



SOMATIC PRACTICE IN DANCE CLASS

Teaching Reflection

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1. INTRODUCTION

This paper explores the application of somatic practices in dance class. I am primarily looking for ways to address *Body-Mind Centering*® tendencies and *Ideokinesis*, more specifically the use of touch and kinetic imagery.

Because I am also involved in a somatic training program, I am interested in bringing somatic practices into dance education in order to investigate their impact and efficacy in dance class. Questions that guide my research are, for example, whether students feel better about themselves through the use of somatic tools and whether kinetic imagery and touch facilitate the learning of dance.

I will be working with a group of students from a dance teacher program in Leipzig. They are between 18 and 26 years old and have been already in touch with somatic practices in the course of the training program. My research takes place at the Tanz-Zentrale Leipzig, a dance studio that offers a variety of dance courses from beginners to advanced levels as well as the mentioned training program.

I will start this paper by presenting a brief overview of pedagogy in Europe, with an emphasis on the role of *Experiential Learning* within the process of formation of the individuals. Following, I will acknowledge aspects of somatic practices, from the first generations of founders till the somatic approaches that I am working with on my own practice. After that I will present the concept of Ideokinesis, pioneered by Mabel Todd and further developed by Lulu Sweigard in the late 20th century, as well as a brief description of the human somatosensory system, which is network of skin receptors and nerve pathways that allow the human brain to perceive and discriminate different qualities of touch. Finally, I will put together an exercise for contemporary dance class and a series of short exercises of floor barre, which I will teach to the group of students with whom I am working. I will finish this paper with a reflection regarding the results I observed in class, which will be followed by a short note about the possibilities of further development of this research.

2. PERSONAL INTEREST AND EXPERIENCE WITH DANCE AND SOMATIC PRACTICES

When I was five years old I started training sports. After gymnastics, came swimming, judo and circus technique. When I was fifteen I started dancing, first street dance, then jazz, ballet and contemporary dance.

Since I can remember, I am interested in the movement of the body, be it the human body, animals or plants. At first the interest was basically physical, I am curious to investigate the mechanics of bodies, how movement is possible to happen. In recent years, more specifically around 2011 my interest in body movement, especially human bodies, has expanded. Today I have a great curiosity in investigating why bodies move, what triggers movement, how desire and need drive bodily action.

In addition to these interests, there are three other factors related to the human body that arouse my interest, which are today the focus of my investigations. One is the tendency that bodies have to hold unnecessary tension (Gindler, 1925, as cited in Eddy, 2016) in the organs, muscles and other tissues of the human body, for example. The second is looking at basic tenets that propose the knowledge of each and every living cell, which have the ability to *keep* every lived experience (Hartley, 1995, Von der Kolk, 2014). The multitude of experience that cannot be processed at the moment they happen is imprinted in the body at a cellular level (Hartley, 1995) and remains in a latent state until the body feels safe to go back to the experience and process it. The third factor related to the human body that arouses my interest and curiosity is its capacity to enhance awareness of itself and through that, to be able to heal, further develop acquired abilities and perform tasks with greater efficiency and optimized physical effort.

In 2016 I became interested in somatic education and little by little I learned about its various ramifications. My first contact with ‘somatics’ was through a therapeutic method called *Systemic Alignment*, which is meant to restore balance through the *centers of psychic energy* within the body, otherwise known as *chakras*. Then I became interested in the improvement of body posture and consciousness of motor response through *Alexander Technique*. Today I delve into the *Body-Mind Centering*®, which is an approach to movement that is looking for ways to experience and embody each of the body systems, utilizing movement, touch, voice and mind. Furthermore, in 2020 I was introduced to and became a practitioner of two improvisational methods. They are: *Joged Amerta*, a Javanese practice of movement created by Suprpto Suryodarmo (Prapto) in 1986 and happens in natural settings for long periods of time; *Authentic*

Movement, a practice started by Mary Starks Whitehouse in the 1950s that has a therapeutic perspective and therefore integrates improvisation with spontaneous writing.

As a dance teacher, I have been developing a practice since 2011 that allows me to work with groups of people of different ages, technical levels and personal interests. I started with traditional methods of teaching contemporary dance, classical ballet and improvisation. Since 2020 I have been integrating somatic tools in my pedagogical practice. All these years of experimenting and learning by doing in a dance studio showed me that teaching dance is a social happening, a phenomenon that unites people and has the 'power' to connect thinking and feeling through the act of moving the body intentionally. This paper is intended to be a further milestone in the process of my development, both professionally and personally.

3. TARGET GROUP

The research takes place at the Tanz-Zentrale Leipzig, a private training center (Ausbildungsstätte) in Saxony, Germany. The school offers community dance classes, which range from creative dance for children from 3 years of age to evening classes for adults in modern ballet, contemporary dance and urban dances.

In addition to dance classes for the community, the school offers a full-time training program in dance pedagogy and performance with daily classes from Monday to Friday from 8:30 in the morning to 1:30 in the afternoon, with additional hours in the evening classes, which comprises a total of 30 hours of weekly classes over a period of 11 months, covering Classical Dance, contemporary, Butoh and Improvisation. Besides dance classes, the program also includes classes in choreographic composition, Body-Mind Centering® and dance pedagogy.

At the end of the training program, the students receive a certificate for dance pedagogy and performance, with which they can teach in dance studios, in extra-curricular programs at elementary and secondary schools, in clubs, gyms and other institutions. Furthermore, the training program prepares the students to work on productions, for example as choreographers in musicals or leaders in community projects.

The group of 20 students with whom I am working comes from the full-time training program and range from 18 and 26 years of age. They have different levels of dance experience; most of the students have trained Jazz, Modern and Contemporary Dance as well as urban dance stiles.

The approach that I propose in my class, which is the means of investigation of this paper, is a quite familiar language to the students, since they have weekly Body-Mind Centering® classes. Nevertheless, in the scope of the curriculum of the referred training program, the main purpose is the traditional teaching of dance, the somatic focus is present in a complementary way.

4. A BRIEF OVERVIEW OF PEDAGOGY IN EUROPE

With an emphasis in *Experiential Learning*

My interest in dance pedagogy was awakened when I started teaching dance. Gradually I understood the beauty of this profession and its place in society. At first I imagined that it was simply part of the development of the physical body and that it helped in the individual's cognitive formation, then I realized that there is a psychophysical component inherent in the act of dancing, and in a more comprehensive way inherent in the act of learning.

I will present a brief historical evolution of thought within an educational context. Departing from ancient Greece with Plato (427 - 347 BC), going through the Pedagogical Reform of the late 19th and early 20th centuries and arriving at Rudolf Steiner's Waldorf School (1861 - 1925).

Plato stated that there is a connection between emotionality and rationality (Ethos and Logos), which is decisive for the development of man's virtue and which is based on the development of a harmonious unit of the so-called psychic forces: drive, will, reason - in the German language *Trieb*, *Wille* and *Vernunft* (Burkhard & Weiß, 2008, p.23).

Ethos is a Greek word meaning "character" that is used to describe the guiding beliefs or ideals that characterize a community, nation, or ideology. Plato postulated that for the *Forming of the Ethos* it was particularly important to bring dance, music and gymnastic into the curriculum of the schools. He emphasized the importance of integrating these three practices in the formation of the individual already in his first years of life.

According to Plato, man originally has a need to move. This impulse, which is initially uncontrolled, must be harmonized from birth through orderly movements (dance and gymnastics) so that the habituation to balance produces a balanced character (Burkhard & Weiß, 2008, p.23).

The late 17th century and the 18th century comprises a historical period known as The Enlightenment¹. A striking feature of this era is the emphasis on reason in all areas of life (nature, society, religion, individual development). In contrast to this rather rational and one-sided emphasis present in the years of the Enlightenment, in the ancient Greece, the Greeks sought to implement an aesthetic-sensorial component in all areas of life. The harmony of the psychic forces (drive, will and reason) was then a principle that gained popularity and permeated culture and society.

At the end of the 18th century, Wilhelm von Humboldt, as a representative of neo-humanism, saw the goal of education in the free and harmonious development of the individual's (psychic) forces. At the center of his educational theory is not society, but the individual inside the society. Like Plato, Humboldt also states that man has by nature the impulse to seek, activate and develop characteristics inherent to his being, such as feeling, desiring and thinking. For them, these three aspects of human psychic apparently had the same degree of importance.

According to Humboldt's theory, in order to develop and activate his internal powers, man depends on the external world, a place in which he can form and be formed. The educational process, therefore, was believed to occur only in a constant interaction between the self and the world. This relationship consists, on the one hand, in the receptivity with which the things of the world are received and, on the other hand, in the proper activity with which the ego expresses itself in the world (Burkhard & Weiß, 2008, p.83).

For Humboldt, once man's internal powers are developed, he gains access to his inherent capability of creating. Through my perspective, I see how particularly important this aspect of human cognitive function was, in a world living the era of Enlightenment, and with the eminent need for man to turn his focus back to himself and reunite his psychic forces. The creative potential of man allows him to act on his own, spontaneously, which ultimately gives him the status of agent and contributes to a process of transcending tradition and creating something new.

In 1762, Jean-Jacques Rousseau wrote a series of books called '*Emile, Ou De L'Education*'. The five books were written about the five stages of development that Emile goes through until

¹ The Age of Enlightenment was an intellectual and philosophical movement that dominated the world of ideas in Europe. It included a range of ideas centered on the pursuit of happiness, supremacy of reason, and the evidence of the senses as the primary sources of knowledge.

reaching full maturity. Rousseau's theory of pedagogy is based on the following: during education, care must be taken to ensure that the relationship between student's needs and natural abilities is taken into account at each stage of development (Burkhard & Weiß, 2008, p.67). Rousseau was convinced that nature has given man everything he needs to develop his skills. In the first stage, the child's needs exceed his skills, so care and help should be given. In the second stage, the child's needs and abilities should be balanced. Emile learns more and more to use his skills in the practical handling of things; the educational effect comes from dealing directly with nature and the things and objects that are present in the world. In the third stage, thinking and judgment can be developed; primarily, this still happens through direct contact with the things and phenomena of the world; for example, physical laws are to be discovered through experimentation. In the fourth stage, education takes on a social dimension; the basic notions of history, politics, philosophy, religion and economics are transmitted and the emotional value in the social and intellectual areas must be matured until reaching the fifth stage, where around 20 years of age the individual is prepared to exercise his obligations before society (Burkhard & Weiß, 2008).

A contemporary of Rousseau, Immanuel Kant (1724-1804), in his theoretical philosophy sought to overcome the one-sidedness of rationalism and empiricism, showing that sensitivity and understanding must work together in the development of knowledge. According to his words: "Thoughts without content are empty, intuition without concepts is blind. Knowledge can only arise from the union of understanding and the senses" (Kant, *Kritik der reinen Vernunft*, 1781, as quoted in Burkhard & Weiß, 2008, p.73).

More than a century later, such ideals of dissolving the duality between reason and sensation culminated in the advent of the Pedagogical Reform in Germany. The so-called "Reformpädagogik" encompassed a large number of different movements from around the end of the 19th century to the first third of the 20th century, all of which strived for a renewal of the established German school system.

The 19th century brought with it a rapid increase in industrialization and a profound change in social structures. Culture seems to be something external that can escape people and they become alien to their inner life. Many "reformist" pedagogues, therefore, defended the natural development of the individual's internal forces, the promotion of creativity and the positive influence of a natural environment. The "reformist" thought draws parallels with Rousseau's, according to which the child's natural development is the parameter for all educational activity. For reformist pedagogues, the child's peculiarity should not be interpreted as an imperfection, but as an individuality that develops gradually and must be taken seriously. Many types of reform

schools still exist today and represent alternatives to the state education system. For example the Waldorf School and the Montessori School.

The focus of Montessori pedagogy is the individuality and autonomy of the child. An essential basic principle of education is, therefore, respect for the freedom of the child. Through his own withdrawal, the educator offers the child a free space in which he can practice the responsible use of his freedom. Montessori emphasizes that development is not only a process inherent to the person, but also determined by his own will (Burkhard & Weiß, 2008, p.109).

The first Waldorf school was opened in Stuttgart in 1919. Waldorf education is based on the doctrine of *Anthroposophy* established by Rudolf Steiner (1861-1925). From the anthroposophical point of view, the human being is composed of body, mind, and soul. The basis of the anthroposophical theory of knowledge is the search for the essence of the whole person. Like Plato and Humboldt, Steiner's Anthroposophy also states that man has by nature the impulse to improve inherent characteristics of his being such as feeling, willing and thinking. Plato called them psychic forces: drive, will and reason.

For Steiner, *thought* is connected to the sensory nervous system, *feeling* to the respiratory and circulatory systems, and *will* to the metabolism; which in turn are associated with three areas of pedagogy. Respectively: psychology-physiognomy, teaching methodology and artistic exercise. Steiner said, "The human being develops his spiritual powers of the soul by penetrating ever more deeply into the essence of reality with empathy and knowledge" (Burkhard & Weiß, 2008, p.113).

In Plato's Greece, man saw himself as a subject. As such, they valued the so-called psychic forces, considered intrinsic to man, as well as the connection between ethos and logos (emotion and reason). With the advent of the Enlightenment, man sought to deepen his knowledge related to processes inherent to the phenomenon of life, however from a rational point of view. To do so, he moved away from subjectivity, to a point where it was possible to observe himself from an outside perspective, which caused the phenomenon of the "objectification of the self". The educational process that gradually took place, starting in the 18th century with Humboldt and Rousseau, passing through the German Pedagogical Reform until it reaches today's Montessori Pedagogy and the Waldorf School sought to rescue man's subjectivity, emphasizing self-orientation and giving importance to individual sensorial experience.

5. SOMATIC EDUCATION IN EUROPE AND USA

I will introduce this section bringing Rudolf Steiner's Anthroposophy. Within the teaching philosophy of the Waldorf school, *thinking* is directly linked to the internal communication system of the body, which is composed of nervous pathways and the sensory system. In his theory of education, Steiner attributes it to the fields of psychology and physiognomy. Following a similar understanding of the subject, however in a more comprehensive and in-depth way, in somatic education, the mind is perceived as existing throughout the body through nervous system connections (Bainbridge Cohen, 1993, as quoted in Eddy, 2016). Thus, "by paying attention to the body, one is paying attention to the mind" (Eddy, 2016).

Bonnie Bainbridge Cohen (1943), founder of *The School of Body-Mind Centering* (1973), coined the term "mind of the body." According to her, this "mind of the body" has the ability to sense itself, interpret sensations as perceptions and then form thoughts, feelings, associations and images from these perceptions (Hartley, 1995, Eddy, 2016).

"Somatics" is another term that was popularized in the mid-70s. It was coined by Thomas Hanna (1928-1990), a movement theorist who worked on the field of somatic education. The word *soma* originally comes from the Greek and means *body*. However, "in somatic education this term means 'living body', emphasizing the soma's alive and changing status as a process, rather than an object" (Eddy, 2016). Therefore, "the somatic perception of 'body' describes an embodied process that does not attempt to separate psycho-physical processes" (Green, 1993). It perceives human body as an entity, to which mind and spirit are connected.

The perception of one's own body is known as *proprioception* and the perception of one's own movement is *kinesthesia*. Proprioception registers muscular tension and bodily position. Kinesthesia registers information regarding speed of movement and whether one is aligned or falling (Green, 1993). These are the so-called interoceptors, receptors that pay attention to our inner experience. As such, they build the nervous pathways, which allow us to be "mindful" of our posture and movement. The exteroceptors, on the other hand, are receptors related to the 5 basic senses that connect humans to the outer environment, providing information about the body in relation to the physical world. These are: vision, hearing, tasting, smelling and touching. Our perception of the outer environment relies on these senses, which, combined with the interoceptors, shape our knowledge about the experience of existing in a human body. Somatic education supports people in becoming more aware of and balancing these perceptions, it helps on the pathway of learning how to listen to bodily sensation as well as interpret the information

coming from the external environment, ultimately bringing them together into an integrated experience.

Somatic work appeared as a way for man to bring himself back to center of his own experience, seeing himself again as a subject, observing external and internal events through a first-person gaze. This movement emerged synchronically in different parts of the globe at the turn of the 19th to the 20th century. In Germany, “artists and educators including Heinrich Jacoby, Elsa Gindler, Rudolf von Laban and Mary Wigman were sharing a vision of embodiment that supported individual expressiveness” (Coogan, 2014). “Apparently there was a need to seek ways to remake human behavior patterns, which would make more satisfying lifestyles possible” (Eddy, 2009). “Somatic education came as one way to unlock habitual patterns through listening to the body and realigning one’s lifestyle” (Eddy, 2016). This is a paradigm shift that is still happening throughout the 21st century.

The field of somatic education developed into three branches: somatic bodywork, somatic psychology and somatic movement (Eddy, 2003, 2009). In her book *Mindful Movement: The evolution of the somatic arts and conscious action* (2016), Martha Eddy classifies the founders and pioneers of somatic education in three generations. The first generation consists of eight people who can be called the founders of somatic education. “Several of them suffered illness or accidents that left them unable to move or speak normally. They used their personal experiences and their subsequent somatic insights to develop systems that have become the foundation of somatic education” (Eddy, 2016). They are: F. M. Alexander (1869-1955), creator of the *Alexander Technique*; Irmgard Bartenieff (1900-1982), *Bartenieff Fundamentals of Movement*; Gerda Alexander (1904-1994), *Gerda Alexander Eutony*; Moshe Feldenkrais (1904-1984), *Feldenkrais Method*; Mabel Todd (1880-1956), *Ideokinesis*; Charlotte Selver (1901-2003), *Sensory Awareness*; Ida Rolf (1896-1979), *Rolfing*; and Milton Trager (1909-1997), *Trager Method*.

The second generation of somatic pioneers represents the beginning of the influence of dance in somatic education. The first phase of the second generation consists of two dancers who created their own somatic movement system. These are: Anna Halprin, founder of the somatic system *Life/Art Process* and Elaine Summers, founder of the somatic education system *Kinetic Awareness*. The second phase of the second generation consists of four somatic pioneers, each studied a holistic dance or somatic system and created their own somatic healing discipline. Sondra Fraleigh, founder of *East West Somatics*; Bonnie Bainbridge Cohen, creator of *Body-Mind Centering®*; Emilie Conrad, creator of *Continuum*; and Nancy Topf, creator of the *Topf Technique* (Eddy, 2016).

Besides the pedagogical aspect of the field of somatics, numerous somatic experts created somatic systems to be practiced in therapeutic settings. These systems describe processes of guiding people to become aware of their own body wisdom. “The therapeutic benefits are wide-ranging from learning about oneself, to releasing of physical tension, to recovery from serious physical or even psychophysical trauma” (Eddy, 2016). “You learn to sense where you hold, where living processes are not permitted to function. And when you are aware of the holding – where you are not allowing yourself to function – then it’s possible to let go. But you have to sense it” (Gindler, 1925, as cited in Eddy, 2016).

Another tool that practitioners of somatic education and therapy use is the *Developmental Movement Patterning*, which is a mind-body technique pioneered by Bainbridge Cohen in the 1970s. “It is the study of the foundational movements that underlie all voluntary movement possibilities of an individual. The unfolding of these patterns begins in our mother’s womb and continues through our elementary years” (Cooksey, 2019, *Home* section). “If a pattern has been missed, this gap will weaken the support for all subsequent movement development. However, it is possible for an adult to remember the potentials for movement experience that haven’t been embodied, thus strengthening the foundations upon which their present movement are based” (Hartley, 1995).

The exchange between somatic education and dance education is particularly important in the present days. Besides the fact that somatic education prevents physical injuries among students and professional dancers, a possible marriage between these two apparently different fields would bring a new status for dance and dance pedagogy, a status in which more movement consciousness is involved.

From my perspective, an approach to dance education in which somatic practices are acknowledged represents historically a process of recovering the neo-humanism from Humboldt as well as Plato's ideas of harmonious development of the psychic forces. Reformist pedagogues also advocated the natural development of the inner forces of the individual and the cultivation of individuality and autonomy, which are also principles of somatic education.

Another ideological similarity between somatic based pedagogies and the Reform Pedagogy is a non-valuation of one’s felt and embodied experience. In the Montessori Pedagogy as well as in the first years of the Waldorf School the students are not graded and they are encouraged to follow their own learning pace. In somatic based dance education, “the dance students are encouraged to let forms of movement emerge from within, whilst paying attention to the intimate

relationships between sensory stimuli, perceptual interpretation and motor processing” (Steinmüller, Schaefer, Fortwängler, 2001, as quoted in Coogan, 2019).

Concluding this brief exposition of the development of somatic education from the middle of the 20th century to the present day, one characteristic that permeate somatic education systems is the development of methods that give support in attuning to the deep self-logic of the nervous system and to its inherent mechanism of self-regulation.

6. TWO SOMATIC TOOLS

6.1 Imagery

In my teaching practice I search for ways to involve students in the process of learning. I do not usually encourage students to reproduce the material I propose, it is rather more important for me, thinking from a somatic perspective, that they use the proposed tools as a springboard toward a direction that might be useful for them within their learning process. My concern is thus if the students are attuning to themselves in class. I usually think the class was successful when I feel that the students have been able to connect to themselves through the material I proposed.

Working with imagery is a powerful tool to get in touch with our source. If I think about moving from a first-person perspective, which is an underlying goal of approaching movement somatically, my imagination works as an inner guide that shows the pathways I want to follow, mostly unconsciously. If I think of a box full of codes that I carry along throughout my life, working with imagery is to actively tackle these codes and give them “space” so they can reveal themselves.

Mabel Todd, a pioneer in the field of somatics, conceived the Ideokinesis approach, which was further developed by Barbara Clark and Lulu Sweigard (who coined the term). In Ideokinesis, mental practice guides the brain to stimulate muscles to organize for a specific movement. Initially Todd's work was taught privately in a studio environment (Eddy, 2016). First, students learned simple aspects of anatomy as background for the introduction of certain body images. Next, the teacher used touch to facilitate concentration on the imagined actions. This system helped students to identify poor postural habits, reduce muscular tension and explore new patterns of coordination (Matt, 2014).

A similar procedure is also seen in other somatic practices, for example *Body-Mind Centering*®, which also uses images of the human skeleton to stimulate the body's inner awareness. BMC goes even further physiologically and uses imagery to help integrate the various systems of the body (circulatory, respiratory, lymphatic etc.), as well as for the developmental process that underlies movement, which starts with *awakening cellular awareness* and aims to integrate all *developmental movement patterns* until the infant is able to stand and walk.

As far as I can speak from my own experience with BMC and the Ideokinesis approach, both of them use imagery of the human skeleton to support the awareness of oneself, facilitating neuro-muscular connections within the body. In the case of using Ideokinesis principles, the support comes from other types of imagery as well, for instance it uses images of moving objects, occurrences in nature, human movement and abstractions (Matt, 2014).

Sweigard states that “the ultimate goal of Ideokinesis is to find balance, as opposed to imposing upon our bodies a fixed position of any part which we feel to be the ‘right’, ‘correct’ or ‘ideal’ one” (Matt, 2014, Eddy, 2016).

Ultimately the goal of these two somatic approaches, more broadly of somatic education, is the reeducation of the perception of one’s own body. By focusing on certain images and the bodily sensations stimulated by them, it is intended for the practitioner to re-tune their somatic nervous system through the reeducation of neuromuscular connections.

In dance education, the somatic practice is an efficient tool to teach dance without physical injury to young students (Williams, 2011) and to implement a “neuromuscular reeducation” for older students, in order to give them a broader spectrum of possibilities within which they can use their body in a more natural, efficient and healthy way.

6.2 Touch

Touch is essential to the human being. Among other things, it is responsible for ensuring a sense of well-being and security that is much precious in life. At birth, the nurse's hands welcome the arrival of the newborn child; throughout his growth, the touch of his parents or primary caregiver nurtures and guides his physical, mental and emotional development; at the end of life, his body is once again touched.

In the early years of life of an infant, there is a quality of touch that is of great importance on the process of bonding with his caregiver. In *Body-Mind Centering*® this quality is called *yielding*. According to Bainbridge Cohen, it manifests itself in the body when you "feel the increase of

tone on the side of you that is in contact with something other than space" (Bainbridge Cohen, 2017). That can be seen as a principle, which tells how a parent can enhance his body awareness as he comes into physical contact with the infant. The action of *yielding* coming from the parent influences the way the infant connects to the parent at the moment he is been touched, and ultimately influences the way the infant feels about himself.

Both the physiology and the therapeutic potential of touch has been scientifically studied over the last decades. Today it is somewhat understood and explained, both its objective and subjective characteristics. Our skin has numerous surface receptors that measure touch, temperature and pain. These receptors belong to the somatosensory system, which is a complex network of neurons and neural pathways that responds to changes at the surface and inside the body, and sends the collected information through the spinal cord to the brain (Central Nervous System).

There are mainly 3 types of receptors that innervate human skin: A-Beta-Fiber group, responsible for discriminative touch; A-Delta-Fiber group, responsible for the sensations of pain and temperature; and the C-Fiber group, which can register the pleasant feeling of tender touch (Pauli, 2017, Marlock & Weiß, 2006, McGlone, Wessberg, Olausson, 2014).

The A-fibers are myelinated, which means that the information captured by the skin receptors are transported very quickly through the spinal cord to the brain. These fibers are responsible for conducting *exteroceptive* signals; they perform a discriminative function, detecting and identifying external stimuli (McGlone, Wessberg, Olausson, 2014). The C-fibers are unmyelinated, therefore transport impulse slower than A-fibers; they are "associated with the processing of body signals, via *interoceptive* pathways that signal feeling rather than sensing states" (McGlone, Wessberg, Olausson, 2014). According to scientific research, the C-fibers might be able to register the unconscious aspect of the stimulus, which could be called the *intention of the touch* (Olausson, 2002, Wessberg, 2003, as cited in Marlock & Weiß, 2006).

The relatively recent discovery of these C-fibers has launched a discussion in the scientific community concerning the physiological basis of the effect of touch on the body and mind. What they have already found is that touch can influence our thoughts, emotions and ultimately human psyche, which apparently paved the way for the birth of the Psychoneuroendocrinology (PNE), a discipline that investigates the relationship between behavior and the hormonal functions of the human body, specifically the hormones produced in the endocrine glands (Marlock & Weiß, 2006).

In general, hormones can be defined as chemical substances that are produced in specialized cells of the body and are usually transported through the bloodstream to different regions, where they

act as messengers in controlling and coordinating the activities of the whole body. They include: oxytocin, endorphin, cortisol, serotonin and dopamine. These substances play an important role in balancing bodily functions, and touch, in turn, has a direct connection with the release of hormones into the bloodstream.

Cardace Pert and James Oschman are two biomedical scientists who wrote at the end of the 20th century about the relationship between touch, body and emotions. Their books² present biomechanical and electromagnetic models of an information network as mediators of the relationship between touch, body and emotions (Marlock & Weiß, 2006).

Even though research has been done over the past decades concerning the connection between touch, the release of hormones in the bloodstream, psycho-physical as well as emotional responses and behavioral patterns of human beings, there is still a need for more knowledge about the effect and meaning of different types of touch. However, in a therapeutic context, touch is already an absolutely present tool both in therapeutic treatments and in somatic methods of body-mind reeducation.

From my experience, both as a patient and in my practice within the context of somatic therapy training, I have observed that touch is capable of producing psychological and emotional reactions, which find a direct link and manifestation at the physical level. Touch can cause a rather quick response of the nervous system, which leads to, for example, spontaneous deep breaths, release of muscular tension, and generally promotes a sense of well-being and security in the patient.

The next section deals with the research I carried out with a group of students from the training program in dance pedagogy at the Tanz-Zentrale Leipzig, where, through the use of touch and imagery, I aim to verify students' responses to somatic practice.

² *Molecules of Emotions* (1999), written by Cardace Pert; and *Energy Medicine* (2000), written by James Oschman.

7. SOMATIC PRACTICE IN DANCE CLASS

The question I intend to address in this section is: Do touch and kinetic imagery facilitate learning in dance class? For this purpose I created a dance sequence for Contemporary Dance class and a set of exercises for Floor Barre class, which I taught to the students with whom I work in the dance pedagogy program of the Tanz-Zentrale Leipzig. The research was conducted over 3 classes, one per day, which were formatted as follows:

On the first day the sequence for Contemporary Dance class was taught and the somatic tool *Kinetic Imagining* was applied over it. For this I used 60 minutes, from which, 40 minutes were used for the execution of the research and 20 minutes were used for the feedback round, in which I asked the students about their personal perspective of the effectiveness of using imagination in learning a sequence of Contemporary Dance movements.

On the second day, the first phase of the Floor Barre class was held, in which I taught the exercises using mimesis and spoken language, in a total of 90 minutes. On the third day the second phase of the Floor Barre class was held, in which I used the somatic tool *touch* on the exercises that the students had learned on the previous day. This was done using 70 minutes of class time, followed by 20 minutes of feedback with questions and answers.

I registered in video some moments of the work with the students over the 3 days, as well as the question and answer rounds. This material was used only for my reference in the act of writing.

In the next subsections I will explain in detail how the research took place and present my observations, which will be illustrated with perspectives and comments from the students who participated in the research.

7.1 Contemporary Dance

The sequence with elements of Classical/Contemporary Dance that was used as medium for my research contained a *pirouette attitude* with spiraling of the upper body and a *grand rond de jambe jeté*.

Procedure

First the sequence was taught using traditional methods like mimeses, the use of spoken language and the mirror. After a time of individual practice, the students were divided into two groups and they performed the sequence with music. This first phase had a duration of approximately 25 minutes.

In the next phase of the research, I verbally presented to the students the somatic tool that they were going to use in the sequence they had just learned. I initially guided them in the following way: "Please choose a comfortable position and close your eyes; using only your imagination and without performing physically, please visualize the sequence you have just learned, as many times as you think necessary within the next 5 minutes. Take your time, try to pay attention to each detail of the sequence, the figures and the movement, the relation with the space, the relations between the several body parts; try to visualize the mechanics of the skeleton and the muscular work of the body; also pay attention to the time of execution of the steps and to the impulses and initiations of movement". For the description and application of the tool, approximately 10 minutes were used.

In the third phase, after a couple of minutes of individual body "reactivation" through walking, running and shaking, the students performed the sequence again, with music and divided into two groups. For this phase approximately 5 minutes were used.

After each group had danced the sequence 3 times, we sat in a circle and I asked the following question: "What was it that your body was able to understand and execute after the training with images, that was not possible before?" Some of the answers of the students are listed in the following subsection.

Students' Responses

"I understood the sequence better, I didn't have to think about what was coming, it was somehow homogeneous" (student 1); "When I closed my eyes, I realized that before I wasn't spotting at all when I turned, and I wasn't paying attention to my *en dehors*. It didn't work better after the training with images, but I was somehow more aware of what I should still pay attention to" (student 2); "It was difficult for me to imagine the three-dimensionality of the movements" (student 3); "I should have visualized the speed as well" (student 4); "I was more centered" (student 5); "It felt easier to dance through the sequence" (student 6); "I feel I danced better before than after the exercise; but I had better stability in the turn, probably because I thought a

bit more about the bones, the sensation of stacking them on top of each other" (student 7); "The exercise helped me to dance the movements more consciously and naturally" (student 8).

Reflection

Reflecting on the effect of applying kinetic visualization on the process of teaching the sequence of movements to the students, I can say from my perspective that it had a very positive impact. However, I believe that the use of this tool requires constancy, so that its effectiveness can be even more present, once the students have become accustomed to it. In general, I believe there was no negative response from the students, on the contrary, there was a desire to experiment more with this tool in order to get to know it better.

The students reacted in different ways during the application of the somatic tool. One student did not stand still, she moved around the studio. All others stood with their eyes closed. While some students stood still with relaxed bodies, others showed restlessness during the 5 minutes of *kinetic imagining* practice. Two students constantly changed their spatial orientation and one student tried some leg positions pertaining to the execution of the sequence. The student who kept moving chose not to use images; by using a skeleton model, she molded the figures of the sequence and then reproduced them on her own body.

According to my own observation about the immediate effect of practicing kinetic visualization on a new dance sequence, most students performed it more smoothly after the training with imagery. Their positioning in space also showed greater clarity. There was a noticeable improvement in stability under the base leg during the pirouette attitude. Body posture also improved throughout the execution of the sequence, they lengthened their torso and were apparently more aware of their body moving in space. Their sense of moving in group also increased. Regarding the counts of the music, there was a big difference from student to student. Some were able to place the sequence exactly within the musical time, other students showed no improvement.

7.2 Floor Barre

Touch was the tool I chose to work with in the Floor Barre class. The class consisted of 4 exercises: *tendu*, *rond de jambe*, *développé-enveloppé* and *grand battement*. All four exercises were performed to the front and to the side, only the *tendu* was also performed to the back.

Procedure

The research proceeded in a similar way to the Contemporary Dance class, with the difference that the Floor Barre class comprised two research days. On the first day, the exercises were taught in a “traditional” way. After the demonstration of an exercise, there was a couple of minutes for individual work until the whole group performed the exercise with music. The procedure was the same for all 4 exercises. At the end of the class, I communicated to the students that on the following day we would do the same sequence of exercises, this time using touch as a learning tool.

The next day, the process of working with touch took approximately 20 minutes for each of the four exercises. I invited the students to get in pairs. Initially I demonstrated the *tendu* to remind the students of the sequence. Next came the working-with-a-partner phase, where each student had approximately 8 minutes in each role. The student lying on the mat had the task of slowly executing the sequence, repeating whatever was necessary and communicating to his partner if he needed more support in some region of the body. The student who applied the touch positioned himself next to his partner and had the task of sensorially stimulating his partner's body, responding to his own impulse about where to place his hand and at the same time being available to meet his partner's request for support. Once this phase was completed, all students performed the *tendu* sequence with music.

The same procedure was performed with the other three exercises, at the end of which we sat in a circle and I asked the students: "How did the work with touch help you understand and execute the exercises?" Some of the answers of the students are listed in the following subsection.

Students' Responses

"When I was only thinking about my legs, I found it helpful to be reminded again and again through my partner's touch to relax my upper body during the *tendu*" (student 1); "In retrospect, when I did the exercise alone after the practice with touch, it was easier for me to think about the corrections" (student 2); "The stroking helped. My partner first told me where and how to initiate the opening of the leg and then came the stroking. This made me more aware of the direction of the movement" (student 3); "I was able to observe that my leg opened a little further outwards through the touch, and this minimal change, which I then consciously felt, was easier for me to reproduce afterwards" (student 4); "I was able to remember the movement quite differently

afterwards, because I had had an experience of my own. I think if you just tell me 'pull your leg long', then it is something completely different than being able to remember the feeling of when someone pulled my leg" (student 5).

Reflection

Reflecting on the effect of applying touch to Floor Barre exercises, I believe that the results were very good. Not only the feedback from the students was very positive, but I could also verify it through the final execution of the exercises. The students felt comfortable with this tool, they didn't show any resistance. In fact, touch is not a new tool for them. As I explained in section 3, the students have weekly Body-Mind Centering classes, which makes use of touch. However, the approach of applying touch in the process of improving dance movements was a new situation for the students.

I observed that on the whole, after the training in couples the students were able to perform the exercises differently and better, compared to before the application of touch. The limbs gained direction and spatial projection during the execution of the tendu, for example; the pelvis was better placed and centered; the outward rotation was more consciously coming from the hip joint; the students' bodies were clearly more stable, supported by the floor; the students were aware of the lengthening of the spine as well as of the positioning of the head.

Before the practice in pairs, it is as if the students were functioning in an "automatic" mode. Through working with the partner and more specifically through the use of touch, the effect, which happened spontaneously and naturally, was to turn their attention to themselves and notice what their bodies were doing at that moment. It was like turning the focus back to the awareness of the body.

8. CONCLUSION

On the basis of my observations and considering the students' reactions during and after the application of the somatic tools, I conclude that within the context of dance teaching practice in which I am inserted, touch and imagery are tools that can integrate dance teaching methods, with the goal of opening possibilities and paths for learning, as well as supporting the students in a way that invites them to be more aware of their bodies.

Within the short overview about the evolution of pedagogy in Europe presented in section 4, there is a historical movement that moves toward experiential learning. It started from a holistic viewpoint of man, moved away from it and returned to it. Somatic education has also moved in the same direction, emphasizing the importance of bringing man back to the center of his experience, in order to see the world around him again through a first-person gaze.

In the context of dance education, somatic practices bring a subjectivity that complements the objectivity of dance training. In the two experiments that integrate this research, the use of kinetic imagery and the use of touch, both proved to be useful tools in the process of learning.

Nevertheless, within the work setting I proposed, in which the first experiment was performed in a contemporary dance class and the second in a floor barre class, and also considering that the students had some previous experience with touch and no previous experience with kinetic imagery, touch proved to be more efficient, since it resulted in an exponential improvement in the execution of the sequences.

I believe that factors such as prior knowledge, psychological and emotional conditions as well as characteristics of each student's own learning process may have influenced the results of the research. However, these factors were not considered in this research.

Although the factors mentioned above represent material for further research, I do not see them within my scope of interest for future work. The research work that I undertook in the process of writing this paper brought me closer to two aspects of dance, both as art and as pedagogy. They are: objectivity and subjectivity. I finish my paper with the wish for future research on the characteristics that unite these two polarities, which in dance are constantly present.

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