



Visual, Auditory, & Tactile Franklin Method™ Images' Affects on Plié Arabesques

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ABSTRACT

Dance teachers often use imagery without knowing how imagery works or if they've chosen the best image for the task or student. Franklin's highly developed classification and implementation of images is readily available, but his offerings have yet to be tested empirically. This study explores dancers' imagery embodiment by investigating 3 sensory images (visual/biological/experiential, auditory/metaphorical, and tactile/anatomical-metaphorical) as they affect dancers' plié arabesque to determine if there is a significant advantage to one intervention over another and if learning style affinities, Laban Movement Analysis movement profiles, and level of training and imagery training affect outcomes. Using anatomical criteria and LMA analysis, researchers analysed baseline movements and imagery intervention trials by observing footage of dancers edited with Final Cut Pro. Quantitative (t-test) and qualitative (coding and thematizing) analysis were conducted. For these dancers, the bones/biological/visual/experiential image supported the plié arabesque best when its component scores were averaged; however, analyzing individual components revealed that aspects are supported by different types of images, even for the same dancer. Anatomical-metaphorical/tactile aid was best for maintaining rotation and worst for lateral foot stability. The visual/bones image mildly supported rotation, but strongly supported lateral foot stability. Chocolate/metaphor was effective for rotation and extremely effective for lateral foot stability. Equal use of hip, knee, and ankle and Flow Factor were both supported best by visual/bones. Beginners tended to be supported best by visual/biological/experiential images. Much more empirical research is needed to test existing hypotheses about what, when, why, how, and for whom images work best.

LITERATURE REVIEW & PURPOSE

Dancers have been using imagery to train, reeducate, and reinforce movement habits or enhance skills using images developed or explored by instructors such as Alexander (1976), Bainbridge Cohen (1993), Bartenieff (1980), Batson, Bernard, Clark (1963, 1968, 1975), Dowd (1990), Eddy, Feldenkrais (1972), Rolland (1984), Skinner (Skinner, David, Metcalf, Wheeler, 1979), Sweigard (1978), and Todd (1953, 1972, 1977). While the notion of educating movement with imagery is not new, the exploration and development of imagery approaches by Franklin (1996a, 1996b) have provided the dance community with a systematic, detailed, comprehensive, and augmented pedagogical system for employing imagery in dance training. As stated by Hanrahan & Vergeer (2000-01), some research has pointed to efficacy of dance imagery in facilitating movement, but Franklin's highly developed system of classification and implementation of dance images has yet to be tested. Minton (1996, 1981), Overby (1991/92, 1990), and Hanrahan (1994) discuss: how to create good dance images, whether or not images work, how teachers use images in the classroom, and how dancers use images independently. Hanrahan & Vergeer (2000-01) studied imagery categories that integrate performance attitude and experiences of body, mind, and spirit. Krasnow, Chatfield, Barr, Jensen, & Dufek (1997) studied whether or not imagery training alone or in conjunction with dance conditioning achieved better results over time. Hanrahan & Salmela (1990) researched local and global images applied to 3 different dance skills. This research laid the foundation for relating image choice, type, qualities, location and direction of image flow, choice of movements studied, and type of evaluation method employed.

In our study we expanded on this work by narrowing variables. To select appropriate images to facilitate technique of a specific dance task, Franklin suggested a common dance movement and types of images that support this movement. We chose a plié arabesque (P.A.) because it requires coordination of equal spatial pulls in each of the coronal, sagittal, and horizontal planes, plus dancers are readily familiar with this dance task. We chose specific sensory—visual, auditory, and tactile—images. These 3 sensory images are understood to be classified under various families of image classification, which are detailed in Table 1. This study examines imagery embodiment and how these images relate to dancers' learning style affinities and self-assessed LMA movement signatures. To date, the effectiveness of these 3 codified approaches applied to a specific dance movement has not been tested empirically. Because students all move differently and experience movement cues based on, at least, their (1) anatomy, (2) dance training, and (3) personal understanding of their embodied experiences, we chose to cross-reference these variables with gathered data. There are at least 2 theories that may help illuminate effectiveness of visual, auditory, and tactile imagery interventions based on aforementioned variations. In addition to gathering basic biographical information, we employed 2 learning style preference questionnaires based on the Dunn & Dunn model (1984). Because much controversy exists over the accuracy of learning style screens, we screened students using 2 tools: Visual-Auditory-Kinesthetic Learning Styles Inventory (VAK) (Clark, 2004) and Visual-Aural-Read/Write-Kinesthetic Learning Styles Inventory (VARK) (Fleming & Mills, 1992). An imagery ability screen, Revised Movement Imagery Questionnaire (MIQ-R) (Hall & Martin, 1997), was used to evaluate subjects' abilities to "see" (visual imagery) and "feel" (kinesthetic imagery) images.

RESEARCH QUESTIONS

This study was designed to explore the following research questions:

- RQ1: Is there a significant advantage to one intervention type (visual, auditory, tactile) or classification (anatomical-metaphorical, biological/experiential, metaphorical) over another for the plié arabesque?
- RQ2: Do more advanced dancers/imagers respond to particular intervention approaches differently than beginners?
- RQ3: Does learning style preference relate to a dancer's affinity for intervention type or classification?
- RQ4: Does measurement of imagery ability based on "feeling" and "seeing" assessed by the MIQ-R correspond to a preference for the specific intervention type or classification?

METHOD

Participants: We invited a group of 30 dance majors to volunteer to be in the study in exchange for extra-credit. Eighteen female students volunteered. Twelve were advanced to intermediate/advanced dancers and 6 were at a beginner/intermediate level. Participants signed consent forms and completed biographical surveys, the MIQ-R, 2 learning style questionnaires, and an LMA Effort-Quality self analysis form.

Procedure: On 3 Saturdays, each separated by 2 weeks, dancers participated by standing in a comfortable rotated first position on linoleum marked with angles of rotation so, during each trial, dancers would perform in the same position. Dancers performed on their less-stable standing leg upon which we placed markers on the ASIS, patella, and anterior crease at the center of the ankle. Mini-digital video cameras were placed directly in front of the dancer and to the side. Dancers were asked to perform in ¼ meter to a metronome set at 114 bpm, with 3 counts to P.A. and 3 counts to return. We video taped all 5 baseline and 7 interventions. During each visit, students were randomly given an intervention. (1) The tactile image was delivered by a level 3 Franklin practitioner, using touch only, with one hand placed on the thigh—rotating the femur laterally—and the second hand on the iliacus—rotating the pelvis forward and medially during the downward cycle of the plié; the reverse was guided on the return. After the tactile portion was practiced, without touch the dancer was asked to perform 7 times, keeping the tactile information in mind. (2) The visual image was delivered verbally using a description of the bone rhythms of pelvis and femur during the downward and upward cycles of the plié. Following the narration, during which students were asked to place their hands on their own femurs, a skeletal half-pelvis and femur were used to show the bone rhythms. Students were again asked to perform the P.A. 7 times with the bony rhythms in mind. (3) The auditory image was delivered via reciting from a script, "Imagine warm melted chocolate flowing outwardly from your foot as you do the P.A." Dancers performed with this in mind 7 times. After both the baseline and the intervention trials, students were asked to describe their experiences and to rate on a scale of 1 to 5 (5 being best) their own assessment of their P.A., ability to maintain rotation on the standing leg, lateral ankle stability, and sagittal stability such as toe gripping and heel lift.

Imagery assessments: Upon culmination of all trials, a researcher chose the video clip of the best trial and its accompanying best baseline and edited these two clips of footage side-by-side so they could be evaluated on a computer screen. On a scale of 1 to 5 (5 being best), a researcher analyzed the following: maintaining rotation and lack of knee wobble; lateral foot stability; sagittal foot stability; overall design and alignment of P.A.; balance of Free-Flow (FF) and Bound-Flow (BF) Effort Quality; simultaneous use of hip, knee, and ankle joints; and plié depth, which was recorded but not assessed as a measure of success. As a coding check, a second rater performed the same coding process. One hundred twenty-eight coding discrepancies were noted and those movements were re-examined by the first investigator. Seventy-five ratings were subsequently revised.

QUANTITATIVE DATA ANALYSIS

An evaluation of dancers' movement was analyzed on six dimensions: rotation maintained, lateral foot stability, sagittal foot stability, equal involvement of 3 joints, overall body alignment, relationship of FF and BF. Except for the Flow category, each factor was rated on a scale from 1 to 5, with 5 being best. A test of internal reliability for this six-dimension movement analysis score was conducted by calculating the coefficient for Cronbach's alpha. The movement analysis scores across 108 cases (two ratings for each of 18 dancers, across each of three interventions) proved to be internally consistent with a particularly high alpha of .959. Subsequently, the six individual movement analysis ratings were averaged together as a single assessment of each dancer's performance in the pretest and again in the posttest. A paired samples t-test was conducted to check whether a comparison of means from the pretest to the posttest was statistically significant. The results of this analysis are shown in Table 2. These t-tests revealed some substantial issues with statistical significance. There is too strong of a possibility that the change in means from the baseline pretest to the tactile posttest could be attributed to error and random effects. The significance levels for the differences in means of other two paired interventions (bone/biological and chocolate/metaphor) were also slightly greater than the 5% minimum required to assert statistical significance. Nonetheless, considering this is a preliminary project, and investigation and data analysis is ongoing, the means and differences in means for the pretests and posttests are reported in Table 3. Caution should be exercised in interpreting these differences in means, and they should be viewed as an indication of possible results that may be obtained as this study continues. Because t-test data analysis thus far indicates that none of these interventions may be influencing dancers' performance beyond what could be expected from random effects, future investigation and analysis with ANOVA data analysis may reveal other outcomes. To gain clarification of themes presented by this small group of dancers, we also analyzed data using qualitative methods of coding and grouping data into emergent themes.

Table 1. Franklin Method™ Sensory Image Interventions Categorized

Images Categorized by Type	Three Image Interventions Used with Plié-arabesque		
	(1) Observing bone movements while the bone rhythm is described by a facilitator	(2) Facilitator guides movement direction through tactile aid	(3) Imagining chocolate flowing outwardly from your foot as you do the plié arabesque
1. Sensory: auditory, gustatory, kinesthetic, olfactory, proprioceptive, tactile, visual	✓ mostly visual ✓ some auditory information	✓ tactile-touch ✓ kinesthetic	✓ received an auditory information ✓ visual during execution of task
2. Location: Local (precisely located) Global (located overall)	✓ local	✓ local	✓ global
3. Location: Inherent (inherent/central) Directed (directional or homesite/habit)	✓ direct	✓ indirect	✓ indirect
4. Location: Inner (inside body) Location: Outer (outside body)	✓ inside	✓ touches skin and goes inward	✓ touches skin and goes outward

QUALITATIVE DATA ANALYSIS

When analyzing the trials whose scores were averaged, the bones/anatomical/experiential image facilitated improvement for 55% of participants with an overall qualitative improvement of 22.3% (see Table 4). The chocolate image facilitated improvement for 22.2% of the dancers with an overall qualitative improvement of 14%. When assessing only rotation, the tactile intervention was most successful with improvement for 75% of participants. Tactile aid improved lateral foot stability somewhat for 50% of students by 6.83%. However the chocolate intervention provided the most frequent lateral foot stability of all three interventions with improvement in 59% of students by 19.2%. This data implies that tactile aid is likely most supportive for this pool of participants for maintaining rotation, while the flowing chocolate image likely best supports lateral foot stability. (See Tables 5 and 6 for comparisons of improvement based on overall averages and by assessment categories, respectively.) Tactile aid improved rotation for 75% of participants, which is likely due to accessibility of this intervention for beginners and advanced students. There is no clear relationship; however, between tactile intervention and results from the LMA profile or learning styles surveys. Tactile aid increased lateral foot stability for 35% of students by 5.9%. Eight of the dancers whose rotation improved with the bone intervention also experienced improvement with lateral foot stability, so the image of the bones has a secondary effect of encouraging a stable foot for 53% of participants with a qualitative improvement of 16.3%. Chocolate improved rotation for 71% of participants with an improvement of 11% and lateral foot stability for 59% of participants with qualitative improvement of 18.5%. The bone image provided the most successful outcomes with improvement of equal use of 3 joints for 82% of participants with qualitative improvement of 58.7%. Chocolate was fairly successful for 47% with qualitative improvement of 23.1%. The tactile aid image improved this action for 50% of the dancers with qualitative improvement of 14.4%. The FF & BF balance was best supported by the bone image for 67% of the dancers with a qualitative improvement of 52.9%. The tactile and metaphorical interventions both stimulated an imbalance in Flow Factor. An implication in this study might be that dancers in need of maintaining rotation and balancing Flow Factor would likely be served best by employing biological/experiential imagery. Beginners (nearly 61%) were also served best by the bone image.

Table 2.

Paired samples t-test		
	t	df (2-tailed)
Pair 1: Tactile baseline - Tactile post intervention	-5.315	17
Pair 2: Visual baseline - Visual post intervention	-1.903	17
Pair 3: Metaphor baseline - Metaphor post intervention	-1.992	17

Table 3.

Difference in means from pretest to posttest					
Intervention	Pretest	Baseline	SD	Post	Gain (post - pretest)
Visual-anatomical	3.99	0.86	4.03	0.99	+ 0.04
Bone/biological	3.92	0.93	4.15	0.87	+ 0.23
Chocolate	3.84	0.96	4.02	0.99	+ 0.18

Table 4. % of dancers who improved & % of intervention success

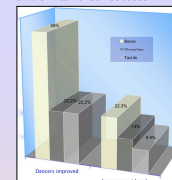


Table 5. Breakdown of technique components by % of improved students

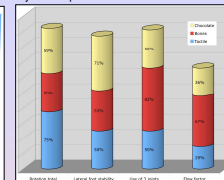
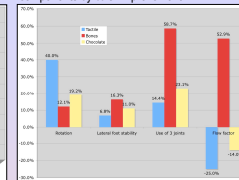


Table 6. Breakdown of technique components by % of improvement



CONCLUSION

While an ANOVA test is needed to tease out useful information that the t-test could not, qualitative analysis offers insight into forming hypotheses when applying these three types and classifications of imagery to a P.A. I hypothesize that the bones/biological/visual/experiential image appeared to support the P.A. best when its component scores were averaged together; however, analyzing the components separately revealed that aspects of a P.A. are supported by different types of images even for the same dancer. Knowing this, we realized that while dancers respond differently to different images, the actual skills within a dance movement need to be examined and considered when imagery is chosen to improve technique. The tactile aid image (anatomical-metaphorical) was best for maintaining rotation and worst for facilitating lateral foot stability. The visual/bones image (biological/experiential) offered mild improvement for rotation, but strong improvement with lateral foot stability. The chocolate image (metaphorical) was effective for improving rotation and extremely effective for lateral foot stability. Equal use of all three joints and Flow Factor were both supported best by the visual/bones image. While Flow Factor may not necessarily be a primary goal when working with imagery for facilitating a P.A., an implication of this study would be that dancers in need of maintaining rotation and balancing Flow Factor might be served better by employing visual/bones (biological/experiential) imagery rather than the tactile aid image (anatomical-metaphorical) that is best for rotation alone. Beginners tended to be best facilitated with visual/biological/experiential imagery. Possibly employing an additional screen assessing level of imagery ability and a different type of Learning Styles Survey could provide more insight into these relationships between dancers and imagery.