and choreography. In the last
decade, some universities have added dance teaching and other courses to support aspiring gradu-
ates aiming for careers in higher education. The number of master’s and doctoral degree programs in
dance and dance education is significantly less than that of MFA programs.

**Continuing Issues and Opportunities for Future Dance
Education**

In looking at the future of dance education, recognizing continuing issues and gaps, as well as
opportunities, is a step toward strengthening dance education within the philosophy of Dance for All.

**K-12 Dance**

In 2015, the U.S. Senate passed the Elementary and Secondary Education Act, which included the
Every Child Achieves Act (Department of Education, 2017). In this legislation, the arts are recognized
as a core academic subject and would take a rightful place in the main instructional day. Americans
for the Arts and other arts education organizations define the “arts” as including dance, music, the-
ater, and visual arts. With the passage of bill S. 1177, dance as a core academic subject is put in the
category that makes it eligible for federal education funding. This includes Title 1 teacher training,
school improvement, and after-school programs and extended learning (McGreevy-Nichols, 2015).
If dance is to be considered a core subject, then more than statements should support the platform from which to develop the next phase of dance as a discipline. The dance profession needs to make this case by providing current evidence-based research and data to document how important dance is to student learning.

**Big Data and Dance Data**

The world of big data is here to stay. Walmart collects 2.5 petabytes of data every hour from consumer transactions. Facebook stores over 40 billion photos (Cukier, 2010, February 25, Interview). A National Center for Educational Statistics report looked at dance as part of arts education in elementary through secondary schools. The report identified differences among the arts and indicated significant gaps between the arts in their roles in elementary and secondary schools. It also indicated a decreasing number of programs in dance since the earlier report from the 1999-2000 school year. The current data report, *Arts Education in Elementary and Secondary Schools* (Parsad & Spiegelman, 2012), gathered data from the 2009-2010 school year that were posted in 2012 through 2014. Each report on elementary and secondary schools contained these topics:

**Availability of dance education.** In public elementary schools where dance was offered in the 2009-2010 school year, 3% of the schools surveyed had instructional time allocated during regular school hours, 44% of dance was offered as part of the school physical education program, and 37% of dance was taught in music programs (Parsad & Spiegelman, 2012).

**Characteristics of dance education.** Core characteristics of dance education examined in the National Center for Education Statistics report (Parsad & Spiegelman, 2012) included frequency of instruction of at least once a week throughout the school year. Dance instructors included 57% full- and part-time arts specialists (up from 38% in the 1999-2000 survey); other instructors included classroom teachers, artists-in-residence, and other faculty or volunteers. Forty-nine percent of elementary schools had developed a district curriculum guide that teachers were expected to follow.

**Incorporation or integration of dance with other subjects.** In the 2009-2010 school year, dance was incorporated into other subjects or curriculum areas in 61% of public elementary schools. Dance could also be a part of physical education or music programs in the elementary school curriculum (Parsad & Spiegelman, 2012).

**Dance professional development for teachers.** Schools reported small numbers of dance professional development programs, ranging from 5% to 10%. These opportunities included off-site seminars or conferences, professional workshops, and a few in-school seminars or conferences. The information on dance as a part of arts education in elementary through secondary schools paints a picture of gaps and issues to take into consideration when building future directions in dance education (Parsad & Spiegelman, 2012).

**Dance research courses in higher education.** Research has long been a topic in dance and dance education as an important direction to support the discipline. Yet few dedicated research courses exist in undergraduate dance programs. In dance graduate studies, most research methods courses are in qualitative research, while fewer degree programs require quantitative methods courses. Most often these research courses are taught in education, social sciences, psychology, physical education, and other departments. Taking a research course in another discipline often requires that students translate or adapt the methods and contents to dance studies. Today in a data-driven world, research counts and can determine if a program works or does not according to the data presented.
**Dance research and literature.** Dance has a huge repository of research and literature from which to draw to support artistic and educational directions. Dance research has expanded beyond the physicality of dance to strong connections with intellectual, emotional, and social aspects of dance. Access to literature and research in dance through related disciplines contributes to dance as a discipline and offers opportunities to all who wish to explore it, or better yet, contribute to it. The research and literature in dance and related disciplines should provide value through delivering evidence to support change for achieving a strong voice for dance in the future. This mind-set is needed if the profession expects to expand its reach in the future.

Dance for All! Reprinted, by permission, from J. Robey, 2016, Beginning jazz dance (Champaign, IL: Human Kinetics), 125.

**Next Steps for the Future of Dance Education: Dance Synergy**

This overview of dancer and choreographer professionals, dance graduates, and dance educators, I believe, gives us, as part of the dance profession, some directions to consider. I attempted throughout to identify issues or indicate gaps. This paper is only a starting place to study each of these topics more in depth to identify ways to support dance education in the future. The gaps also reveal the dance discipline’s need for evidence-based research to share inside and outside of the field. Now more than ever, it is vital to make statements backed up by research and current data to make the case for the importance of dance education and dance for everyone.
Taking on one or more of the topics identified in this paper may seem like a daunting challenge that needs to be tackled on many fronts and discussed with many constituencies to find ways to support dance educators in all sectors. These are definitely not the first challenges dance education has encountered and overcome. A united voice dedicated to dance education for all is needed to support the development of the next generation of dance educators with access to resilient preparation and continued development as professionals to become leaders in the field.

References


BOOK REVIEWS

Discovering Dance
By Gayle Kassing

Human Kinetics, 2014
Book with online resources: $45.00
Also available as eBook: $14.99
312 pages

Whether I need a great way to introduce body alignment, dance composition, or the different genres, one student textbook has provided me with peace of mind while planning dance curriculum. As a grade 6-12 dance educator, I had found it difficult to find appropriate resources. Searching on the Internet to find on-level reading materials and visual aids for beginning to trained students in an introductory dance class is often fragmented and not comprehensive. Over the last two years in teaching, I have come to find that the dance student textbook, Discovering Dance, by Gayle Kassing provides a comprehensive foundation for a beginning to intermediate high school dance class. Discovering Dance is one of only two textbooks designed specifically for high school dance students.

The book is divided into four parts: (1) Foundations of Dance, (2) Dance in Society, (3) Dance on Stage, and (4) Dance for Life. At the beginning of each chapter, Kassing provides learning objectives, vocabulary, and introductory statements, including why the topic is important (enduring understanding) and what students need to focus on (essential question to ask). Throughout each chapter, the content is enhanced with a variety of activities, including writing prompts, Internet research, movement exploration, and historical spotlights on significant dance figures, events, and choreographic works. Each chapter provides ample knowledge for the beginning dance student while emphasizing prior dance knowledge for the intermediate student. The textbook is easy to navigate, providing an overall pace and sequencing for teaching dance curriculum for a school year. As a bonus, each chapter has supplementary materials to enhance learning with worksheets, extended learning activities, and journaling assignments.

Part I, Foundations of Dance, contains four chapters: Dance for All; Safety, Health, and Wellness; Elements of Dance; and Basics of Dance Composition. The underlying principles in dance are briefly introduced, and the beginning student will not feel overwhelmed. The second section, Dance in Society, provides a historical outline of dance, from the first ancient civilizations to the 21st century. Part II facilitates student inquiry into who dances and why people dance through analyzing the design of dances, including relationships and attire. Part III, Dance on Stage, includes chapters dedicated to ballet, modern, jazz, and tap, and two additional chapters addressing dance as entertainment and dance performance and production. Part IV of the book is Dance for Life. It provides a glimpse into pursuing dance in college and dance as a career. Students are guided through educational requirements, necessary skills, and compensation in both monetary and personal benefits.

Each of the four chapters in part I offers helpful supports for students. Chapter 1 provides a simplified explanation of the scientific, choreographic, and dance appreciation components of dance that is not too heavy a read yet challenging enough to provoke student inquiry and motivation to learn. Chapter 2 provides a detailed outline explaining postural alignment with a useful visual aid. The text moves directly into dance safety and guidelines including dancewear, class etiquette, and personal and general space. Not only does this provide reinforcement of the curriculum and standards, but it can also serve as a guideline for a dance class syllabus to set expectations and requirements for students and parents. Chapter 3 clearly outlines the elements of dance that are appropriate for high school dance. Students are given opportunities to explore and create dance movement and combinations using Rudolf Laban effort actions. Chapter 4 prepares students to create original dance compositions. Table 4.1 (on page 59) is a simple and practical table of choreographic principles for student use. Activity 4.3 (on pages
63-65) provides strategies for exploring and creating movement with detailed instructions, including guiding questions for revising student compositions.

Part II consists of four chapters and examines dance from societal and political contexts within historical and contemporary eras as well as folk and cultural dance forms. Chapter 5 presents an overview of the history of dance. Using skills and knowledge based on part I of the book, students are able to create prehistoric dances and dances from the Middle Ages, with continued exploration through the 21st century. Chapter 6 focuses on social trends in dance, with pictures of partner positions on page 101. Basic social dance concepts are described, including spatial pathways and directions, footwork, and rhythms. The chapter includes simple and easy-to-read tables providing step-by-step instructions for the fox-trot, waltz, swing, merengue, cha-cha, and salsa. Chapter 7 explains folk dance as a way to experience one's heritage and ethnic origin. The chapter provides an excellent diagram on page 119 of basic folk dance formations with a colored key for leaders, followers, and which direction to face. On the following page is a clear explanation of basic folk dance steps including two-step, schottische, polka, and the grapevine. Each dance is broken down by step and time signature. Chapter 8 is a discovery of cultural dances around the world. It encourages the study of cultural dance forms and connections of historical migrations that have affected global dance.

Part III, Dance on Stage, consists of six chapters focusing on four different dance genres, dance performance, and dance production. Chapter 9 begins with the roots of classical ballet, with brief descriptions of historical figures and contributions to the dance form. The chapter provides colored pictures of foot, arm, and arabesque positions along with stage directions. It also outlines the class progression from ballet barre to center barre exercises, as well as allegro steps while defining each codified step. Chapter 10 provides a historical overview of classical and contemporary modern dance pioneers along with individual practices and contributions. The chapter encourages the student to explore and express individual potential through movement studies in abstract dance and in the individual creative process. Similarly to the previous chapter, chapter 10 presents basic etiquette, attire, positions of the body, and basic vocabulary. Chapters 11 and 12 follow the same formula and outline as the first two chapters in part III with the history of both jazz dance and tap dance and their significant historical figures. A great addition to chapter 12, Tap Dance, is an activity on page 219 for different tap combinations with the breakdown of counts for each step and the use of the different parts of the foot. This is a very useful introduction for students and provides a foundation to create individual tap combinations. Chapter 13 focuses on dance as entertainment, with emphasis on dance and drill teams, musical theater, and dance for the camera. This chapter describes how these specific dance experiences are different while still using expression to entertain an audience. The chapter also looks at the historical beginning of the triple threat, leading to Broadway shows and dance movies and on to popular dance competition shows such as So You Think You Can Dance and Dancing with the Stars. The chapter has activities enabling students to explore dance in musical theater and dance on camera. Chapter 14, the final chapter in part III, outlines design concepts and technical requirements that contribute to dance performance, including descriptions of the different parts of the stage along with clear job descriptions and titles of backstage crew. This chapter also offers a sample production calendar with explanations of rehearsals needed before a performance. Overall, part III provides an excellent introduction to the various codified and technical dance forms, finishing with producing a performance on a stage.

Part IV provides much-needed information about dance beyond high school. The last two chapters examine dance in college and dance as a career. Chapter 15 explores important skills needed for college dance programs that can prepare individuals for a career involving dance. A highly informative explanation of the audition process leads immediately into six comprehensive pages on possible careers involving dance. Chapter 16, Dance in Your Life, concludes the book. The chapter encourages students to go beyond the textbook and discover personal styles and preferences. Students are also encouraged to find the motivation behind individual dance choices and to get involved in the community dance scene, including volunteer opportunities and advocacy. Finally, readers are given a series of questions involving use of dance as a medium to self-discovery.
One successful aspect of this textbook is its reinforcement of dance standards and lifelong learning. With teacher requirements to use national or state standards, the book is an overall compass to navigate high school dance standards and benchmarks. Its content has assisted in teaching high school students the Texas Essentials Knowledge and Skills for Fine Arts with activities that engage them with skills such as critical thinking and innovative problem solving. In the era of standardized testing and rote learning, there are few opportunities and resources for high school dance students to go beyond the basic educational standards to make learning relevant and meaningful. In each chapter, students have opportunities to think, create, and be innovative. While the arts (and specifically dance) naturally lend themselves to higher-order thinking, the textbook aims to extend and emphasize learning standards beyond high school dance and to make cross-curricular connections that emphasize skills needed for the 21st century workplace.

Reviewed by Lisa Moya King, MA
The availability of resources for dance students in secondary education has been limited. As states add more standards for dance certification for teachers, we need to be prepared to write and create student curriculum and address new standards. In 2005 (First Edition) and 2015 (Second Edition), the state of Texas adopted *Experiencing Dance* by Helene Scheff, Marty Sprague, and Susan McGreevy-Nichols. As a high school dance teacher, I have worked closely with this student textbook. As a student textbook, it has proved beneficial especially in my upper-level dance classes. This book is an excellent source for furthering prior knowledge in dance training and continuing exploration and growth.

The book is divided into five units of study as follows: (1) Recognizing Your Movement Potential, (2) Becoming a Dancer, (3) Making Connections Through Dance, (4) Becoming a Choreographer, and (5) Refining Yourself as a Dance Artist. Each unit of study consists of three or four chapters. Each chapter guides the student through three or four lessons. Each chapter follows a systematic outline, giving students a guide to explore each chapter. The chapters include introductory material, essential questions, a Move It! section with a task that gets students moving and thinking about the topic by using their prior knowledge, and a section titled Curtain Up that introduces the lesson topic. Moving on through the chapter with the section Take the Stage, students are able to apply the knowledge from Curtain Up and then immediately evaluate comprehension with an activity in the section Take a Bow. Each chapter has a Spotlight section, highlighting a person, place, or event associated with the lesson content. There are also capstone assignments provided via the Experiencing Dance website, including vocabulary, videos, worksheets, assignments, reviews, interactive quizzes, rubrics, and self-assessments. The outline for each chapter is student friendly, and the overall textbook is easily read by struggling readers and adaptable for English learners with the visuals and video reinforcements provided.

The first unit, Recognizing Your Movement Potential, consists of four chapters: Surveying Your Body at Work, Warming Up and Cooling Down, Choosing a Dance Form That Suits You, and Learning More Than Steps. Chapter 1 focuses on learning correct postural alignment and the anatomy of the body including bones, muscles, and joints, along with understanding the student’s personal range of motion and limitations. Students apply knowledge of the lesson by creating a dance based on use of the joints of the body. In chapter 2, students create a personal warm-up based on their own needs and goals, reinforce classroom etiquette and expectations, and end with designing a personal cool-down. In chapter 3, students are asked to analyze personal movement preferences and compare movement qualities with various dance forms. Chapter 4 has three lessons to develop thinking skills, to analyze how dance can help a student be successful in life, and to explore careers in dance beyond performing.

The second unit, Becoming a Dancer, has two chapters: Diversifying Your Dance Training and Improving Your Skills. In chapter 5, students learn how to use and make connections in basic technique through similar steps and effort actions across different dance forms. Lesson 5.2 introduces the various styles within the different forms of dance. In lesson 5.3, students get a list of rehearsal and performance strategies, including ideas to enhance solos and ensemble performances. Moving into chapter 6, students are guided to find teachers to meet personal needs through master classes, apprenticeships, and classroom observations. In lesson 6.2, students are guided to create lecture
demonstrations and to identify ways of giving back to their communities. In lesson 6.3, the focus is on how to improve rehearsal and practice strategies with imagery and self-confidence.

The third unit, Making Connections Through Dance, has three chapters: Expressing Ideas and Emotions, Exploring Dance as an Art Form, and Connecting to Community and Tradition. Chapter 7 encourages self-expression with learning to recognize body language as nonverbal communication. Students are given opportunities to communicate ideas and historical events through movement. Lesson 7.3 gives students an outlet to create and address social issues through dance. Chapter 8 distinguishes between literal and abstract movement. Students are guided through a lesson to alter literal movement to abstract with changing focus and intent. Lesson 8.2 explores dance specifically designed for an audience, including concert dance and Broadway, and sometimes the dance can move a plot forward in a production or performance. Lesson 8.3 sheds light on personal likes and preferences in dance. Students learn to appreciate that everyone has personal aesthetics in dance making and performance. In chapter 9 students research the role of dance in the world, in history, and in social settings.

The fourth unit, Becoming a Choreographer, has three chapters: Creating Dances, Choreographing With a Seven-Step Method, and Showcasing Your Work. Chapter 10 begins with learning how to manipulate the choreographic elements presented. In lesson 10.2, students apply choreographic processes to clarify meaning, intent, and overall progression of the dance. In lesson 10.3, they explore different choreographic forms to create a structure for a dance. Chapter 11 takes students through the creative process to the finished production product. Students begin with choosing an inspiration to create movement before moving to the next lesson on selecting and charting music to combine choreographic elements, structures, and processes. Lesson 11.3 concludes with preparing for the production of the student’s work, including selecting lighting and props and creating a program. Chapter 12 focuses on teaching students to select costumes, props, and scenery. Students are given ideas as a starting point to enhance their choreography with lighting and read about looking in their community for items. An introduction to sound includes a list of possible items needed to format and play music. Finally, in lesson 12.3, students develop a production timeline by learning to prioritize weeks before the performance, including tasks like ticket sales.

The fifth and final unit, Refining Yourself as a Dance Artist, has three chapters: Learning From the Works of Others; Sharing Your Art Form; and Developing Your Portfolio, Resume, and Audition Skills. Chapter 13 begins with learning to observe, analyze, and critique others’ work to learn and improve as a performer. Students learn to describe, interpret, evaluate, and make connections in choreography. Chapter 14 encourages students to seek and find opportunities to perform and give back to their communities. They are encouraged to mentor and find school-to-work programs for dance opportunities. Chapter 15, the last chapter of the book, guides students in developing portfolios, resumes, and audition skills to prepare them for the beyond-the-classroom studio.

Reviewed by Lisa Moya King, MA
Congratulations to our 2017 National Dance Society Award Recipients!

Be it pedagogy, advocacy, or promotion of dance, NDS members make important contributions to the discipline. The following awards recognize these contributions and encourage members to make nominations during the nomination period.

2017 NDS Award Recipients include the following categories:

Christa A. Davis—College/University Master Dance Educator of the Year 2017
Danielle Jay Kirschenbaum—Dance Scholar Award 2017
Gayanne Grossman—Dance Advocate Award 2017
Keisha Breaker—Dance Promotion in the Community Award 2017
Marian Simpson—Dance Legacy Award 2017

2017 NATIONAL DANCE SOCIETY AWARD RECIPIENTS!

College/University Master Dance Educator of the Year 2017

Dr. Christa A. Davis (aka Momma Storm) is an assistant professor of kinesiology at Lewis-Clark State College in Lewiston, Idaho. She received a BS at Washington State University in athletic training and in physical education with a dance focus. During her undergraduate season, she choreographed and performed throughout the Northwest with Orchesis Dance Honorary. For more than 20 years afterward, she taught creative movement, ballet, jazz, modern, contemporary, hip-hop, cultural dance, and physical education with students K-12 and at the university level and in studio, community, and public school settings. Subsequently, Christa earned a MEd and a PhD in physical education–dance pedagogy at the University of Idaho. She also holds a Certificate in Elementary Labanotation from the Dance Notation Bureau.

Christa's research interests focus on the enhancement of children's physical and emotional health via training of future teachers. She created an instructional model, BLISS, which reexamines traditional pedagogy, offering research-based strategies to encourage a broader enjoyment of dance artistry. Her current project uses the dance form KRUMP, with at-risk children in a residential treatment facility suffering from trauma. Initial results show a strong correlation between KRUMP, healthy emotional processing, increased confidence, and the value of personal expression. It promises to become a healthy alternative to stifled emotion, drug use, and gang involvement. Christa is privileged to present her research at state, regional, and national conferences across the United States. Her passion is to bring dance to the masses—making it accessible and enticing to those not yet exposed to our remarkable movement form!
Dance Scholar Award 2017

Danielle Jay Kirschenbaum

The name changed four years ago with my marriage. I am a dancer, dance educator, and dance author. I love every day of my life! Dance is what I love to do. I began dancing at three and one-half years old and continued my journey until I retired in July 2012.

Teaching is another passion. I always wanted to share the joy of dance with everyone. Being shy, dance enabled me to be more confident, open, and joyful. Ballet was my first love. Though small, I trained and worked hard and always enjoyed the challenge and difficulty. I’m eternally grateful to my mom and dad for believing in me and helping me to achieving my goal to dance and be a dance educator.

My initial training was incorrect, so at age 11, I had to restart from the beginning. Though this helped me to become a better dancer, performer, and teacher, I never wanted my students to have to go through that process.

I have three degrees: BS, Eastern Michigan University (major in dance and physical education; minor in theater and psychology); MMA, University of Cincinnati (major in ballet); and PhD, Texas Womans University (major in dance and related arts). I am a retired professor of dance education from Northern Illinois University where I taught dance technique and pedagogy, dance methods, and curriculum design in dance teacher education preparation programs in both physical education and fine arts departments for more than 25 years. I have coauthored two books, Teaching Beginning Ballet Technique and Dance Teaching Methods and Curriculum Design, helped write state curriculum guidelines and dance teacher certification tests, and have presented nationally on teaching methodologies. Many of my former students are now professionals in K–12 dance education programs.

I love to read and study the various aspects of dance. I especially enjoy finding new ways to think about dance and applying them to teaching as well as developing various paradigms. I shall always be exploring, researching, and finding fresh adventure in the glorious world of dance.

Dance Advocate Award 2017

Gayanne Grossman currently works as a physical therapist and educator at the Lehigh Valley Hospital Network, Performing Arts Medicine Program, and is the director of Dance Wellness at Muhlenberg College. She earned a bachelor of fine arts degree in modern dance and a bachelor of science degree in physical therapy from the University of Utah. She received a master’s degree in dance education from Temple University. Ms. Grossman is a continual student, an established researcher, and a recognized scholar (nearly 50 publications). Her recent textbook Dance Science: Anatomy, Movement Analysis, and Conditioning is highly acclaimed. Ms. Grossman is a leading guest lecturer, workshop facilitator, and teacher in the United States and internationally. Many of her college and university dance science students were accepted into physical therapy and medical school programs at Columbia University, New York University, George Washington University, Arcadia College, and Thomas Jefferson School of Medicine. Others are in graduate dance programs across the country. Some are teaching kinesiology in higher education. Many of her high school dance students were selected for programs at the North Carolina School of the Arts, Alvin Alley School, SUNY–Purchase, Skidmore College, Fordham University, University of California–Irvine, and University of Michigan. She currently serves on the board of directors for the Repertory Dance Company, Allentown, Pennsylvania, and is a member in the Performing Arts Medicine Association. She serves on the board of directors of the International Association for Dance Medicine and Science (IADMS) and in 2014–2015 was granted fellowship status for excellence in scientific and educational contributions to the field.
Keisha Breaker is a professional dancer and choreographer with 24 years of experience; she is currently using her bachelor’s degree in dance from Texas Woman’s University and her advanced, graduate-level training from the Alvin Ailey School of Dance in New York to educate students in the YES Prep charter school system in Houston, Texas. Ms. Keisha, as her young students lovingly call her, holds the strong belief that the arts are the perfect catalyst for creativity, discipline, and perseverance in life. She is often heard saying “I am not here to teach you dance; I am here to teach you life.” Ms. Keisha is a fierce advocate for creativity and self-discovery at all ages. As a veteran spoken-word poet she found a way to combine her lifelong love of dance with her deep passion for empowering student expression through her business Jalia Movement Arts. There she holds classes throughout the Houston metroplex at a multitude of day cares and elementary, middle school, and high schools. Her career highlights and accolades include serving as Past Vice President of Dance with the Texas Association of Health, Physical Education, Recreation and Dance. She earned the Dance Educator of the Year Award (Dance Dallas/Fort Worth), Fort Worth’s Woman of the Year, and the Fort Worth Black Historian designation (KRLD radio). She’s also a Woman’s History Month Honoree (Tarrant County Minority and Leadership and Citizen Council) and received the Distinguished Alumni Award from Texas Woman’s University.

Marian Simpson began her teaching career in 1955 at Daniel Webster High School, Tulsa, Oklahoma, after earning a bachelor’s degree from Northeastern State College, Tahlequah, Oklahoma. She later completed an MA from Texas Woman’s University, which led to her position at Pittsburg State College, Kansas. During her career of 50+ years, Marian Simpson taught physical education and dance, performed, coached, and sponsored teams. She officiated for sports at the secondary and higher education levels (including the Air Force Academy and U.S. Olympic Training Center). She served as a department chair, artistic director, conference planner, curriculum writer, staff development facilitator, and university program coordinator. She worked and volunteered in many states and is respected for her expertise in ethics and board policy. She served as a leader and mentor on many professional associations’ committees and boards at the state, district, and national levels. She was president of dance for the AAHPERD central district for two terms and has been president of the National Dance Association. She is a founding member of the National Dance Society. She received numerous Presidential Citations from the National Dance Association and the Joy of Effort Award from Colorado SHAPE. Although Marian Simpson has received much recognition for good works, she considers her most significant efforts to be those centered on creating programs for students with special needs in the middle schools, high schools, and institutions of higher education where she taught. We are honored to present Marian Simpson with the National Dance Society’s 2017 Dance Legacy Award.
Establish Your Chapter of Delta Eta Pi Today
An Honor Society of the National Dance Society

The National Dance Society (NDS) created the Dance Honor Society to advance dance and dance education. It recognizes students’ and their advisors’ artistry, outstanding achievement in performance and choreography, academic excellence, technology, and community service. Chapters can be established in secondary schools, colleges and universities, and private studios to promote dance education within the institution and its local community. Students have an opportunity to expand their vision to encompass a greater range of activities and services through dance and the arts.

Criteria for membership require that students have and maintain a B average (3.2 GPA), participate in community service each year, and be actively involved in dance classes. They may accomplish this as performers, choreographers, scholars, or members of technical crews.

Delta Eta Pi Purposes

- Recognize students who show outstanding ability in the field of dance
- Provide students an honor society specifically focused on dance
- Empower students to achieve higher levels of work
- Foster excellence and dedication in the pursuit of dance
- Encourage creative abilities and talents of individual students
- Acknowledge leadership and scholarship
- Present opportunities to publish papers, poems, photos, and artwork in the NDS Journal
- Offer venues for choreography and performance
- Promote healthy living to advance dance
- Create networking opportunities with other Delta Eta Pi members
- Permit college students to mentor secondary students and hone teaching skills—lead by example
- Confer credentials that may assist with future education or employment
- Increase awareness of the value of dance within the school curriculum, school, and community

Honor society members receive the Delta Eta Pi pin and membership certificate and may be eligible for special certificates or awards for artistic and academic achievement. They may wear Delta Eta Pi honor cords and stoles at their commencement ceremonies.

Having a chapter of the NDS Dance Honor Society can increase the benefits and visibility of your dance program. It can help to magnify the innovation, skills, and scholarship that your dance program brings to the school and community. It can raise the profile and stature of your dance program as a creative, academic subject. Come join us!

For more information, contact
National Dance Society
540.642.1041
<info@nationaldancesociety.org> or <ksmith2@washcoll.edu>
For details and application forms, visit
www.nationaldancesociety.org
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National Dance Society Journal

Teachers Promoting Quality Dance for All

Manuscript Type

The National Dance Society Journal (NDSJ) is a peer-reviewed journal that publishes original reports of empirical studies, literature reviews, theoretical articles, applied research, methodological articles, case studies, and invited targeted articles. Manuscripts are accepted from National Dance Society (NDS) members and partner organization members: Manuscripts may be coauthored, provided that at least one coauthor is an NDS member.

Style

In preparing manuscripts for publication in NDSJ, authors must closely follow the Publication Manual of the American Psychological Association (6th ed., 2010) for formats for numbers and measurement units and all other style matters, including capitalization, punctuation, references, and citations (also see www.apastyle.org). However, Human Kinetics (the publisher) has some in-house style requirements that modify APA slightly, which will be identified where appropriate.

Writing should be concise and direct. Communicate ideas using a “how-to” approach. Avoid unnecessary jargon and abbreviations, but if the spelled-out version of a title or term is cumbersome, an acronym or abbreviation can be used after the first mention of the full title or word. Avoid abbreviations in the title. Generally, manuscript lengths range between 5 and 15 double-spaced pages.

Submission

Authors should submit manuscripts electronically in Microsoft Word or rich text (*.rtf) format. Do not submit the manuscript in a .pdf file. All submissions will be acknowledged within two weeks and given early feedback. Send inquiries to Nancy Kane (email: nancydancer2k@yahoo.com).

Before submitting, authors should complete the Manuscript Submission Checklist (see later). Authors may be asked to provide photo-ready graphics or hard copy of the text or both. Authors are responsible for confirming the accuracy of the final copy, particularly the accuracy of references, and to retain a duplicate copy to guard against loss. Final review of the prepublished text is the responsibility of the authors.

Manuscript Review

Manuscripts are initially screened and reviewed by the editor-in-chief. Once deemed within the editorial focus for the NDSJ, each submission will be assigned an article number and guided through the editorial stages. Manuscripts will be peer reviewed by one or two editorial review board members via a blind-review process. Manuscripts may not be submitted to another journal at the same time. Authors of manuscripts accepted for publication must sign a Transfer of Copyright to NDS.

Cover Letter

Authors should include a separate cover letter that lists (1) the title of the manuscript; (2) the date of submission; (3) the full names of all the authors, their degrees, and their institutional or corporate affiliations; (4) a statement that the manuscript has not been previously published (except in abstract.
form), is not presently under consideration by another journal, and will not be submitted to another journal before a final editorial decision from NDSJ is rendered; and (5) the name of the primary contact person and complete contact information for correspondence.

**Title Page**

The manuscript must include a title page that provides the full title, a brief running head, three to five key words not used in the title of the manuscript, abstract word count, manuscript word count (inclusive of all pages except the abstract and the title page), and date of manuscript submission. Do not include author names on the title page. After the separate cover letter, the order of submission must be (1) title page, (2) abstract, (3) text, (4) acknowledgments or funding source or both, (5) references, (6) tables, as appropriate, (7) figure captions, and (8) figures, graphics, and photographs.

**Text**

The entire manuscript must be double-spaced, including the abstract, heads, text, references, and tables. Use a Times New Roman font and 12-point type with a minimum of 1-inch margins. In Word, select *Layout view* then click *number lines* to add line numbers in the left margin. Align the text to the left margin, leaving a “ragged” right margin. Indent the first line of every paragraph. Major heads should be centered and boldface, with title-style capitalization (capitalizing all verbs, nouns, adjectives, and adverbs as well as prepositions of four or more letters). Place subheads flush left and boldface, with title-style capitalization. If a third-level head is needed, make it an in-paragraph heading, boldfaced and ending with a period. A brief running head is to be included on the upper right corner of each page, and page numbers must appear on the bottom right corner of each page. Human Kinetics prefers a single space after each period (note that this is a modification from APA's style preference of two spaces after each period).

**References**

All material cited in text should be in the reference list. For formatting reference lists, follow the guidelines in the *Publication Manual of the American Psychological Association* (6th ed., 2010), with the following exception: Do not include a space between initials. The second line and subsequent lines of the reference entry do not need to be indented; they can be flush left, as shown in the following examples.

**Journal and magazine articles.** Author, X.X., & Author, Y.Y. (Year). Title of article. *Journal Name, Volume*(Issue), XXX-XXX.


**Book chapters.** Author, Z.Z. (Year). Title of chapter. In X.X. Editor and Y.Y. Editor (Eds.), *Title of book* (pp. XX-XX). City, State Abbreviation: Publisher.

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Figures and Photos

If figures are included, each figure must be numbered in consecutive numerical order according to the order of appearance in the manuscript. A figure should have a caption that is brief and self-explanatory and that defines all nonstandard abbreviations used in the figure. Captions must be listed separately, on a page by themselves; however, each figure must be clearly identified (numbered), preferably as part of its filename.

Artwork should be professional in appearance and have clean, crisp lines. Hand drawing and hand lettering are not acceptable. Figures may use color. Shades of gray do not reproduce well and should not be used in charts and figures. Instead, stripe patterns, stippling, or solids (black or white) are good choices for shading. Line art should be saved at a resolution of 600 dots per inch (dpi) in JPEG or TIFF format. Photographic images can be submitted if they are saved in JPEG or TIFF format at a resolution of 300 dpi. Any figure or photo from a source not original to the author must be accompanied by a statement from the copyright holder giving the author permission to publish it, and the source and copyright holder must be credited in the manuscript.

Tables

When tabular material is necessary, it should not duplicate the text. Tables must be formatted using Microsoft Word’s table-building functions. Do not use spaces or tabs in your tables; this creates problems when the table is typeset and may result in errors as shifting of columns may occur. Tables should be single-spaced on separate pages and include brief titles. Explanatory notes are to be presented in footnotes, below the table. The size and complexity of a table should be determined with consideration for its legibility and ability to fit the printed page.

Manuscript Submission Checklist

Before submitting a first or revised manuscript, the following criteria must be met:

- All sections are double-spaced with Times New Roman font and 12-point type.
- Line numbers appear in left margin.
- Page numbers appear in bottom right corner.
- Brief running head appears in upper right corner.
- Title page does not include author names or affiliations.
- Title page lists three to five key words not used in the title of the manuscript.
- Title page lists the abstract’s total word count, which should be no more than 250 words.
- Typically, tables + figures + photos number fewer than five; more, if appropriate.
- References are formatted according to guidelines in the Publication Manual of the American Psychological Association (6th ed., 2010) without indenting continued lines of each entry.
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Joining the National Dance Society is easy, with membership plans for professionals, associates, and students.

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Open to individuals involved in all aspects of dance as teachers, studio owners, performers, technical support, or artists.

- $85.00/annually
- $225.00/Long Term (3 Year)

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Open to individuals in professions supporting dance. This includes publishers, costumers, and other vendors. Please note: Associate members are unable to hold office or vote.

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