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10th LUMEN International Scientific Conference Rethinking Social Action. Core Values in Practice | RSACVP 2018 | 20-21 April 2018 | Suceava, Romania

Rethinking Social Action. Core Values in Practice

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https://doi.org/10.18662/lumproc.52

How to cite: Moraru, C.E., & Popovici, I.M. (2018). Study Regarding the Use of Imagery in Dance. In A. Sandu, T. Ciulei, (eds.), *Rethinking Social Action. Core Values in Practice* (pp. 254-261). Iasi, Romania: LUMEN Proceedings. https://doi.org/10.18662/lumproc.52

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RSACVP 2018 | 20-21 April 2018 | Suceava – Romania

Study Regarding the Use of Imagery in Dance

Cristina Elena MORARU[1], Ileana Monica POPOVICI[2]

Abstract

Dance imagery is a skill performed in our head using our five senses (sight, taste, sound, smell, and touch) to visualize a movement or several movements in dance. It is possible for us to use imagery on its own or while we are dancing. The images formed in your head may comprise real movements or both movements and objects. The purpose of this paper was to investigate the use of imagery among dancers aged between 16 and 18. The investigation consisted in the application of the questionnaire "Development of the Dance Imagery Questionnaire" (DIQ) elaborated by Nordin, S. M., & Cumming, J. (2006) for 40 dancers. The questionnaire contains 16 items, divided into four categories: technique, artistry, purpose and quality of the role and the movement. It evaluates the extent to which the subjects incorporate imagery in all aspects related to dance. After interpreting the results, for technique we obtained a mean and a standard deviation of 5.7750 ± 0.70438, for artistry 5.6438 ± 0.65017, for the category of purpose 5.7938 ± 0.53973, and for quality 5.5938 ± 0.76520. After analyzing the data and making correlations between the four categories, we obtained values of Pearson's coefficient ranging between 0.05 and 0.01, which stands to show interdependence between the items of the categories. Consequently, it may be stated that the multiple answers to the questionnaire on the use of imagery in dance tend towards the value 6, which means that the subjects questioned used imagery in dance quite often.

Keywords:
Dance, performance, technique, development, imagery.

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https://doi.org/10.18662/lumproc.52
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Selection and peer-review under responsibility of the Organizing Committee of the conference

1. Introduction

Imagery is a process of creating a mental image or intention, which a person would want to happen or feel and it engages all the senses. Using the mind, the athletes are able to recreate these ideas again and again and strengthen their skills through repetition, which is similar to physical exercise [27]. Imagery is often referred to as visualisation, however imagery is a more complex process, which includes all the senses such as visual, auditory, olfactory, tactile, gustatory and kinesthetic [17].

In other words, mental imagery is recalling a memory that stored in the brain into meaningful images.

Many papers are devoted to the study of the different modalities of representations in itinerary strategies [25]. Among the different representation systems, two of them enjoy a crucial role: the visual and the verbal systems. Paivio was the first to prove the role of double coding (verbal and visual) to facilitate memorization [3].

Contemporary cognitive scientists also recently started to use neuro-imaging to study mental imagery, and it is now becoming possible to check, using technologies from neurosciences, that different areas of the brain are recruited to process verbal processes or visual processes.

The domain of imagery is rich and there is an ongoing debate about the nature of the representational format of visual mental imagery. There are two viewpoints: the propositional side is to consider that all representations are, in fact, propositional, which means that all representations are linguistic or symbolic; the analogue side is to say that visual imagery shares some non-symbolic properties with the perception experience. This debate is important because we believe that traces of it may be retrieved in the opinions of those who think that images are important to understand, and those who believe that words are sufficient and better than images.

We strongly believe that the construction of multi-modal representations (visual, symbolic/verbal, haptic) is important for understanding dance and for understanding in general [1].

2. Problem Statement

Paivio (1985) identified the functional roles through which imagery influences sport performance, and his framework has been the predominant guide for imagery research in the sport psychology literature [21]. Mental imagery is a cognitive rehearsal in the absence of physical

movement to imagine sports performance in the mind. A powerful imagination leads to creation of nerve impulse similar to those generated during real performance. Imagery is the language of the brain. In a real sense, the brain cannot notify the difference between an actual physical event and the vivid imagery of the same event [23].

The framework indicates that imagery affects performance through both cognitive and motivational functions. The cognitive function includes strategy and specific skill rehearsal whereas the motivational function consists of being successful, controlling emotions, and overcoming adversity [9]. Furthermore, imagery has been demonstrated to be an effective means of enhancing performance in the performing arts and sport [5, 10, 12].

The most common use of relaxation imagery which related to environment, is to imagine a place that resembles green space like natural or semi natural habitats, rivers, canals, parks, gardens, outdoor sport facilities and playing fields. Anyone can bring all his or her senses into the image with, for example, visualizing private gardens, street trees, parks, golf courses, sports fields or mountain view; sounds of running water; the smell of cut grass or flower; the taste of cool mountain water; the breath of fresh air, and so on [22].

Sport related images such as beautiful golf courses next to the ocean, swimming pool and tennis court are scenes and images to develop imagery skills [4]. Guided relaxation audio and videos can also be used to control anxiety. Imagery can promote increased concentration [13] and performance [26].

Dance imagery is a skill that is done in our head using our five senses (sight, taste, sound, smell, and touch) to picture a movement or several movements in dance. We can use imagery on its own or while we are dancing. The images you form in your head can be made up of real movements or, movements and objects [16].

It is a consciously created mental representation of an experience, either real or imaginary, that may affect the dancer and her or his movement. In this study, imagery research in dance was reviewed in order to: 1. describe the themes and ideas that the current literature has attempted to illuminate and 2. discover the extent to which this literature fits the Revised Applied Model of Deliberate Imagery Use [24].

Therefore, coaches should be cautious in implementing appropriate mental skill for their athletes so that athletes would use the mental skills in practicing their physical skills, to enhance their quality of practice, leading to applying the same mental skills, to further enhance

their sporting performing during competition. In addition, coaches should also teach their athletes to use the mental skills in competition [14].

Some studies point out that competition simulation showed that Latin American Dance discipline is physiologically more intensive compared to Standard and Ten Dance styles especially for the female dancers. It appeared that male and female Standard dancers tended to perform at lower intensity than anaerobic threshold during competition simulation (male 97.3±2.9%; female 97.9±3.6%), while Latin (male 101.4±2.9%; female 106.7±5.9%) and Ten Dance (male 100.7±6.4%; female 99.2±5.6%) competition intensity was higher compared to anaerobic threshold level of athletes [15].

3. Aims of the research

The purpose of this paper was to investigate the use of imagery among dancers aged between 16 and 18.

4. Research Methods

The investigation consisted in the application of the questionnaire "Development of the Dance Imagery Questionnaire" (DIQ) elaborated by Nordin, S. M., & Cumming, J. (2006) for 40 dancers. The questionnaire contains 16 items, divided into four categories: technique, artistry, purpose and quality of the role and the movement. It evaluates the extent to which the subjects incorporate imagery in all aspects related to dance. The questionnaire has seven versions of answers: 1-never, 2-rarely, 3-not very often, 4-sometimes, 5-quite often, 6-often, 7-very often. If the item refers to a rarely used mental image, then a low score will be granted. If the item refers to an often used mental image, then a high score will be granted.

5. Findings

Table 1. Means obtained at the four categories of items

	N	Mean	Std. Deviation
Technique	40	5.7750	.70438
Artistry	40	5.6438	.65017
Purpose	40	5.7938	.53973
Quality	40	5.5938	.76520
Valid N	40		

Table 2. Pearson Correlation for the four categories of items

		Technique	Artistry	Purpose	Quality
Technique	Pearson Correlation	1	.478**	.372*	.635**
	Sig. (2-tailed)		.002	.018	.000
	N	40	40	40	40
Artistry	Pearson Correlation	.478**	1	.457**	.549**
	Sig. (2-tailed)	.002		.003	.000
	N	40	40	40	40
Purpose	Pearson Correlation	.372*	.457**	1	.607**
	Sig. (2-tailed)	.018	.003		.000
	N	40	40	40	40
Quality	Pearson Correlation	.635**	.549**	.607**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	40	40	40	40

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

6. Discussions

A study presented by Olshansky et al. (2015) used functional magnetic resonance imaging to examine the neural activity of an expert dancer with 35 years of break-dancing experience during the kinesthetic motor imagery of dance accompanied by highly familiar and unfamiliar music. The goal of the study was to examine the effect of musical familiarity on neural activity underlying kinesthetic motor imagery within a highly experienced dancer. In order to investigate this in both primary sensory and motor planning cortical areas, they examined the effects of music familiarity on the primary auditory cortex (Heschl's gyrus) and the supplementary motor area (SMA). Their findings reveal reduced Heschl's gyrus activity and greater SMA activity during imagined dance to familiar music compared to unfamiliar music. They propose that one's internal representations of dance moves are influenced by auditory stimuli and may be specific to a dance style and the music accompanying it [19].

In terms of *where* dancers image, Nordin and Cumming (2005) conducted a qualitative study to examine dancers' use of imagery. According to their results, *where* dancers engage in imagery are presented

under four categories: at home, in dance settings, in other places, and anywhere/wherever [17].

Similar results were found in a more recent study conducted by Nordin and Cumming (2007) wherein dancers reported imaging at home, in the dance context (e.g., studio, by the stage) as well as in "other" places [18].

In terms of frequency, dancers use imagery often prior to initiating a movement, preferably in a relaxation pose or a quiet stance [20].

During this time, dancers image with the mind as opposed to incorporating the image into movement. Researchers also found dancers to use imagery frequently while dancing, employing one or several of the four imagery types previously discussed. During this time, the mind and the body are imaging in unison [6].

Dancers use imagery for various reasons and implement an image often for more than one reason. Dancers frequently report using imagery for the purpose of enhancing their movement. For example, a dancer may image themselves being as tall as a tree in order to help improve his/her posture [11]. In terms of *how* dancers image, images can be created with the use of sensory modalities. Golomer et al. (2008) found half of the dancers in their study had higher visual imagery ability while the other half possessed both visual and kinesthetic ability equally [8]. Further, researchers have found those who scored high on an imagery ability measure preferred to learn through "feeling", and that experienced dancers showed higher imagery abilities in terms of cognitive, spatial and body imagery than their novice counterparts [2].

Dance is an extraordinary vehicle for personal development. Including psychological skills training in dance education increases opportunities for creative self-expression, self-awareness, learning, and mastery. Students are encouraged to test the power of their imagination.

Psychological skills offer multiple benefits whereby students discover meaningful ways to achieve success, satisfaction, and a belief in themselves and their creative potential [7].

7. Conclusions

After interpreting the results, for technique we obtained a mean and a standard deviation of 5.7750 ± 0.70438, for artistry 5.6438 ± 0.65017, for the category of purpose 5.7938 ± 0.53973, and for quality 5.5938 ± 0.76520.

After analyzing the data and making correlations between the four categories, we obtained values of Pearson's coefficient ranging between 0.05 and 0.01, which stands to show interdependence between the items of the categories.

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