The History and Research of Dance Imagery: Implications for Teachers

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If we listen carefully to a dance teacher leading a class, we might hear many uses and examples of imagery. The teacher may encourage the dancers to lengthen the spine by imagining a string attached to their heads, gently lifting and elongating. Or she may focus on the roundness of the arms by having them imagine holding a round ball with energy streaking through it. Imagery is one of the tools teachers use to promote goal attainment in dance classes. Depending on the level and style of dance, imagery can be used to enhance technique, choreography, creativity, and expression. Research in motor imagery in general, and dance imagery specifically, provides some insight into how imagery works, and in what contexts, for dance education. This paper begins with a brief history of dance imagery research and practice. Next, it describes characteristics of mental imagery, typical uses of dance imagery, and concludes with examples of past and recent research.

Based on over 20 years of observation and exploration of imagery in various dance and non-dance related contexts, and for the purposes of this discussion, the following definition of dance imagery is proposed: *Dance imagery is the deliberate use of the senses to rehearse or envision a particular outcome mentally, in the absence of, or in combination with, overt physical movement. The images may be constructed of real or metaphorical movements, objects, events, or processes.*

Dance Imagery – The Foundation

The use of dance imagery has a long history, dating back to the early 1900s and the work of Mabel Ellsworth Todd in New York City. Her seminal book, *The Thinking Body: A Study of the Balancing Forces of Dynamic Man,*[1] was the culmination of her work in the area of movement and posture. The book promoted an understanding of the biomechanical forces behind human movement and body alignment, and included images based on body engineering. Barbara Clark and Dr. Lulu Sweigard were two of Todd's students who began teaching dancers in New York in the 1940s. Although not dancers themselves, the applicability of their teaching methods to dance, incorporating imagery

(among other tools), was noted and appreciated, especially by the new generation of modern dancers working in NYC. Dr. Sweigard, a scientist who conducted research studies based on Todd's work and her own evolution of those ideas, joined the dance faculty of The Juilliard School in 1956. Her courses included Anatomy for Dance, and she also established the Posture Laboratory, where students came for evaluation and individual instruction in neuro-muscular reeducation. Sweigard's book, *Human Movement Potential: Its Ideokinetic Facilitation,*[2] is still studied as one of the primary texts on the use of imagery. It also gave the field of imagery an official name, "Ideokinesis," from the Greek "ideo," meaning idea, and "kinesis," meaning movement. The movement images are used to gain subcortical control over spinal musculature. Ideokinesis enhances and improves the execution of dance skills. It works because of the relevance of the images (ideokinetic facilitators) to anatomical structure and function.

Sweigard's presence for many years at Juilliard was instrumental in the widespread dissemination of the use of imagery in the dance world. Many of the students she influenced became educators and leaders themselves in dance education and performance, both in the United States and internationally. Betty Jones and Irene Dowd were especially important in widening exposure to the dance world. Jones, one of the master Limon teachers worldwide, was Sweigard's assistant for twelve years, and early in her career started integrating anatomy and imagery into her own classroom teaching. Irene Dowd, who was Sweigard's assistant during the last six years of her life, evolved her own unique brand of ideokinetic work which enjoys widespread use in the dance world, for example at The National Ballet School of Canada. Dowd continues to teach privately in New York, and like her mentor, Lulu Sweigard, also teaches anatomy at The Juilliard School.

The Ideokinesis exercises were designed to focus on alignment of the dancer. Numerous other dance educators have developed varying systems for using imagery in their work, both in dance and in other environments. For example,

dance educators have used imagery to enhance kinesthetic perception[3] and to encourage creative movement exploration.[4] The Franklin Method, developed by Swiss-born dancer and educator Eric Franklin,[5] is a contemporary example of imagery application. Franklin studied imagery with Andre Bernard at New York University, and incorporates recent scientific research from the field of neuroplasticity into his work. Other examples of the current generation of imagery educators include Australian Ballet educator Janet Karin, and the "Conditioning with Imagery" movement system of York University's Donna Krasnow, in Canada.[6]

Imagery, as used by dancers and dance educators, has applications similar to those in the sports and exercise science disciplines; however, because of the aesthetic and theatrical dimensions of dance, there are applications that are unique to dance.

Mental Practice to Motor Imagery

Mental imagery as an area of research has a long and distinguished history in psychology and, more specifically to dance, the sub-discipline of sports psychology. Sport psychologists have found that mental imagery is effective in learning and performing motor skills.[7] Such research has followed the mental practice paradigm, essentially comparing performance change under three experimental conditions (i.e., physical practice, mental practice, and the combination of mental and physical practice) to a control group. This classic meta-analysis demonstrated that physical practice provides the greatest performance gains, followed by mental practice and then no practice.[7] Recent reviews of mental practice of motor imagery (MI), a term coined to describe the mental practice of physical actions, have continued to demonstrate the positive effects of MI when used in conjunction with physical practice.[8] Therefore, when practice time is limited or injury affects dancers, motor imagery can be an effective rehearsal tool.

Dance Imagery Research

Since the 1980s a small but growing number of scholars have conducted research on various aspects of dance imagery. One basic way researchers have captured the elements of dance imagery for investigation is by modality and perspective. The chief sensory modalities characteristic of mental imagery usually include visual (seeing), kinesthetic (feeling), or auditory (hearing) imagery. Perspective refers to whether the viewer imagines the action as happening externally or internally. An external image involves imaging from the perspective of outside the body, as if observing oneself on video. An internal image involves imaging from the perspective of inside the body, as if observing through one's own eyes.[9]

Dance teachers and researchers recognize several additional forms of MI, including metaphorical imagery, contextual imagery, and character images. Metaphorical imagery involves imaging objects or ideas that have a relationship to a skill or task; for example, while jumping, imagining feeling one's pelvis as a bouncing ball.[5,9] Context

images depict places and people, both real and imaginary, whereas characters and roles depict a character's appearance, behaviors and emotions.[10]

A distinction between the ways imagery is used in dance versus sports is that dance images are given both while moving and still, whereas in sports motor imagery is provided while still. While Ideokinesis employs the use of metaphorical images while the individual is still, lying in a constructive rest position, metaphorical images are often used while moving. An example of a metaphorical image provided while students are moving is one used by Katherine Dunham, who instructed dancers to focus on a "magnetic circle" as they performed various isolations: "Feel the presence of a magnetic circle; move toward the circle." This example was from a class observed at the 2003 Annual Conference of the International Association of Blacks in Dance at Howard University in Washington, D.C.

Psychologist Allan Paivio posits that imagery serves two functions, one cognitive, the other motivational.[11] This functional distinction is reflected in differences in image content. The Sport Imagery Questionnaire (SIQ) was designed to reflect Paivio's model of five categories of imagery. Two of these categories relate to the cognitive function, while three relate to the motivational function. These categories are: Cognitive general (CG) imagery, related to choreography and improvisation; Cognitive Specific (CS) imagery, representing specific dance skills (plié or relevé, for example); Motivational General-Mastery (MG-M) imagery, associated with mental toughness, control and confidence; Motivational General-arousal (MG-A), i.e., arousal and relaxation in a performance/competition context, and finally; Motivation Specific (MS) imaging, i.e., performing with skill and expression. In a recent study, forty-two professional ballet dancers were surveyed on their use of the five functions of imagery using a modified SIQ.[12] The researchers found that professional dancers use imagery for cognitive and motivational functions. They reported using imagery to rehearse dance sequences (CG imagery), rehearse specific dance skills (CS imagery), to stay positive and confident (MG-M), to regulate arousal and anxiety (MG-A), and to a lesser extent for goal setting (MS).[12]

Researchers have attempted to answer the question of what types of imagery dancers and teachers find most useful for motor skill development and performance. Recent findings support the assertion that dancers and teachers tend to use both motor imagery and metaphorical imagery, but the type varies over time in relation to the level of advancement of the dancer.[13] In a study of the developmental aspects of imagery use, 250 dancers from various dance types perceived their images to have improved both in quality and quantity across their years in dance.[13] In this study, higher-level dancers reported having been encouraged to image more frequently and were given metaphorical images more often than lower-level dancers.

Dance teachers might also concern themselves with the affective components of the dance, for example, the level of anxiety accompanying professional training. Audition

anxiety and the role of imagery in the anxiety-performance relationship were studied in 131 female dancers.[14] These participants were assessed for competitive anxiety and confidence (CSAI2), cognitive and motivational functions of imagery (SIQ), and movement imagery (MIQ-R). Successful dancers experienced less cognitive anxiety and more somatic anxiety. Kinesthetic imagery was found to be a significant predictor of confidence. In other words, those dancers who used a high level of kinesthetic imagery were more confident and successful in gaining a role by way of the audition.

Dance Imagery Research: Intervention Studies

Intervention research provides us with strategies for the successful application of imagery in studios, auditions, and preparation for performances. Swiegard/Dowd Ideokinesis, the Franklin Method, and metaphorical images have been explored as interventions in dance imagery research. Ideokinesis is a form of imagery based on the location, direction, and forces required to perform a movement efficiently. Hanrahan and colleagues have studied the use of lines of imagery (images relating to a particular direction of movement) and global images (images that describe a more holistic or general image).[15] In a research study they found the use of imagery enhanced the performance of a développé in the global imagery condition. The image was "Imagine your whole body is thin and luminous" (p. 19).[15]

Teresa Heiland conducted intervention research[16] using images created by Eric Franklin.[5] This study used a repeated-measures design to assess the effects of four mental images on the height of sequential jumps by dancers who were struggling with jumping height and/or dynamic alignment. Thirteen university dance majors served as participants, and performed first position jumps for vertical height analysis while applying four imagery interventions: "whole body is a spring," "central axis is a rocket booster," "feet stretching into the sand," and "spinal curves lengthening and deepening." The "rocket" and "spring" interventions both significantly increased jump height above baseline measurements. There were also noteworthy increases following the "spine" and "sand" interventions.

Finally, in a study utilizing 60 children by Sawada et al,[17] the researchers found that the children who received metaphoric instructions performed a dance sequence more accurately than those who received verbal instructions or no instructions (model only). The sequence included a squat, stand, jump, kneel and fall. The metaphor was "A flower is in bud. Soon it will open. A butterfly is fluttering. It has an afternoon nap on the flower, but it falls from there." The results indicated that the metaphorical instructions were more effective than specific movement-related verbal instruction.

In sum, the existing research provides evidence that dance imagery is useful as a tool for motor skill learning in both teaching and performance settings. Kinesthetic (feeling) imagery appears to play an important role in skill development and performance. Metaphors, a common component of dance classes, appear to facilitate skill learning and performance. Intervention research demonstrates the positive impact specific applications of dance imagery have on expected outcomes.

A review of the history and research of dance imagery provides practitioners with evidence that dance images can positively impact motor learning and performance in beginning, intermediate and advanced dancers. When we use dance imagery with our students we will contribute to their well-being as dancers and as individuals.

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