DANCE EDUCATION IN THE US: WHAT IS KNOWN ABOUT THE FIELD, AND HOW DO WE GO ABOUT IMPROVING IT?

by

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Abstract

Dance education seeks to develop students’ dance abilities and performance through effective pedagogical techniques. This literature review examines the current status of K-12 dance education in the United States, including the development of dance education, the importance of dance education, current problems in American dance education, and current solutions to the problems. Through the review of these areas, three factors in dance education take principal focus: curriculum, teaching methods, and assessment. Based on prior research, I propose a model to examine the relationships between these three factors in an effort to holistically improve dance education and offer suggestions on how to test the proposed model.

*Keywords:* dance education, curriculum, teaching method, assessment
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Dance Education in the US: What is Known about the Field, and How Do We Go About Improving It?

Merriam-Webster dictionary defines dance as the following: “an act or instance of moving one's body rhythmically usually to music and a series of rhythmic and patterned bodily movements usually performed to music” (https://www.merriam-webster.com/dictionary/dance). However, dance is much more than that, as it relates to expression, feeling, and resonance without language. Dance education research uses the general principles and methods of pedagogy to study aspects of dance education. Below, I briefly highlight the development of dance education in the United States reasons and why dance education should be considered an important component of education (Griss, 1998; Stinson, 1988).

Development of Dance Education

The importance of dance was significantly recognized in 1905 when the American Physical Education Association chose dance as the theme of its national convention (Carter, 1984). American dance education was influenced by Dewey's educational ideas in its early stage (Bresler, 2007). At the beginning of the last century, three professors at Columbia University introduced dance to schools (Ross, 2012). In 1926, Margaret H'Doubler established the first dance program in the physical education department of higher education at the University of Wisconsin (Ross, 2012). By the 1980s, at least 15 states had published dance academy standards, which included the following: (1) educational purpose, teaching objectives, teaching content, and expected teaching results; (2) dance sensibility, imagination, creativity, and expression; and (3) dance as a way to communicate and cooperate with them. The publishing of the National Standard of American Art Education in 1994 marked an important event within dance education. The National Standard of American Art Education provides a structure for practice in schools,
especially for ordinary teachers who have not received professional training in the arts. Teachers check their curriculum according to the National Standard to ensure consistency. In Goals 2000, art was emphasized as a core subject (Earley, 1994). In the 1990s, the National Assessment of Educational Progress (NAEP) set up measures of technical achievement and knowledge for art classes that began to include dance as part of teacher certification.

In sum, dance education has experienced 117 years of development in the United States. Given the relatively short history of dance education in the United States, it is important to examine its importance.

**The Importance of Dance Education in Schools**

Dance is an intellectual, physical, and sensory response to world experience. The self-integration of students’ physical intelligence and emotion is the key to understanding dance education (Schwartz, 1993). Dance education takes self-cognition as the learning goal and develops self-expression and interpretation through body movement (Koff, 2000).

As childhood obesity gradually becomes a national crisis (Whitlock et al., 2005), any approach to getting children more active is important. The National Sports Association recommends that children exercise at least 60 minutes a day (Fakhouri et al., 2013). Dance burns calories, build muscles, improves balance, increases flexibility, and provides children with a great workout (Becker, 2013).

Dance education can not only provide an outlet for students’ energy and motion but also strengthens students’ nonverbal communication skills (Koff, 2000). Nonverbal communication forms the basis of human cognitive and learning development (Corballis, 2003), and may be expressed through gestures and movement, using proximity, touch, facial expressions, posture, physical appearance, and emotion (Hanna, 2008). Dance classes provide a good structure for an
environment of self-exploration through nonverbal communication with others. At the same time, dance can provide new approaches to learning and a further understanding of conceptual principles and vocabulary (Donahue & Stuart, 2010). Thus, introducing dance into schools can help children share what they are learning in creative ways.

In summary, with the development of society and the progress of the times, dance education becomes more and more important. Dancing provides a means to benefit children’s physical and mental development. In the current literature review, I first examine existing problems in dance education at the K-12 level in the United States. Next, to inform solutions to these problems, I review other researchers’ work that aims to address existing problems through dance curriculum, teaching methods, and assessment. Finally, drawing on other researchers’ contributions from these three domains, I propose a novel model consisting of interrelations between these three domains to improve dance education at the K-12 level. Importantly throughout this work, I have limited research reviewed to work focused on K-12 dance education in the United States (see Tables 1-5 for more information).

**Current Problems in American Dance Education**

The development of dance education in the United States has only a short history of approximately one hundred years. Dance education faces many opportunities and challenges, thus there are several prospective areas of improvement at the K-12 level. For example, in 1997, the National Center for Educational Statistics showed that 57% of American children had no dance education, and only 7% of public schools in the United States had registered dance teachers (Parrish, 2016). Dance still has a peripheral significance in school or is positioned as an extracurricular activity outside the school (Leonard et al., 2016).
Dance teachers should have some basic qualifications. However, dance education is often marginalized in K-12 educational contexts (Leonard & Hellenbrand, 2012), and as a marginalized subject, several problems result. Below, I review the literature related to these problems. Specifically, I discuss the course content as diversified and not uniform. Many public K-12 grades do not have dance teachers. Even if there are dance teachers in schools, many dance teachers are only part-time teachers or do not have teaching certificates. Taken together, these topics provide important context for the state of dance education in the United States.

**Varied Dance Course Content**

There are no unified dance teaching materials or teaching modes within dance education. School dance programs are few, and those that do exist include inconsistent elements (Leonard et al., 2016). For example, a high school dance program may be strictly designed according to the National Standards for Dance Education, but the content may still be disjointed (i.e., the program is divided into isolated sections, and courses are not arranged in order of difficulty level; McCutchen, 2006).

Another contributor to varied course content is that dance teachers decide what kind of dance to teach. There are 13 different types of dances in schools (Brown-Aliffi, 2022). The main forms of dance taught by dance teachers are ballet, modern, jazz, and hip-hop. Some dance teachers choose to emphasize South African dance, tap dance, or dance content of other nationalities (Brown-Aliffi, 2022). Most dance teachers specialize in one type of dance, rather than using dance types appropriate for the ages and abilities of their students (Gradwohl, 2018). For example, dance teachers may teach students forms of dance that they know and are proficient in (Stinson, 2012). Generally, dance courses are based on traditional European concert dance
forms (e.g., classical ballet and contemporary dance) (Williams, 2005). Thus, dance teachers may only teach the content they prefer which may lead to potentially troubling heterogeneity.

Dance professionals are often trained in performance and not teaching. At present, most colleges and universities do not offer relevant courses taught by trained dance experts who have a deep understanding of youth dance education (Gilbert, 2005). Because there often are no relevant dance education theory courses in the undergraduate curriculum of dance majors, all classes are organized around dance performances (Risner, 2010). Similarly, most MFA programs in dance focus on choreography and dance performance (Anderson & Risner, 2014). Taken together, many dance teachers lack background knowledge of educational theory related to dance education and thereby adopt imitation teaching methods (Rabkin & Hedberg, 2011). However, movement imitation is regarded as a superficial method, as it often ignores the student’s initiative (Anderson & Risner, 2014).

Moreover, there is no uniform quantifiable assessment and evaluation standard for dance students and teachers. The dance framework for the National Assessment of Educational Progress (NAEP) Arts Education was only established in 1996, so it will take more time for assessment to spread in K-12 schools (Ross, 1994). Some dance teachers think standards are not important since dance is a subjective course and claim that detailed evaluation criteria damage students’ self-esteem (Stinson, 2010). Indeed, only 87.9% of charter school teachers in New York use instructional assessments in dance classes (Brown-Alifì, 2022).

The challenges to dance education come from many sources. In addition to no unified dance teaching materials, the existing problems of disunity in dance education include other three aspects: fewer schools have a dance teacher, some dance teachers are part-time teachers,
and dance teachers lack teaching certifications. We can discuss these aspects to help dance teachers improve the teaching quality of dance classes.

**Fewer Schools Have a Dance Teacher**

Of all art subjects, dance courses are the least popular (Silk et al., 2015). So, only 12% of all teaching artists serve K-12 schools (Risner et al., 2021). As a result, many schools do not have dance teachers. In the New York City charter schools’ survey, 24.4% of schools sampled reported having no dance courses (Brown-Aliffi, 2022). Dance is still considered to be a part of an elective curriculum in schools (Gilbert, 2005). Although 94% of elementary schools had music and 87% had visual arts classes, one report showed that 90% of public elementary schools do not have a dance teacher (Elpus, 2022). Moreover, only 14% of high schools offer dance classes (Rabkin & Hedberg, 2011). According to the National Center for Education Statistics (2010), only 3% to 4% of elementary schools offer dance classes, yet only half of these schools hire dance professionals to teach students. There is also a shortage of dance professional teachers due to the low prevalence of dance courses in schools. However, there are also problems present in schools that have dance teachers (e.g., many teachers are part-time).

**Part-Time Dance Teachers**

Most undergraduate or graduate dance majors prefer to pursue joining a troupe or company as a dancer rather than pursuing a career as a dance educator, likely due in large part to the lower salary associated with being a dance teacher compared to a dance group member (Gilbert, 2005). As dance drama performances are mostly at night and on weekends, many professional dancers in dance companies teach dance in schools on the side. For example, in a survey of teaching artists in dance, most teaching artists are part-time dance teachers (Anderson & Risner, 2012). In NYC, 45.5% of charter schools employ part-time dance teachers (Brown-
Moreover, these artists have temporary contracts with public schools and consequently receive no benefits other than a part-time salary (Brown-Aliffi, 2022). Therefore, part-time teachers account for a large proportion of dance education in American schools. Due to the large mobility of part-time dance teachers, it is difficult to maintain teaching quality (Caprio et al., 2003).

**Dance Teachers’ Lack of Teaching Certifications**

To obtain a teacher qualification certificate, one needs to pass a series of courses, engage in training, and pass an examination (Boyd et al., 2007). In addition to the practice of professional courses, dance teachers also have to learn pedagogical principles (e.g., how to write a syllabus), psychology concepts (e.g., Piaget's theory of cognitive development), and other theoretical knowledge (e.g., how to improve students' motivation). Many dance teachers are professional artists, so only 14% of them apply for certificates or training programs related to dance education (Anderson & Risner, 2012). Furthermore, as most dance teachers work part-time, 67.8% of teachers do not have a certification in dance (Brown-Aliffi, 2022). Even among full-time dance teachers in New York, 41.5% of teachers do not have a dance teaching certification (Anderson & Risner, 2012). Because some dance teachers do not know relevant pedagogical theories, they lack creative dance training and appropriate teaching methods in line with child development (Gilbert, 2005). Although some dance teachers are not certified, they work with other teachers in collaboration (Risner et al., 2021).

In sum, the relatively short history of dance education, compared to other subjects, results in several major problems in dance education in America. At present, dance course content is diverse and not unified in K-12 schools. Many schools do not have dance teachers, and even if they are present, many of them are part-time teachers. Also, many K-12 dance teachers do not
have teaching certifications. These challenges provide opportunities for intervention to improve dance education in the United States.

**Current Solutions to Dance Education Problems**

**Improving Dance Curriculum**

Dance is both an art and an educational tool for learning (Kerr-Berry, 2004). Dance as a learning tool can be integrated into the academic curriculum. This teaching method is conducive to establishing a common vocabulary between teachers and experts of different disciplines (Giguere, 2011). Among K-12 students, learning theories related to different disciplines through dance are conducive to students' broader learning interests in cognition, emotion, language, and teaching (Hanna, 2008). Students are often attracted to dance classes when other subjects are integrated with dance (Hanna, 2008). Since dance courses are conducive to promoting students' creativity, they are also conducive to promoting students' learning of other disciplines (Hanna, 2008).

**Combining Dance with Other Disciplines**

Dance can improve students' learning motivation and interest, as well as their understanding of scientific concepts (Valls et al., 2019). Dance is a subject of nonverbal communication that is learned through the full participation of the body in the classroom (Hanna, 2008). A dance class is not just a single movement of the body, but also involves other aspects of learning, creativity, and intelligence. However, students' senses, movements, emotions, and other functions are based on the body (Hannaford, 1995). For example, in one public school in the United States, students used their bodies to dance demonstrations to illustrate the complex concept that the Earth revolves around the Sun (Becker, 2013).
Secondly, dance has unique artistic value. Due to the depth and richness of dance, it can improve students' learning in all integrated curricula (Kerr-Berry, 2004). Research shows that dance can enhance learning when it is integrated into the teaching of other subjects (e.g., mathematics, and English; Steele et al., 2016).

**Math.** Studies show that dance can develop students' interest in mathematics (An, et al., 2017). For example, dance moves may be incorporated into math and geometry lessons (Moore et al., 2012). Moreover, the dance teacher could ask students to position themselves graphically, showing the positioning of x and y (Griss, 1998). Dance teachers can also allow students to create geometric figures with their bodies in the dance classroom (Griss, 1998). In another example, participants assigned to an intervention group created dances within a mathematical context by accomplishing the following goals: (1) arrange dance movements based on complex algebraic patterns and geometric transformations; and (2) record and represent dance movements by using mathematical notation to pinpoint position, shape, and other measurement-related information (e.g., velocity, timing, and dynamics). When participants finished the activity, participants in the intervention group demonstrated more of a sense of accomplishment than those in the control group (An, et al., 2017).

By intervening in the content of dance courses, students learn mathematical concepts (Campsey, 2019). For example, participants created dance compositions in mathematical terms, such as clock hands (Campsey, 2019). In this way, students use their body movements to represent mathematical terms (e.g., use two hands to represent the hour and minute hands, and use one leg and one hand to show the clock). Through this form of learning, students can more clearly grasp the time position of the clock (Campsey, 2019). So, innovative dance has a positive impact on mathematical content.
In sum, combining math with dance classes creates a more engaging and student-centered classroom environment that induces a more positive attitude toward the learning of mathematical abstractions.

**Literacy.** Dance positively impacts children’s literacy (Leonard & Hellenbrand, 2012). For example, an interactive teaching method of dance/reading/writing emphasized that students learn in different ways (e.g., actively participating in activities, games, discussions, and telling stories) and expanded students’ reading and writing abilities (Hanna, 2018). Dance can be used as a communication tool for students, which is conducive to learning outcomes (Leonard & Hellenbrand, 2012). Dance serves as a channel for learning and communication among students, thereby improving children’s vocabularies of rhythm and space (Hanna, 2018). As the rhythm of the music changes, the dance movements of students running, jumping, and twisting in the space are also changing (Cone & Cone, 2012). For example, a primary school choir memorized words by combining dance movements (e.g., reciting a poem about the bird while carrying out literal movements, such as using the arms as wings), thereby demonstrating that students may communicate through language and dance movements to develop a new understanding of poetic knowledge (Leonard et al., 2016). Moreover, dance can improve students' creative thinking abilities. Since literacy includes reading and comprehension, as well as the ability to reorganize information, dance may be used as a medium to reproduce characters, which is conducive to improving students' creative thinking (Hanna, 2008). For example, when students read, some students symbolize the concept of words to life through interaction with their peers and express them in the form of dance (Hanna, 2008).

Dance also helps students improve their writing skills. Dance and writing have much in common (Hoch, 2017). For example, dance is poetry, including dance performances and
movement phrases. As a physical form, dance performance can provide a set of thinking forms and knowledge expression (Cancienne & Snowbar, 2003). In dance movements, the relationship between the body and other spaces can be interpreted as writing in aesthetics (Leonard et al., 2016). For example, students could write down a certain work of dance work using their senses and memory, and then discuss it. Through this process, students improve their observation, analysis, and language skills, which in turn improve their writing abilities (Kassing & Jay, 2020).

Secondly, teachers can evaluate students' writing learning levels more accurately and richly by evaluating students’ writing. Through dance classes, dance teachers allow students to learn by reading and writing. For example, students can take complex dance lessons, exercise theme writing, and improve memory (Hanna, 2008).

Dance can also help improve students' verbal skills. Flamenco dance, for example, can help build the confidence of students learning English as their second language since students are learning different rhythms, speeds, and phrases in flamenco dance (Hanna, 2008). These dance components are similar to students learning intonation, transitions, gestures, and facial expressions of spoken language (Hanna, 2008).

In sum, dance can deepen students' understanding of mathematics, enhance literacy skills, and improve English vocabulary, comprehension, and writing abilities. Dance can be used as a flexible vehicle for acquiring knowledge, and the combination of dance and other disciplines is a developing trend in K-12 education, at present.

Innovative Curriculum Design in Dance Courses

Dance courses provide an opportunity for students to explore their abilities and bodies (Jones, 2009). When engaging in curriculum design, dance teachers should not only consider professional knowledge of dance (e.g., dance techniques and choreography principles) but also
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weigh developmental theories, teaching strategies, and classroom management strategies (Gilbert, 2005). Therefore, dance teachers may focus on aspects of syllabus design and learning strategies to improve dance courses. Below, I highlight areas of improvement within these two domains.

**Curriculum Content.** Dance courses require teachers to cater to a full range of students through the inclusion of content appropriate for as many students as possible (Meiners, 2001). Dance teachers should design their curriculum content based on state standards for the age of the students they teach. Although there are challenges in the uniformity of dance education content, dance education mainly includes the following parts (https://www.cde.state.co.us/coarts/2020cas-da-introduction): (1) movement skills and performance, (2) creation and choreography, (3) cultural context, and (4) connection with other disciplines.

In learning dance, dance teachers should ensure to incorporate content relevant to the full range of students. Dance teachers can formulate curriculum content for different age groups based on dance movement elements (e.g., movement, dynamics, time, space, relationship, and structure; Meiners, 2001). When students are engaged in the process of learning to dance, teaching dance steps is of focal importance (Anderson & Risner, 2014). Dance teachers should attach importance to the teaching of dance steps by designing teaching content according to movement elements, thereby improving students’ motivation when they repeat the steps (Anderson & Risner, 2014).

When teaching dance choreography, teachers should improve students’ interest in dance, as students lacking interest will struggle to work hard, lose focus, and may avoid trying to understand dance (Stinson, 2010). Prior research reveals that students’ personal experiences in
editing and creating dance are instrumental in inspiring a real interest in dance practice and performance (Valls et al., 2019). For example, teachers can add situational stories and appropriate props in the classroom (e.g., newspaper props) to promote students' creativity and improve their imagination and interest in dance (Ross, 2019). Choreography is an instructional design process that emphasizes student participation (Valls et al., 2019). Thus, dance teachers need to understand the different abilities, needs, and aspirations of their students when planning different choreography teaching courses. Dance works are designed through thinking, practice, and learning through choreography (Leonard et al., 2014). Therefore, teachers need to use different dance techniques and novel choreography techniques to promote the development of choreography and creation (Jacobs, 1989).

Taken together, dance teachers need to guide students and help them establish their unique understanding, appreciation, and evaluation of dance (Giguere, 2015). As children develop, dance teachers need to design curriculum content to increase depth and scope (Dixon & Chalmers, 1990).

Learning Strategies. Encouraging dance teachers to adopt efficient teaching strategies is integral (Parrish, 2016), as the application of teaching strategies has an important impact on dance education (Gradwohl, 2018). Therefore, dance teachers should consider the important role of teaching strategies in the classroom when designing a curriculum.

Dance teaching strategies may be divided into metacognitive and task-based strategies. Metacognitive teaching strategies refer to reflective thinking (Kassing & Jay, 2020). For example, when students start to think about how they learn to dance using metacognition, they can start to pay attention to how they learn to dance, how others learn to dance, and how they should adjust the way they learn to dance more effectively. Task-based learning strategies are
how students use their resources to learn most effectively (Kassing & Jay, 2020). For example, students use the dance techniques and choreography methods they have learned to create dance work to complete homework. Students will focus on their resources, such as how to use their imagination, organizational skills, and resources. When they are engaging in task-based learning strategies, teachers should consider the following four domains: (1) organization and planning (e.g., What should students prepare before class?); (2) management (e.g., What do students need to do to complete the assigned tasks?); (3) monitoring (How do students self-monitor and conscientiously complete the task?); and (4) assessment (What do students need to do after completing the task?; Gradwohl, 2018).

In short, when the teacher designs the curriculum, the course content should be consistent with the ability of the student's age group. Effective learning strategies play an important role in the curriculum. In curriculum design, the teaching content must be consistent with the national and state dance standards (Parrish, 2016). Dance teachers should pay attention to the diversity of students’ dance abilities, and the practicability of learning strategies, and then design a complete curriculum.

**Using Multimedia Technology Teaching Methods in Dance Education**

In the past decades, science and technology have developed at an amazing speed. The use of technology and the Internet has become a key part of our evolving culture (Gradwohl, 2018). While emerging approaches to new teaching strategies are becoming more prevalent in the classroom, dance education is one of the art disciplines slowest to implement new technological strategies in teaching (Calvert et al., 2005).

Dance technology has developed from printed text, recorded music, and dance videos to multidisciplinary project cooperation to establish global connections (Gingrasso, 2019). The
technologies used in dance classes in recent years mainly include the use of tablet devices, video collaboration, online courses, interactive classroom games, and online education platforms (Gradwohl, 2018). The development of video-sharing websites (e.g., YouTube) has meant the number of people interested in dance education has increased exponentially (Parrish, 2016). During the COVID-19 pandemic, dance as an offline art was negatively impacted by isolation and social distancing, which required dance teachers to increase their use of the Internet and digital media to strengthen the relationship between dance teachers and students (Schmid & McGreevy-Nichol, 2021).

**Add Digital Tools to Dance Teaching Methods**

Multimedia technologies include audio devices, video devices, tablets, the use of the Internet and video, and other electronic technology devices (Gradwohl, 2018). In general, multimedia technology can diversify dance courses and make them more attractive (Gradwohl, 2018). Multimedia technology content is more attractive than watching the teacher's demonstration movements in class. Multimedia technology can also enhance students' active participation in learning: Appropriate use of technology in dance teaching helps to form a student-centered discovery curriculum and improve students' physical (e.g., improve physical coordination through the training of dance movements), cognitive (improve memory by practicing dance movements), and social activities (e.g., improve communication and cooperation through the practice of group dance forms; Gruno & Gibbons, 2013).

At present, there are various multimedia technologies. However, all students in the classroom cannot benefit from new technology and strategies unless dance teachers correctly use technology, evaluate technology, and conduct appropriate training (Gruno & Gibbons, 2013). Therefore, dance educators need to have a deeper understanding of how to use these new
technological tools in educational settings and specific strategies on how to implement them in practice (Gradwohl, 2018). In a survey of technology utilization among dance teachers, 100% of dance teachers use audio devices, the Internet (94.4%), video recording with a camera or iPad (92.6%), YouTube or Vimeo (90%), and smartphones (81.5%; Gradwohl, 2018). Given that teachers use video very frequently in dance class, how do teachers use video and iPads to teach effectively?

**Online Video.** Online videos provide easy access to a wide variety of movement styles and creativity, permitting students to understand dance more widely, easily, and quickly (Gradwohl, 2018). When teaching dance history content in dance classes, it is helpful to have dance videos for history lectures (Gilbert, 2005). Many dance teachers will let students choose to watch dance videos through rich online dance video resources (e.g., YouTube, Netflix, and Apple TV) (Gradwohl, 2018). Students bring abstract history to life by watching the works of famous dancers and choreographers. In addition, videos on YouTube help students discover dances from distant places and archived works of popular dance TV shows (Gingrasso, 2019). Therefore, the Internet is a rich dance resource, which is conducive to dance teachers finding rich dance videos and making the content of dance classes more diverse.

YouTube and Vimeo provide a way for dance teachers and students to access, store, catalog, share, and distribute information (Parrish, 2016). First, teachers post choreography or ensembles recorded in class on SchoolTube (i.e., a safe video sharing management website for K-12 applications). Dance teachers can then share progress reports, video evaluations, rehearsal footage, and performance videos there (Parrish, 2016). Finally, teachers view and comment on each student's progress on the Internet. This format facilitates student revision outside of class and provides avenues for students who are absent from class to learn the missing material:
During the COVID-19 pandemic, many dance teachers taught dance using a combination of choreographed and edited dance images and videos through online intermediary resources (Schmid & McGreevy-Nichol, 2021).

Global media platforms, such as YouTube, are more like digital video supermarkets, as dance teachers and students can get unlimited access to dance resources. This wealth of resources can inspire and enhance students' love of dance (Parrish, 2016). However, due to the sheer number of dance videos on the Internet, the instructional quality of the videos varies.

**iPad.** Dance is an abstract art form. Dance teachers use emerging technologies to enhance the teaching of dance concepts related to form and text (Gradwohl, 2018). Mobile devices are a tool for course content recording, as well as file storage and transfer (Etherington, 2013). By 2013, Apple had sold more than 4.5 million iPads to American educational institutions (Etherington, 2013). The iPad has become one of the most used mobile devices for dance teachers (Etherington, 2013).

Dance teachers play music in class as one of the basic elements of the curriculum. Music plays a central role in expressing the meaning, rhythmic composition, and aesthetic integrity of dance. Music also helps students deepen their mastery of dance as a form of body language and rhythm (Mabingo, 2015). Dance is inseparable from music, so the iPad has become one of the necessary devices to play music in dance classrooms. Dance teachers often use playlists to play music for warm-up and training combinations to make more effective use of class time (Tomczak, 2011). For example, dance teachers can set chapters and markers on the device in advance, control the playback speed, and use the touchscreen to move advance to any position of the audio. These functions help dance teachers focus students' attention and reduce students' time to complete tasks (Gradwohl, 2018).
Many dance teachers use cameras, iPads, and smartphones to record videos of students dancing in class as a record of getting technical feedback and choreography (Gradwohl, 2018). Using video as a visualization method, students can engage in self-evaluation and dance teachers can deliver accurate feedback (Trajkova & Cafaro, 2021). Using video in their in-class choreography projects, students’ self-evaluation and peer evaluation abilities improve, thereby helping students to watch videos anytime and anywhere (Gradwohl, 2018). When students see themselves dancing on video, self-reflection, and self-correction happen naturally (Gradwohl, 2018). A similar response to video technology and choreography points out that video technology is conducive to students' self-correction abilities (Gradwohl, 2018). When students see their incorrect movements on video, they correct themselves when they do the same movements again. Electronic devices are also good for group learning. Students often get together outside of class and practice together through the practice resources on the iPad, thereby making practice more productive (Tomczak, 2011).

There are also some disadvantages to incorporating technology in dance courses. For example, studies have shown the potential impact of excessive screen time on young students (Walton, 2018). So, dance teachers and parents need to limit the amount of time their children spend on iPads. In addition, dance instructors need time to prepare video clips, be familiar with how to operate the devices, and apply electronic devices to dance education contexts (Gradwohl, 2018).

The application of multimedia technology in dance teaching still has more space for exploration (Hobbs & Moore, 2013). By providing different learning methods in the classroom, dance teachers will reach more students and thus be successful (Hobbs & Moore, 2013). The application of digital technology in dance education and research is still limited (Hobbs &
Moore, 2013). For example, dance teachers worry that media technology can distract students from deeper discussions of videos and content, and there is evidence supporting this concern: Excessive use of equipment in dance class can cause students to become distracted and interrupt the creative process (Gradwohl, 2018). Therefore, dance teachers’ use of multimedia technology can help ensure standardization, enriches the content of dance classes, and improves the teaching quality of dance classes.

**Improve the Teaching Environment**

The 21st century is an era of innovation. A good teaching environment is also conducive to educational innovation (Parrish, 2007). Teachers can influence students' cognition and experience of the teaching environment and subject (Haegele & Sutherland, 2015; Kiley, 2010). Teachers are central to building inclusive learning environments. Dance teachers play a key role in creating an inclusive dance education environment (Jean-Baptiste, 2016). A positive and prosperous learning environment is influenced by such factors as discipline, management, control, influence, and participation (Campsey, 2019). Cultivating a positive classroom culture is crucial to creating a successful learning environment (Campsey, 2019). Factors such as dance teachers’ inclusivity, classroom environment, and student feedback from students are all important contributors to the teaching environment.

**Inclusivity.** Students' dance levels and abilities vary. Dance teachers need to create an inclusive and enthusiastic teaching environment that benefits each student (Jean-Baptiste, 2016). The ideal teaching environment promotes students' acceptance of teaching content and helps students find a sense of belonging (Anderman, 2003). In dance education, dance teachers need to establish an inclusive learning environment: one that values diversity. Students of all abilities should participate and experience success together so that students can discover their unique
styles and abilities in dance (Kaufmann, 2006). For example, in a dance classroom, a student may feel stressed about "not getting it" or receiving negative feedback from teachers and students (Hanna, 2008). In an inclusive learning environment, dance teachers need to meet the different learning needs of different types of students to facilitate the learning of all students (Jean-Baptiste, 2016). For example, if a student is born with a poor soft opening of their muscles, the teacher can lower their flexibility requirements.

The classroom environment also needs to be multicultural and technologically supportive. If technical resources are added to the dance classroom, this can dynamically affect the learning environment of dance (Gradwohl, 2018). A diverse and rich educational environment is conducive to the presentation of diverse dance classroom content (Gradwohl, 2018). When the teacher is considering diverse dance content, it is important to choose appropriate teaching content to support the different learners in the class (Kassing & Jay, 2020). For example, students from different countries around the world have diverse cultural backgrounds. In sum, inclusive and diverse teaching environments foster students’ learning of dance.

**Relationship Between Students and Teachers.** A good teaching environment needs to be established by both teachers and students. The establishment of a good teacher-student relationship is crucial, and it is the core of good dance education (Lampert, 2012). The relationship between teacher and student is the axis of any dance education program. Teachers wish to help students learn to dance, and students want to be able to find trustworthy teachers (Lampert, 2012). Therefore, dance teachers need to establish a close relationship with their students. The close relationship between teachers and students provides students with a safe learning environment (Hernandez & Seem, 2004).
Dance teachers need to encourage and support students to grow their knowledge in the classroom. Students need to know that they can accomplish tasks and achieve what is expected of them. Interactive communication between teachers and students is the key to success (Parrish, 2016). In dance class, body movement takes up most of the class time. Dance teachers use body movement demonstration teaching more frequently than language expression teaching (Kaufmann, 2006). Language expression and body interaction are important communication methods in a dance teaching environment. Through various kinds of interaction between teachers and students in class, students can get to know teachers and classmates while learning dance knowledge. Dance teachers can give targeted guidance while respecting the ideas of different students. This interaction improves student satisfaction, improves teacher-student relationships, and also deepens communication between students (Kaufmann, 2006).

The arts provide many opportunities to improve the learning environment and develop a positive classroom culture (Shumway, 2012). Dance teachers have the responsibility and obligation to create a good learning environment for students to acquire knowledge. In dance classes, interactive media use plays a role in students achieving all their dance goals (Tomczak, 2011). Although the learning environment may be restricted by certain factors (e.g., some schools do not have professional dance classrooms), the teaching quality can be improved if teachers make continuous efforts to establish a good teacher-student relationship and enrich the teaching environment. In sum, dance teachers may create effective teaching environments if they foster positive relations between themselves and their students.

**Improving the Diversity of Assessment in Dance Courses**

Compared to other disciplines, dance assessment had a late start: In 2003, dance educators in Washington began using performance assessments with the help of the Office of
Public Education Oversight (Stinson, 2012). However, many dance teachers do not include assessments in their curriculum (Leonard & Hellenbrand, 2012). How do dance teachers know what students are learning in dance class? Moreover, what data do teachers use to inform their judgments of students’ learning? Surveys show that assessment in dance classes contributes to the positive development of students, schools, and communities (Hoch, 2017). However, some dance teachers do not explain their expectations and evaluations to students before the assessment (Englebright & Mahoney, 2012). Therefore, how should dance teachers design and improve curriculum evaluations as part of the learning process to suit the teaching environment and school requirements (Englebright & Mahoney, 2012)? Below, I review work that seeks to address from three lenses: the content assessed, assessment methods, and assessment tools.

Assessment Content

Dance teachers evaluate according to the content taught (i.e., choreography and dance creation). Therefore, the assessment content should include choreography, creativity, performance, and responsiveness (Englebright & Mahoney, 2012).

First, dance teachers should ensure the assessment of specific dance movements. In dance classes, students often try to do standard dance moves during practice. The teacher is required to evaluate the students' dance movements (Ross, 2019). Dance teachers can ask students to practice as few repetitive movements as possible to improve the efficiency of assessment and save class time. Teachers can give students oral guidance on the content of the training. For example, when students are doing small jumps, the teacher may say, "legs straight in the air, knees straight, feet stretched." Through these detailed oral instructions, students can see their rapid progress.
Secondly, teachers should adopt different evaluation criteria for different dances (Harding, 2012). For example, when evaluating the criteria of a ballet technique, one should judge the precise position of the movements, the lightness of the body, the elasticity of the muscles, the clean lines of the foot movements, and the smoothness of the arm movements (Harding, 2012). When evaluating the standards of contemporary dance techniques, attention should be paid to the sense of the power of the movement, the control of the body, the internal breathing and rhythm of the body, and the overall state of relaxation (Trajkova & Cafaro, 2021).

Thirdly, K-12 assessment choreography content should be designed according to the age and ability level of students (Englebright & Mahoney, 2012; Stiggins, 1998). For example, fifth graders may create a small dance sequence based on the weather, whereas 10th-grade students rechoreograph dance movement sequences based on the dances they have performed before (Englebright & Mahoney, 2012). Importantly, some students have no dance training at all, whereas other students have studied ballet for many years. Therefore, dance teachers need to consider each student in the process of setting goals and assessment standards (Harding, 2012).

**Government Policies**

Given that dance assessment is relatively subjective, more objective scoring methods are needed to aid assessment (Tomczak, 2011). First, teachers need to develop evaluation criteria based on individual state dance standards in the policy. For example, in Minnesota, teachers and students discuss and research dance standards, and teachers then design policies for evaluation standards that apply to different dance styles based on the curriculum standards (Harding, 2012). The main evaluation criteria of one course could include the accuracy of technical skills, the accuracy of dance style, the flexibility of movements, the accuracy of movement lines, and expressiveness (Harding, 2012).
Second, teachers should strive to make equal and fair evaluations of all students. Teachers need to develop grading rules and explain each specific point to students. Through this situation, students can learn about the standards and improve their dance productions according to the standards (Englebright & Mahoney, 2012). Therefore, assessment objectives, standards, and policies should apply to all schools and students. Ideally, the assessment criteria should apply to all students, regardless of students’ cultural backgrounds or the movement style of the dance production (Englebright & Mahoney, 2012).

**Assessment Methods**

With the rapid development of science and technology in the information age, curriculum assessment tools and methods are varied. In general, assessment methods mainly include self-assessment, peer assessment, formative assessment, and summative assessment. Self-assessment refers to students’ evaluating their learning (Brown & Harris, 2013). Peer assessment refers to students' judgments of peers' performances by providing scores, and written, and/or oral feedback to one another (Harding, 2012). Formative assessment refers to the process of clarifying the learning and performance goals of a course or unit, providing ongoing feedback on students' progress towards these goals, and revising teaching and student work based on this feedback (Andrade et al., 2015). Summative assessment refers to high-stakes assessments through which dance teachers may determine scores and grades or rank the students according to their overall abilities (Andrade et al., 2015). A detailed explanation of these four types of assessment methods is offered below.

Dance teachers must choose appropriate assessment methods according to the different dance content they teach. Self-assessment is conducive to improving students' positive observation and abilities to understand (Giguere, 2012). For example, according to the
movement essentials taught by the teacher, students may observe their movements in the mirror to see if their movements are correct. Students may also conduct detailed self-assessments based on learning objectives. For example, students may first watch a video recording of their dances and then personally identify movements that are not meeting a given objective (Parrish, 2016). Through effective self-assessment, students examine what they have learned and where they need to improve. Finally, through self-assessment, students can become conscious dancers since they have integrated and embodied corrections instead of using repetition to improve their performance (Harding, 2012).

Peer assessment is good for saving class time and improving classroom efficiency. For example, through communication with peers, students gain others’ views and reflections on their learning process, which is conducive to improving their dance learning (Harding, 2012). Therefore, peer assessment provides students with a brief time to resolve individual issues through discussions with peers, which may save time compared to teachers explaining student misunderstandings on an individual basis (Harding, 2012).

Formative assessments are student-centered and important for dance creation and performance (Andrade et al., 2015). For example, students may create and choreograph dances beginning with a few single dance movements, then moving to a piece of dance clips, and finishing by undertaking a complete dance composition. In this three-stage process, students can not only practice and improve what they have learned in class, but they may also deepen their understanding of dance performance skills, choreography skills, and cooperation (Andrade et al., 2015). At the same time, the teacher may evaluate student performance at various stages. Furthermore, teachers can set tasks and goals for the students’ creation and choreography. For example, the Artful Learning Communities (ALC) project incorporated a culture of criticism into
dance classes with teachers setting tasks and goals for students, which ultimately increased the students’ involvement in dance performance, choreography, and interests in learning dance (Andrade et al., 2015).

Summative assessments provide a finalized evaluation of student learning (Andrade et al., 2015). Dance teachers teach the content according to curriculum standards, such as the training of a certain dance technique (Andrade et al., 2015). It is the most traditional approach to assess learning for reporting and certification purposes with scores and grades. It aims to estimate individual achievement and progress. The summative assessment through scores and grades can lead to positive pressures to improve students’ dance performances. Since summative assessments are based on the dance curriculum criteria, they offer a way of examining student learning outcomes (Andrade et al., 2015). For example, teachers can conduct mid-term exams, final exams, or regular dance performances according to curriculum standards and criteria to test students’ learning outcomes.

In sum, each of the four assessment methods has its advantages: (1) self-assessment is straightforward, (2) peer assessment can save class time, (3) formative assessment focuses on each stage of the process, and (4) summative assessment focuses on the learning outcomes. Therefore, dance teachers should strive to choose appropriate assessment methods in K-12 dance education.

Assessment Tools

In dance classrooms, traditional paper-and-pencil assessment methods are almost impossible to use when evaluating the complexity, technicality, and creativity of dance (Parrish, 2016). Therefore, dance teachers need to adopt a combination of assessment tools. Assessment tools that are often used by teachers include scales, group assessments, smartphones, social
media applications, and some specialized software (Hoch, 2017; Parrish, 2016). According to the constructive characteristics of these assessment tools, the dance teacher decides how well they are implemented in the student's learning process.

Assessment tools are advancing with the development of technology. Smartphones and social media apps are two assessment tools that teachers often employ. Their method of use is relatively simple and convenient. Apps like iMovie, Acclaim, Storify, and others help students save time, enhance memory, and make assessments more fun (Parrish, 2016). Along with the continuous innovation of applications, smartphones, and social media apps also help to improve students’ creativity (Parrish, 2016). For example, a dance teacher may videotape students outside the classroom one by one on a smartphone according to a set schedule. Another teacher can supervise the entire group in the classroom for peer assessments while individual assessments are occurring. After the individual videos are finished, evaluations could be completed based on the video (Englebright & Mahoney, 2012). Another notable example revolves around the application Acclaim, which supports dance movement analysis. Teachers first upload a recorded video to the app, which analyzes the clip according to a learning objective. Finally, students watch the video of the dance evaluation with each other and provide positive feedback on the results (Parrish, 2016).

In sum, electronic devices have now become the main assessment tools in dance education, but traditional assessment tools (e.g., scales) are still suitable for dance assessment in today's era. Dance teachers should choose the most appropriate assessment tool according to the content they wish to assess and the method by which they wish to assess.
Suggestions for Assessment Development

Dance teachers should be cautious in developing assessments, as a dance teacher’s personal experience reflects only one possible source of knowledge (Leonard & Hellenbrand, 2012). When developing assessments teachers should keep several guiding points in mind. First, dance teachers should try their best to consider professional vocabulary (e.g., Arabesque in ballet), teaching strategy (e.g., task-based strategies), teaching environment (e.g., good teacher-student relationship), and teaching content (e.g., the type of curriculum ballet, jazz, folk; Trajkova & Cafaro, 2021). Dance teachers should also consider a variety of student characteristics (e.g., learning ability, cultural background, adaptability; Parrish, 2016), and must keep in mind that assessment imperfections may very well occur. Alternative evaluation programs may be designed to help students and teachers improve the quality of assessments, thereby avoiding students’ aversion to dancing due to low-quality evaluation (Andrade et al., 2015). When teachers are assessing their students, they should lead by example by using clear language and good communication to impart positive experiences to students (Hoch, 2017). Finally, teachers should be fair, just, and open about the assessment results to make every score reasonable and verifiable (Stiggins, 1998).

Assessment can improve teachers’ efficiency, can promote students’ learning abilities, can improve students’ academic performance, and bring students a sense of achievement (Andrade et al., 2015; Black & Wiliam 1998; Brown & Harris 2013; Stinson, 2010). Dance assessments in K-12 contexts provide a powerful means for students to express emotions, apply knowledge, and create thoughts, but dance teachers need to adopt appropriate evaluation methods and strategies (Leonard & Hellenbrand, 2012).
In sum, prior research shows some existing problems in American dance education may be addressed through multimedia teaching methods, rigorous curriculum, and efficient assessment. Digital tools (online video and iPad) can enrich teaching methods. A supportive teacher-student relationship creates a harmonious teaching environment. The integration of different disciplines in the curriculum can complement each discipline’s strengths. Both learning strategies and syllabus design have an important influence on the curriculum. Moreover, dance teachers can use assessments calibrated to student characteristics to improve teaching efficiency.

**A Proposed Model**

The literature review above collectively explores three main factors influencing dance education: curriculum, teaching methods, and assessment. To my knowledge, no previous studies have proposed a model that incorporates all three factors, yet they are indispensable in dance education and influence one another. The model that I am proposing, presented in Figure 1, aims to improve dance education by incorporating the three factors. Below, I will discuss the relationships between each pair of factors and propose some approaches to test the model through future work.

**Figure 1**

*Model: The Relationship Between Curriculum, Teaching Methods, and Assessment*

*Note.* DE is an abbreviation for dance education.
Curriculum and Assessment

Curriculum can affect the implementation of assessment. The content is a part of the curriculum of a class and often determines what is assessed in a class. Content that is too narrow may result in students’ inability to master broader dance knowledge and skills, resulting in poor performance overall. Take the Dai dance (a Chinese folk dance) as an example (see https://www.sohu.com/a/214522683_659180). The key principle in the movement is “three bends,” with each bend contributing to an overall “S” type. The “three bends” can be found and shown in three areas of the body: (1) from the elevated ball of the foot to the bent knee to the pelvis to the tilted upper body, which can be called body area; (2) from the fingertip to the wrist to the elbow to the arm, which can be called the arm area; and (3) from the raised sole to heel to the bent knee to the pelvis, which can be called the leg area. A non-professional dance teacher may only know the “three bends” in one area (e.g., the body area). When a non-professional dance teacher teaches students using incomplete or overly narrow content (e.g., only the body area to show “three bends”), the students will no doubt only show “three bends” in the body area when they do self-assessment or peer assessment. In turn, this could affect assessment and/or assessment results. If the same non-professional teacher creates the assessments for the class, students will be assessed on incomplete content. If assessments are provided by a professional or as some part of a larger system, students may perform poorly on assessed skills that were not included in class content. The class curriculum is linked to both class assessment(s) and assessment results.

Careful data analysis of assessment results informs teachers’ modifications and improvements to the curriculum. Continuing with Dai dance as an example, imagine after assessment the teacher found that the weight of most students' movements was placed between
their feet, rather than on the front leg for a specific movement or position. The teacher may choose to add training of a single step in the curriculum. The key point of the step position movement should be the heel of the back foot off the ground. The teacher could also add a practice half-squat movement to the curriculum. Adding these two exercises to the curriculum could improve student learning and performance of this movement. Therefore, assessment can also affect the curriculum. In short, curriculum and assessment influence each other.

**Curriculum and Teaching Methods**

Changes in the dance curriculum, such as the content of the dance class, will impact teaching methods. Dance teachers need to adopt different teaching methods according to the curriculum content. For example, at the beginning of each semester, the accuracy of dance movements is a critical part of the content in ballet classes. Teachers may choose to spend more time using one-on-one teaching methods to help individual students correct different errors in accuracy or position, as each student makes different mistakes. In contrast, after students have mastered the essentials of a single dance movement, the next goal is to teach them the fluidity of movements in the dance. Dance teachers can adopt different teaching methods, such as students watching their own or others’ dance videos. By watching videos, students can more intuitively see the shortcomings in their dance movements and make corrections.

As teachers change the teaching methods they use, this may in turn result in changes in the class curriculum. This usually happens with the development of technology. For example, web-based learning environments have been widely adopted by many teachers, especially during the COVID-19 pandemic, which relied on advancements in video technology. With the popularity of this teaching method, the corresponding course content will inevitably evolve to incorporate self-evaluation using video recordings. Continuing with the Dai dance example,
watching videos has been added to the curriculum since it is able to not only help students learn the "three bends" but also understand the cultural background and ethnic characteristics of Dai dance (Kassing & Jay, 2020). In sum, curriculum and teaching methods can influence each other. 

Assessment and Teaching Methods

Assessments may inform teaching methods. Student performance on learning assessments, when those assessments are created well, can inform teachers of student strengths and weaknesses in understanding and skill. This can in turn open conversation about where students need more practice or guidance and whether existing teaching methods are working well for students. For example, different assessment methods (self-assessment, peer assessment, formative assessment, and summative assessment) can be used to detect the degree of students' mastery of the curriculum in dance content. Based on the assessment methods and results, teachers may need to adjust their teaching methods to focus on demonstrating movements, incorporating group practices, watching videos for background knowledge, or combining multiple teaching methods.

The impact of teaching methods on assessment often comes from technological developments. A survey of dance educators, consisting of quantitative and qualitative questions, showed that teachers supported the use of technology (e.g., web-based learning environments) since it could benefit teaching strategies, creativity, critical thinking, visual feedback, and connecting students more closely to dance history (Gradwohl, 2018). During the COVID-19 pandemic, in-person dance teaching was seriously impacted by isolation and social distancing, which required dance teachers to use web-based environments and digital media to continue teaching dance (Schmid & McGreevy-Nichol, 2021). In this case, traditional formative assessment and peer assessment methods were limited by web-based teaching technology.
Therefore, the teaching methods used in a course may influence the choices teachers make about assessment processes and tools. In short, assessments and teaching methods can influence each other.

**Testing the Proposed Model**

In the future, researchers can formulate investigations to test the feasibility of the model by intervening in and observing model component(s). For example, researchers could use an experimental or quasi-experimental approach to explore the effect of the content of a dance class, part of the curriculum, on the effectiveness of various teaching methods and assessment practices. Specifically, a sample of dance teachers could be randomly assigned to teach a specific set of rotational movements (content) using either traditional teaching methods (e.g., live demonstration with one-on-one feedback; control group) or traditional methods plus online videos of professional dancers performing the same movements (intervention group).

Researchers could collect and explore a variety of data to determine how effective these different teaching methods are for the same content, and how they can influence assessment practices: (1) assessment data on the rotational movements performed; (2) interviews with teachers in each condition regarding which methods are easiest to include in class, which methods work best in class, and how quickly teachers see improvement in class for the best students and for students who typically struggle; (3) focus groups with teachers concerning what kinds of assessments they use and which of those assessment practices work best with the traditional teaching methods compared to the traditional methods plus online videos. In this way, researchers can begin to explore how the content of the class curriculum impacts teaching methods and assessment practices, two of the relationships in the proposed model.
Furthermore, researchers could use observational methods and/or case studies. Instead of randomly assigning teachers to different teaching methods, researchers could observe different teaching methods and assessment practices that dance teachers already use for the same piece of class content, such as rotational movement. Ideally, researchers would limit teachers to those teaching the same age level students. Similar data could be collected in addition to observation and/or case study notes to determine how content impacts teaching method decisions and assessment practices.

In summary, the three factors (curriculum, teaching methods, and assessment) interact in pairs. An intervention to any of the factors would likely influence dance education as a whole.

**Conclusion**

Dance education can provide students with an important avenue for developing nonverbal communication skills and a structured outlet for students’ energy and motion (Koff, 2000). Dance can also help students share what they are learning in creative ways. However, through a review of the literature on the current status of K-12 dance education in the United States, I have found many problems in American dance education in terms of dance course content, dance teacher employment status, and dance teacher qualifications. Many solutions have been proposed to improve the three important factors of dance education (i.e., curriculum, teaching methods, and assessment).

Based on this review, I have proposed a model to show and view the relationships between the three factors of dance education from a holistic perspective. Because the three factors (curriculum, teaching methods, and assessment) interact with each other, an intervention to any of the factors is believed to influence dance education as a whole. I have also provided some suggestions on how to test the model in the future.
## Appendix

### Table 1

*References From Books or Book Chapters*

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Table 2

References From Empirical Articles

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Table 4

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Table 5

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