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Progressing Flight: A Transformative and Somatically-Informed Performance Practice for the Aerial Dance Student Practitioner

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PROGRESSING FLIGHT: A TRANSFORMATIVE AND SOMATICALLY – INFORMED PERFORMANCE PRACTICE FOR THE AERIAL DANCE STUDENT PRACTITIONER

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has been approved as meeting the requirement for the Degree of Master of Arts in College of Performing and Visual Arts in School of Theater and Dance, Program of Dance Education.

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ABSTRACT

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Somatic based methods is an emerging area of interest within the subject area of dance study and more recent in aerial movement practice. Somatic movement experiences have inherent, distinctive and transformative characteristics to deepen understanding and knowledge of the concept of soma. This thesis investigates how somatic based exercises might influence physical strength, endurance, body awareness and sensitivity in an original research design. The study incorporates Progressing Ballet Technique or traditional based aerial circus methods with an aim to answer three essential questions. How might the use of somatic based or traditional aerial movement methods improve students' muscular strength and endurance in specific body areas when performing static exercises? How might the use of somatic based or traditional aerial movement methods improve students' strength and endurance while performing movement exercises? How might the use of somatic-based or traditional aerial movement methods compare to with students' understanding of movement elements, and overall body awareness and aesthetic sensitivity.

The study was conducted over a period of twelve weeks and used five research instruments to collect data from an experimental and control group of participants. The researcher attempts to present key insights regarding comparative practice regarding transformative practice methods useful to the student practitioner of aerial dance.

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My fellow cohort member, JaLeen Murphy who inspired me to keep pressing forward joyfully.

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CHAPTER I

INTRODUCTION

Goal of Thesis

Contemporary aerial dance and traditional aerial circus continue to evolve and expand as a visually enticing cross-pollination of dance, sport, and extreme action movement disciplines of the 21st century. The emergence and evolution of aerial dance as a creative movement hub during the postmodern dance period in the west certainly reveals aesthetic commonalities. Redefining aerial dance and aerial circus in an evolving context continues to be a topic of discourse among scholars, performers and practitioners. An apparent and gradual convergence of aesthetic ideas, redesign of practice models and noteworthy innovation expands critical subject matter and thought. It is suggested and even argued that the action of pushing off or pulling-upward as an indicator for identifying and categorizing aerial dance and aerial circus is pertinent to the conversation.

While the exchange of big ideas inspires and shapes the future aesthetic direction of the aerial arts as an emerging movement art form, the goal of this study contemplates a sensory-based domain as a foundational consideration. Somatic-based thought was the focus of this quasi-qualitative action research study as a transformative tool for facilitating and cultivating personalized tactile-kinesthetic intelligence.

Purpose of Study

As a former performer of traditional aerial circus and a current aerial dance instructor to a community of students with diverse experiences and abilities, it is incumbent to be informed about and impart essential relevant knowledge.

The opportunity to design and initiate an aerial arts unit for the upper level division grades 10-12 at the researcher's institution within a generalist dance program became a unique feature of dance as taught at the school. In addition, the hybrid dance studio aerial dance lab space at the school was optimal for implementing somatic based aerial movement teaching techniques. In line with her purpose, the researcher sought to examine the effectiveness of somatic thought on developing body awareness and aesthetic sensitivity in aerial dance. The teaching technique selected for use in this study was Progressing Ballet Technique (PBT) which includes principles rooted in somatic based thought and exercises.

Key questions emerged in conjunction with the researcher's purpose, and also with the purpose of expanding her personal interest in sensory-based practice. The use of PBT teaching principles provided the structure with which to address the proposed questions used in this study. The questions were: 1) How might the use of somatic practice methods improve students' muscular strength and endurance in specific body areas when performing static or stationary exercises? 2) How might the uses of somatic practice improve overall strength and endurance when performing movement exercises? 3) How might the use of somatic practice methods compare with the effectiveness of performing traditional movement exercises? The aforementioned questions, one through three, were used when examining and comparing the effectiveness of traditional aerial circus and aerial dance teaching practice methods to the aerial circus and aerial dance classes taught using somatic-based teaching methods.

Significance of Study

In some measure, it is acknowledged that the emergence of a relatively new mainstream umbrella term “aerial arts” encompasses an expansive sensibility amongst aerial dance and aerial circus practitioners. This means the phrase aerial arts is suggested as a suitable fit for both aerial dance and aerial circus as an inclusive term because there is a blurred aesthetic between the two, and since they embody similar movements.

Traditionally, aerial circus assumes recognizable qualities of unbounded airborne movement exhibiting fundamental acrobatic skills and athleticism but which is void of an identifiable narrative or theme. Extreme midair exchanges and airtime releases are a distinct feature of aerial circus performances. In contrast, aerial dance as a more contemporary innovation utilizes simple machines within the six basic categories of design supported by grounded to air and air to grounded movements framed within thematic choreography. In aerial dance, the base model involves patterns of movement progression that are fluidly interconnected.

Aerial dance and aerial circus, as coexisting disciplines, are on the rise as a luminous commodity for the entertainment industry. With certainty the aerial arts continue to draw media attention, and levels of interest among raw talent, emerging practitioners and aspiring professionals. Thus, a significance of this study is to discuss the emergence of the term aerial arts as it applies to aerial circus and aerial dance.

This study is also significant because it is offered as a jumping off point to examine and inspire revision of teaching strategies to be used in the future teaching of aerial circus and aerial dance. For purposes of clarification of specific content and context, aerial dance and/or aerial circus are utilized to describe essential characteristics observed and informed by multisensory

engagement of participants in this study. In pursuit of an embodied sensation of flight, recreational, professional or otherwise, aerial dance and aerial circus present a complex network of considerations from the standpoint of a conscientious instructor and participant. An analysis and evaluation of existing data by the researcher describe the physical demands, injuries and performance loads sustained by an aerial arts practitioner. All of which suggest a broad application and contribution of the somatic-based teaching methods used in this thesis study.

Considerations directly relating to the significance and possible outcomes of this study framed the importance of discovering tools to: 1) evaluate physical and psychological preparedness or fitness for aerial arts participation; 2) screen students' movement background experiences and perceptions; 3) promote self-knowledge and understanding of soma or body knowledge and its distinct functions; 4) foster a personalized and functional integration of practices offered in the classes; and 5) design injury prevention measures. The key initiative for this study pointed to the importance of introducing somatic thought as a useful strategy to inform movement and effectively transform the aerial dance practitioner's practice.

CHAPTER II

LITERATURE REVIEW

The field of somatic study and somatic-based arts has an expansive and evolutionary narrative. Pioneers of somatic thought and movement systems have laid out a rich intersection of foundational content and context. The emergence, development and integration of somatic practices with dance and the movement arts has gained relevance today. As a transformative tool, the somatic-based movement arts are a relatively uncharted area of study as they relate to influencing aerial dance. In this chapter the researcher presents a spectrum of current scholarly work, publications and commentary to promote an understanding of the topics of aerial dance, somatics and their subsequent relationship.

Aerial Pursuit: A Brief History

Across oceans of time and place there is abundant evidence of the existence of human kind's fascination, pleasure and pursuit of flight. Plenty of fictional, non-fictional, literary and artistic accounts have uniquely and creatively interpreted this notion. Figures 1 and 2 show Leonardo da Vinci's creative renderings of winged extensions and simple flying machines. Other notable figures such as Daedalus and Icarus in Greek mythology, depicted in figure 3, also had vision quests of the imagined possibilities of flight.

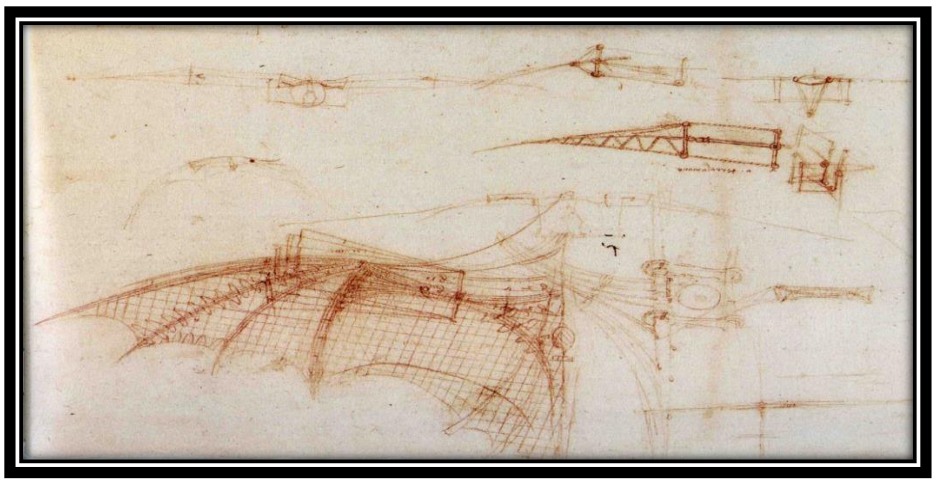


Figure 1: da Vinci's rendering of winged extensions (https://goo.gl/images/9mJR6H)

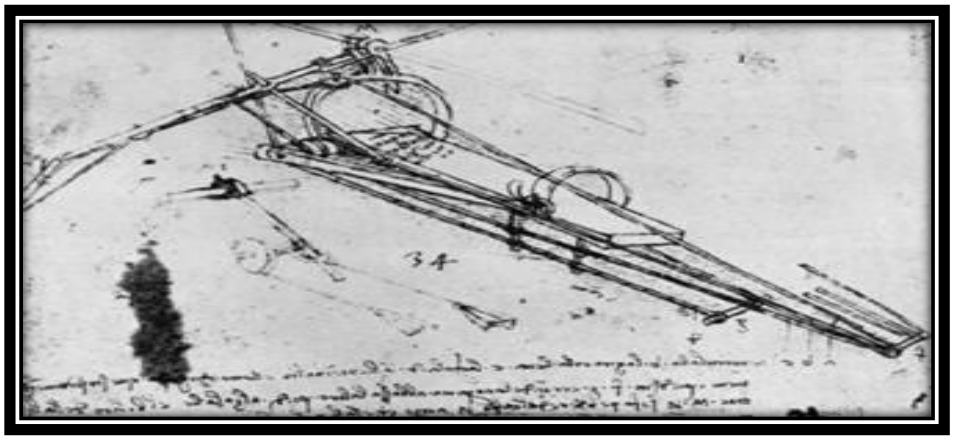


Figure 2: da Vinci's rendering of a flying machine (https://www.hexapolis)

Figure 3: Daedalus and Icarus (https://i.pinimg.com)

Interest in flight is also documented in cultural rites of passage. These well-documented rites are deeply rooted in a common and collective effort of a people to embody flight. For example, ceremonies in present day Papua New Guinea feature land diving from extreme heights, while the Mayan Mesoamerican flying dance ritual, Los Voladores de Papantla, is performed in México and regions of Guatemala. The photos displayed in figures 4 and 5 show the practice of producing the sensation of flight, often accompanied by altered and enhanced states, persists. Such flying rituals, involving unique internal and external experiences, are pertinent to the heritage, existential tribal memory, and ritual continuity among these groups of people. They emerge from a complex interweaving of intention, interconnectivity and culturally relevant embodiment. The body in flight continues to have a timeless and universal appeal.

Figure 4: Land diving (https://goo.gl/images/hF6AZP)

Figure 5: Los Voladares (https://goo.gl/images/JmeDvN)

In the west, present day recreational participation in experiences that provide an adrenaline rush or a flight response remains an attractive lure. Extreme action movement and activities that create the sensation of flight can be observed in skydiving, parasailing, and even parkour, a training discipline using movement that was developed from military obstacle course training. In parkour, practitioners aim to get from one point to another in a complex environment, without assistive equipment and in the fastest and most efficient way possible. Actions include, but are not limited to rolling, running, climbing, swinging, vaulting, and jumping (https://en.wikipedia.org/wiki/Danza-de-los-Voldaroes). As a popular and commercial commodity parkour is on the rise as a recognized practice and competition, feeding an inherent human need for the flight sensation.

Origin and Evolution of the Aerial Apparatus

The origin of the trapeze is interesting as it is presented in the history of flying and aerial performance. One precursor to this apparatus can be traced to documentation in classical Greece dramas in which hot-air balloons provided mechanical means of initiating airborne elements as a theatrical effect. The hot-air balloon is later traceable to its adaptation in Europe's fairgrounds

where it was used as an apparatus to suspend bodies. This use would, in turn, influence nineteenth-century ballets, and their integration of aerial staging effects (Tait 5).

The creation of the trapeze can also be connected to other ancient Greek innovations. As early as the fifth century BCE, Greek vase paintings in the Mannerist style depict female figures propped on a swing, suggesting a precursory design to the nineteenth and twentieth century swing apparatus. (Bell 21-38). Thus, the swing, as an action apparatus is important as it was adapted in aerial circus and later for aerial dance applications. These artifacts show the invention of the swing and later the trapeze have a much earlier history than was previously thought. The photos in figures 6 and 7, from the Boston Museum of Fine Arts, are vases or amphora, and that show a representation of such swings.

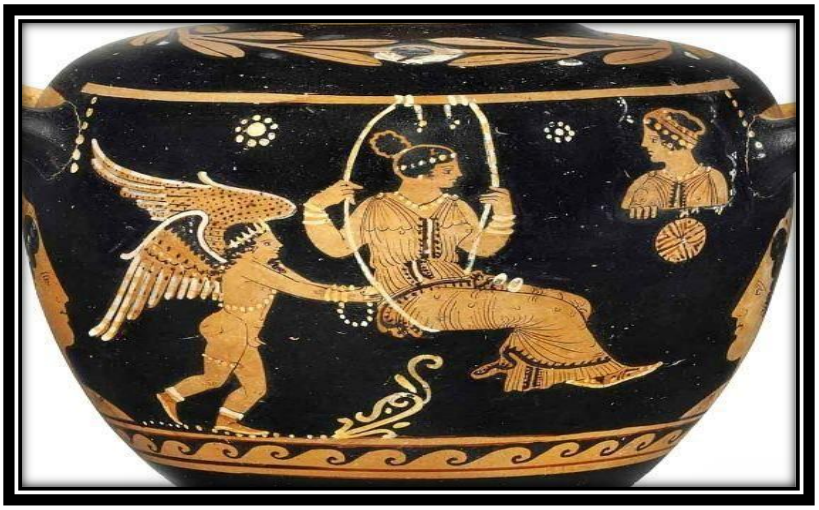


Figure 6: Ancient Greek swing (https://goo.gl/images/f7ieHV)

Figure 7: Greek representation of a swing (https://goo.gl/images/Vutje6)

The concept of the swing during this earlier period reappears later in contemporary aerial and acrobatic trapeze entertainment. As with the similar construction to its forerunner, the Greek swing, a conventional trapeze is recognizable by fabrication of a horizontal bar of metal or wood with two ropes or wires anchored or attached on each side of the bar.

Much later in the mid 1880's, French acrobat and innovator Jules Léotard is credited with advancing the notion of aerial performance using the trapeze. Léotard's aerial performance act, titled La Course aux Trapèzes, presented at Paris' Cirque Napoléon, currently recognized as Cirque d' Hiver, featured mid-air releases and mid-air transfers from one apparatus to another (www/circuspedia). His personalized sense of style and aerial aesthetics would also inspire the leotard, a dance costume used today. "The Daring Young Man on the Flying Trapeze," an English music hall tune, is also associated with Léotard (Loxton 68). In *Circus Bodies: Cultural Identity,* Peta Tait reveals the absence of a light-hearted meaning for this tune, pointing to feminist theory, bold choices and blatant aesthetic controversy. In chapter two, which describes unnatural acts by female performers. Tait wrote:

> This popular song describes what happened in trapeze history as females copied males and then became more successful. It also reflects popular prejudices that young women trained for such extreme physical acts out of love and/or familial obedience. Whatever the assumptions about performers' offstage motivations, the performances themselves generated female physicality that was fearless, brazen, even outrageous, and which broke social taboos. (38)

Later in the same book, Tait added:

> This point is clear when considering the execution of the triple, quadruple somersault (flying trapeze) and other aerial feats discounted contributions of the female aerial narrative. The male aerialist's female counterpart in the case of Antoinette Concello was performing triple somersaults with Ringling Brothers and Barnum and Bailey Circus in 1937. Antoinette was the only women doing the most difficult tricks in the first half of the twentieth century. At a time when gendered expectations in aerial flying made Antoinette stand out, her achievements were measured against three of the world's leading male flyers. (101)

As a diverse mélange of cultural entities, aerial performers and performances would continue to inspire mechanical and movement innovations throughout the aerial circus narrative.

As time progressed, the aerial dance and aerial circus apparatus underwent a cycle of reinvention. Regardless of how the reinvented trapeze designs mentioned above inform static, spinning or full swinging movements, the capacity to reinvent tradition has been apparent and evident. In the tradition of the American circus spectacle, aerial arts performances reigned as a center ring solo attraction. The aerial ballet spectacle featured a full ensemble of show girls who ascended up to twenty feet high to perform choreography, including ballet positions such as arabesques, along with splits and spins, all while attached at the wrist or ankle. The finale of such performances usually ended with high velocity spins as the aerialist gripped the apparatus with one hand while suspended above the ground. The high velocity spins are initiated by a footer (ground- based web manipulator). The aerial apparatuses used in these acts included, but was not limited to, aerial ballet dance displays on the web, also known as the Spanish web, Roman rings

and the rare hair-hang performances. In figure 8, the researcher can be seen performing on the Roman Rings.

Figure 8: Researcher in a Roman Ring Performance (Private Collection)

The Roman Rings reflect a design similar to male Olympic, gymnastic rings. Lillian Leitzel and Dolly Jacobs performed on the rings during the heyday of the American style three-ring Ringling Brothers Barnum and Bailey Circus. Howard Loxton, circus historian and author of *The Golden Age of the Circus*, colorfully highlighted the artistic contributions of Jacobs, a silver clown recipient at the International Circus Competition, for her presentation on the Roman Rings (73).

In his description, Loxton also pointed out that there was a gradual but significant aesthetic shift from purely midair acrobatic feats to embodying dance choreography with balletic sensibilities. He makes reference to how spectacular aerial acts utilized simple apparatus designs like a vertical rope or the corde lisee to create different aerial effects. When using the corde lisee, the performer may use only one twist of the rope around a limb to give support for artistic poses high above the ring. An alternative use of the corde lisee is to loop the rope around a wrist or

ankle. Figures 9 & 10 respectively illustrate Lillian Leitzel on the Roman Rings, and Dolly Jacobs ascending on a corde-lisse in preparation for mounting the Roman Rings.

Figure 9: Lillian Leitzal on Roman Rings (http://www.circusworldbaraboo.org)

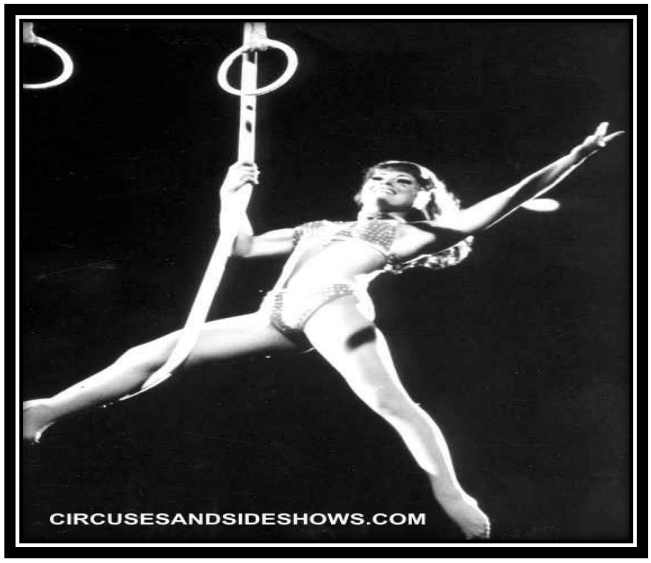


Figure 10: Dolly Jacobs on corde lisse/web (https://www.google.com/search/dollyjacobs)

As lead teacher, coach and aerial choreographer from 1978-1989 for the New York School of Circus Arts and Big Apple Circus, the researcher had the opportunity to observe Dolly Jacobs multiple times in rehearsal and performance during her 1988 Lincoln Center circus tour. This opportunity influenced a shift and rethinking for the researcher concerning aerial

performance and its aesthetics. Observation of a well-crafted and award-winning Silver Clown performance at the International Circus Competition in Monte Carlo was also key to changing the researcher's views on aerial performances and their aesthetics (http://www.circopedia.org/Dolly_Jacobs).

Apparatus used for aerial performances continues to change. The single point aerial apparatus is a more recent innovation. Initial aerial explorations through the use of a single point apparatus provided new opportunities for creative movement exploration. For example, floor to airborne transitions and vice versa were now considered a relatively easy action using the single point apparatus. This is in comparison to the extreme heights associated with aerial circus. In terms of aerial training and as a way to prompt a sense of aesthetic effortlessness, an improvisational approach to aerial movement instruction and exploration was launched as its baseline method.

The dance trapeze pictured in figure 11 is one form of the single point apparatus. The triangular metal anchoring barre provides attachments for ropes and optional loops in which the performer can hang by the wrist, elbow, knee or ankle. Support padding can also be attached to the horizontal barre. In addition, rope splicing at terminal points (top and bottom), use of certified metal aerial rigging thimbles and interwoven galvanized steel wire have become premiere trapeze fabrication products replacing the forerunner design of the 1960's. The single point aerial dance trapeze design replaced a two point/rope anchoring system has limitations because it only allows forward and backward swinging. With this second-generation design more movement variations are possible, such as spinning, or flying in a conical shape which emerged, leading to three-dimensional explorations.

Figure 11: Single Point Dance Aerial Dance Trapeze (https://goo.gl/images/uN6smt)

Key features of exploring and performing on a low hanging single point trapeze apparatus include both vertical and horizontal movement pathways. This apparatus can also support solo, partnered and ensemble groupings. The solo performer in Figure 12 displays a single leg crochet with the right leg and an arabesque with the left, while holding a static balance on the coccyx/lumber body region of the body. To achieve this position, the performer utilizes a push off from the ground, followed by pressing into the held position. This image captures the essence of aerial movement; its unbounded ease and freedom from rigid formality that can be developed and manipulated in the creative work of aerial dancers.

Figure 12: Performer on single point aerial dance trapeze
(http://catalog.cirquejourney.com/wp-content/uploads/2017/02/242-trapeze1.png)

The aerial hoops and aerial silk, displayed in figures 13-15, are two other single point structures that provide a broader spectrum of spatial environments which can be explored in movement. Unlike the apparatus displayed in figure 12, figure 13 shows a hoop with an attached black hand loop which provides an anchor point for a body part. More than one body limb can be securely anchored through the loop, depending on its diameter and its the point of attachment to the hoop. The typical diameter of the loop is 30, 33 or 36 inches. However, custom made diameters may exceed these specifications. When exploring movement within these spatial environments the aerialist can encounter involuntary movements of the apparatus. Such involuntary movements can occur even when the body is in static positions and postures.

The apparatus shown in figure 13 can also provide for swinging movements when it is rigged as a dead hang. This means the single point attachment of the apparatus has no swivel. However, the use of an aerial swivel provides for the capability to spin safely, provided it is made with high-density aircraft aluminum, and mounted with enclosed stainless-steel attachments. In order to avoid risks on this apparatus and also on more sophisticated hardware, Newton’s three laws of motion must be kept in mind to maintain safety precautions before, during and after flight.

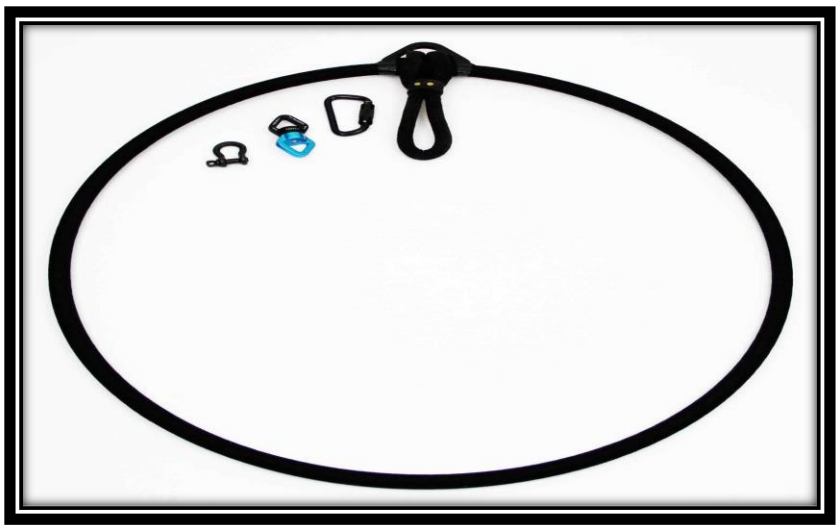


Figure 13: Single Point Aerial Hoop/Lyra with hand loop (https://goo.gl/images/iBytpm)

Figure 14: Duet Performers, Single Point Aerial Hoop (https://goo.gl/images/gsdZu9)

The above figure illustrates how two performers might negotiate the spatial environment on and moderately above the center ring space using single point aerial hoops. Of course, safety and risk factor considerations are greater when working in partnered formations and small groups. On the other hand, the exploration of balanced and unbalanced forces and body shapes reveal layers of movement possibilities and varied choreographic inspirations when more than one performer is on the apparatus.

Figure 15: Single Point Aerial Silk Rigging (https://goo.gl/images/ZbAbBk)

According to Julliana Hanes in *The Aerial Teacher's Handbook*, movement on the single point aerial silk enables performers to rotate and perform other dynamic movements, including swiveling, whirling, rolling, wheeling and pivoting. During these actions, the body can move through its vertical, sagittal and transverse/hortizontal axes or planes (67).

Figure Figure16: Aerial Yoga Hammock https://goo.gl/images/RiCg52)

An enclosed material loop or hammock is similar in structure to the aerial silk. It has inspired the popular aerial yoga rigging design. This apparatus can be viewed in figure 16. Aerial Yoga as a practice reflects conventional yoga principles, with assistance from a prop that happens to be an aerial apparatus (Hanes 141).

The innovative design of the low hanging single point aerial apparatus opened the door to more diverse explorations and provided enhanced aerial effects of a body in flight. The action of grounded and airborne movement made possible by the single point apparatus allows for a seamless weaving together of body positions and the transitions between them. Each of the aforementioned apparatuses has directly and indirectly influenced contemporary aerial dance innovations and their embodiment.

Along with changes in apparatus, there have also been changes in the content of aerial performances. The aerial ballet displays of the 1990's were gradually phased out as the aerial ballet dancer argued to have the same status and recognition as the circus aerialist, along with the increased wages associated with the latter title. This debate was supported by the danger to the aerial ballet dancer's body due to the extreme height of the aerial anchoring loop prior to the final ascent.

Another content innovation has been the shift from narrative free to narrative-based aerial choreography performances as seen in the Cirque du Soleil production *Dralion*. The fact that aerial performances can also tell a story attests to further changes in this field. In *Dralion,* an aerial dance pas de deux is performed on silks, making it not unlike a ballet divertissement. This performance stands alone as a captivating dance experience held together by outstanding athleticism.

Aerial Arts: Coexisting and Converging Aesthetics

It is common knowledge among aerial circus traditionalists that the titles aerial performer, flyer and aerial performance denote a sense of prominent artistic status imagined or real. Along with the evolution of aerial design, the development of aerial terminology

experienced a vast shift of understanding and reference. However, aerial circus would be among key terms referenced in contemporary discourse about aerial acts and aerial dance. In addition, the historical record is considerably blurred as to when the interchange between the words aerial act and aerial performance as descriptive terminology occurred. The interchangeability hints at a necessary, gradual and relevant initiative. A rethinking of how the term aerial arts encapsulated what was thought of as traditional aerial performance and a contemporary embodiment of airborne movement, will be examined. In considering how the term aerial arts emerged, and what it encompasses, the researcher discovered that this term includes two coexisting and converging disciplines—aerial dance and aerial circus.

Like modern dance, the essence of the aerial arts is progress and change. In her book *Modern Dance: Seven Statements of Belief,* Selma Jean Cohen describes the modern dance aesthetic, and points out the following:

> The modern dance is a point of view, an attitude toward the function of art in the contemporary world. As that world changes, the modern dance will change, for the symbols will again—as they became acceptable—lose their power to evoke the hidden realities. They will again have to be recharged, revitalized; even demolished and re-created anew in order to serve their function. Unless this happens, the modern dance is not modern—it is dead. The modern dance is an art of iconoclasts. (14)

As with modern dance, the concepts of aerial dance and aerial circus are ever evolving, and as such need to be examined through a lens of coexisting and converging aesthetic forms. A baseline definition of the term aesthetics is also considered and referenced as a tool to deepen understanding of how each form is perceived, and appreciated, along with how one responds to them. It is also suggested by the researcher, that an expansive use of the term aerial arts as a method to enhance purposeful discourse is justified. In itself, the larger conversation points to infinite and creative possibilities of the study and understanding of aerial arts. Additionally, in light of the new converging aesthetics of aerial dance and aerial circus, the title of aerial

performer provides a sense of neutrality between previously diverging viewpoints. It is suggested here that the juncture between the traditional and contemporary mind is where aesthetic thought can find common ground.

The word flying demonstrates another change in aerial terminology. Flying, which was essentially an aerial circus term, now appears in aerial dance terminology. The question might then be asked as to how the aesthetic outcome of a sense of flying in aerial dance can be compared to the sense of flying as performed in aerial circus? Does one form provide a more authentic flying experience than the other one?

In their book *Aerial Dance*, co-authors Jayne Bernasconi and Nancy Smith provided a succinct description of how aerial dance is part of the dance world, but how the term aerial arts seemed to fit the aerial circus domain (6). In consideration of her expansive creative investigations, the researcher felt this was an opportunity to rethink the paradigm of how each discipline shadowed and mirrored the other, yielding an unavoidable merging of aesthetic thought and subsequent opinion. Initially, the aesthetics of the postmodern dance movement was also understood as a component influencing the emerging aerial dance sensibilities. Accordingly, the above two co-author's assert the following:

> Aerial dance has its own language, including movement vocabulary. The training of aerial dancers and the making of aerial dances are closely allied with the aesthetics of modern dance. And, like the long and varied history of modern dance, there are many approaches to both teaching and choreographing. Its aesthetic does differ from circus. The circus school method is to push, push, push in order to attain perfection. This type of teaching is rigid and comes from a very old tradition. It is a more harsh approach than the exploratory and improvisational methods often employed with aerial dance. In circus training, bodies are sometimes forced into positions. There are specific ways to do these positions and no other way is allowed. It is "moving from outside" and presentational. The focus is on executing one trick after another. In this regard, you might say that the circus training more closely resembles traditional ballet technique, while aerial dance is more reflective of its roots in modern dance. (5-6)

This comparison between aerial dance and aerial circus provided during the time of publication of the above book has evolved and shifted in new directions which are also based on a converging of aesthetic training methods. The early days of a nationalized state circus school training system associated with communist block facilities, like the former U.S.S.R., is familiar to the researcher who is a former aerial circus student trained under this system. This rigid training system served a larger goal because it was framed within its political underpinning. It reflected a former time and resigned the aerial practitioner to a monoculture of training methods. However, technical aspects and characteristics of this training style would continue to influence instructional strategies across geographical boundaries and time periods.

Between the 1970's-1990's the notion of new and contemporary circus ideas emerged and we begin to recognize a shift in demands on circus artists. Such new demands meant that circus aerial artists would have to train in several circus disciplines in order to serve a greater aesthetic spectrum (Lafortune, Burtt and Aubertin 241). The reinvention of tradition is far-reaching and ongoing, impacting sectors of the performing arts and corporate circus enterprise. Training systems and strategies for meeting the complexity of converging aesthetics govern the shifting aerial dance and aerial circus blended landscape.

According to Louis P. Leroux & Charles R. Batson in their work *Cirque Global*, the introduction of Decision Training in the elite circus arts training program at the École Nationale de Cirque de Montréal (Montréal National Circus School) is an example of a recent and significant shift away from traditional instructional approaches (240). This point will be further explored under the subheading of aesthetic sensitivity.

Growing opportunities to participate in annual aerial dance festivals and at circus competitions also suggest suitable opportunities for the exchange of learned and shared

experiences within the allied aerial disciplines. Such festivals and competitions may also provide a forum for answering some of the above questions.

One such opportunity appeared at the annual European Aerial Dance Festival (EADF) held in the UK in August 2017. The Festival's roundtable symposium provided an enriching experience where a spectrum of aerial arts practitioners, researchers, movement scientists and educational specialists were able to have an interdisciplinary discourse. Claire Farmer a dance science and dance health educator provided a context for discussion at this two-day event. She explained:

> Aerial performers, coaches, innovators and entrepreneurs aim at generating new ideas and theory that provide food for thought towards the development of best practice methods. There is much to be learned and shared between dance, aerial and circus, helping to ensure performers of all genres can perform to their optimal potential and easily seek the specialist advice and healthcare they need. We are looking forward to building this relationship with aerial and circus performers further, and sharing knowledge and expertise to achieve these aims. (https://www.nidms.co.uk/)

On the national scene, the annual Aerial Dance Festival (ADF), organized and presented by Frequent Flyer Productions, is another opportunity for all levels of practitioners and professionals to participate in workshops, lectures, demonstrations, and informal discussions. Nancy Smith, Artistic director/founder of the Boulder, Colorado Festival asserts that this annual event fosters artistic exchange of ideas through discourse and performance. Smith noted:

> At our Festival, everyone comes together to share their aesthetics and techniques, as well as discuss equipment and other common interests. While there is a separate history and lineage of the circus and aerial dance, the two art forms are becoming more entangled. (http://circusnow.org/aerial-dance-circus-nancy-smith/)

It is now a reality that both aerial dance and aerial circus coexist in a postmodern dance world by evolving in a contemporary social circus dynamic. Both are artistically driven by shifts in trends because the aesthetic complexity within the aerial arts compels inevitable change and new directional focus.

Aerial Dance: A Movement

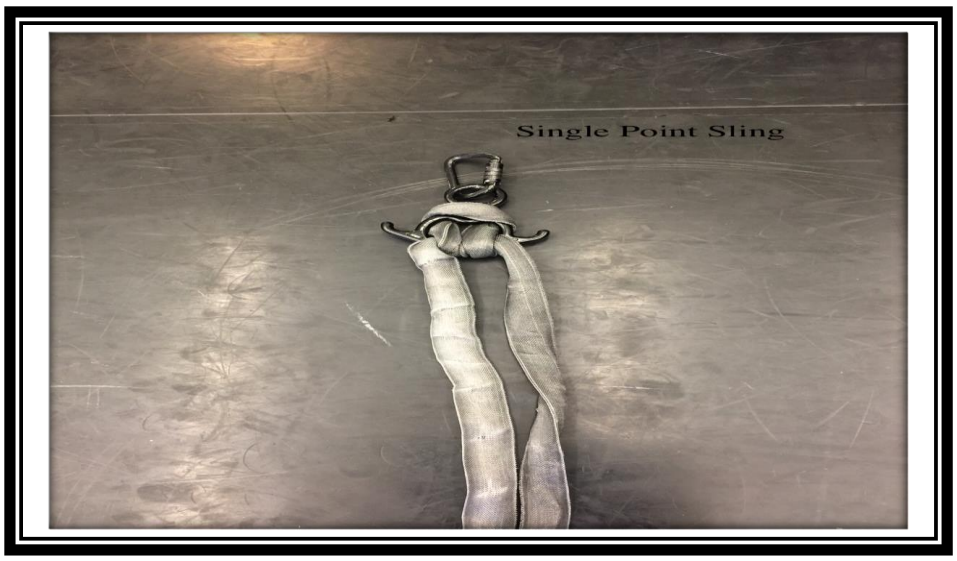
Since its inception, the aerial dance movement was experimental and improvisational. It emerged as a new embodied voice, and journey of self-discovery, creativity, and possibilities. Initially, it was the work of aerial dance maker, Stephanie Evanitskys' Multi-gravitational Aerodance Group during the mid1960's, and Terry Sendgraff's, Motivity in the 1970's that initiated the aerial dance movement. The work of these innovators was followed by a host of other shakers and movers that would contribute to an evolving aerial dance culture.

Bernasconi and Smith noted that the aerial dance pioneers followed creative ideas initiated by Alwin Nikolais, one of the great modern dance choreographers of the twentieth-century, since his work created the illusion of a body in flight. In a review, Roslyn Sulcas also commented on Nikolais' influence on aerial dance, and how his work provides a succinct impression as it relates to aerial movement environments. She wrote:

> The Joyce program shows one of the earliest and most famous of those multimedia works, *Tensile Involvement* (1955), in which the dancers have elastic strings attached to their hands and feet so that their movements seem to angle into infinite space. As in many Nikolais pieces, the concept is simple, but elaborately executed, with light used to create imagery that transforms the dancers into component parts of a whole. In other works, they wear costumes that alter their shapes, become blank surfaces for patterns of light, or, in *Gallery*, appear as floating heads that keep popping up and disappearing. (https://nyti.ms/2s4v2MW)

Further Aerial Dance Innovations

Other devices, in addition to those described previously have since been created. Such devices allow for additional aerial dance movement explorations. These devices, which can be seen in figures 17 through 20, include the single point dance sling, span-set ring sling, and the single point fly pole.



Through trial and error and also by using her vivid imagination, the researcher had a positive outcome when she visited a local industrial business. Thus, the industrial span-set ring sling, shown in figure 18, was invented based on the researcher's extensive experience with aerial rigging, risk management in aerial acrobatics, and the ownership of a state of the art aerial rigging system. At the time, the researcher was unaware use of slings by other practitioners in the field had emerged as an aerial application. For the researcher, the discovery of other similar designs was a pleasant affirmation of her creative investigation of aerial apparatus possibilities.

Figure 18: Industrial span-set ring sling (https://goo.gl/images/9q95gc)

Each of the above aerial dance apparatus designs provides for low-flying ground to airborne applications, although the device pictured in figure 18 has the following added advantages. The configuration of the industrial polyester span-set ring sling blends the skill of aerial circus with dance sensibilities. In addition, this device provides for vast explorations. The aerialist could now hang, pose, spin, swing, and balance using a variety of holds and body positions such as being vertical, horizonal or inverted. Furthermore, experimentation with the added width of the round span-set ring sling influenced and provided for broader use in both moving and static applications. When teaching skills using this device, initial learning and practice are introduced at a less than average height, beginning from the ground up. However, both of the sling devices provide for a range of ground to aerial movement explorations in a relatively controlled aerial environment. While in flight, the aerial student remains in close proximity to a spotter who is able to use a hands-on safety conscious approach.

In the case of the aerial apparatuses pictured in figures 19 and 20, one begins to observe an engineering shift in design and movement applications. The design of the fly pole apparatus, pictured below was influenced by the aerial hoop. This streamlined, portable dancing pole, which is also used for pole dancing, can easily be rigged to make a flying pole. It is smooth and its custom-made grip provides the ability to move, spin vertically, and dance in inverted and horizontal body shapes. Many unique and different aesthetic options have emerged as a result of exploring movement using this device.

Figure 19: Single point fly pole without base (researcher photo collection)

Spinning and circular pathways are part of the aerial fly pole dance movement repertoire. In addition, it provides wider boundaries of environments that can be explored such as traveling in circles, rather than being restricted to swinging in purely straight-line pathways, although the circular pathways require the mover to develop and maintain higher levels of fitness and aesthetic awareness. The position in figure 20 suggests that aerial dance has shifted to requiring strength, stamina and flexibility in the lower limbs as well as in other parts of the body. Each of these fitness components will be examined further in a later part of this chapter.

Figure 20: Aerial dancer on fly pole (https://goo.gl/images/MzX4or)

The recent movement innovations noted above are practiced at greater heights, and as a result, incorporate spotting devices such as belts, harnesses and other hardware. In aerial circus, an overhead spotting rig or lunge system is also commonly used. A similar apparatus is also part of the training for high level skills in diving, trampoline work, sports acro-balancing and power tumbling. Figure 21 shows a common aerial rig.

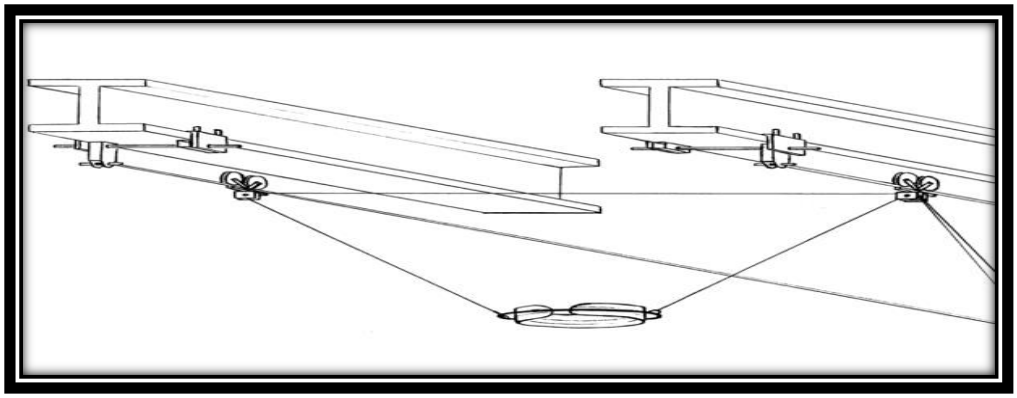


Figure 21: Overhead Spotting Rig (https://goo.gl/images/Z3XcEB)

The invention of innovative mechanical devices such as the newer generation of hydraulic designs further closes the gap of aerial dance and aerial circus and their aesthetic outcome. Rolling points, low-flying trapeze, and custom designed flights provide a wider arena for creative investigations and developments in the converging aesthetic realms of aerial dance. By creating an expanded and calibrated dimension of physical environments, new external spaces are provided for exploring movement. For example, the single and double point custom made aerial hoop, can be designed to fit specified body measurements. It provides for expansive movement possibilities such as the previously described movement axes and planes, as well as accommodating multiple bodies in a shared aerial environment.

A growing practice and goal in aerial dance exploration and performance involves movement presented at altered heights through the use of aerial manual and hydraulic systems. The butterfly lift in Figure 22 shows a detailed schematic of how this device might be used with

a single point aerial hoop/lyra apparatus. This aerial dance device is gaining attention by way of its mechanical advantage. However, installation and use require specialized training in theatrical or aerial rigging.

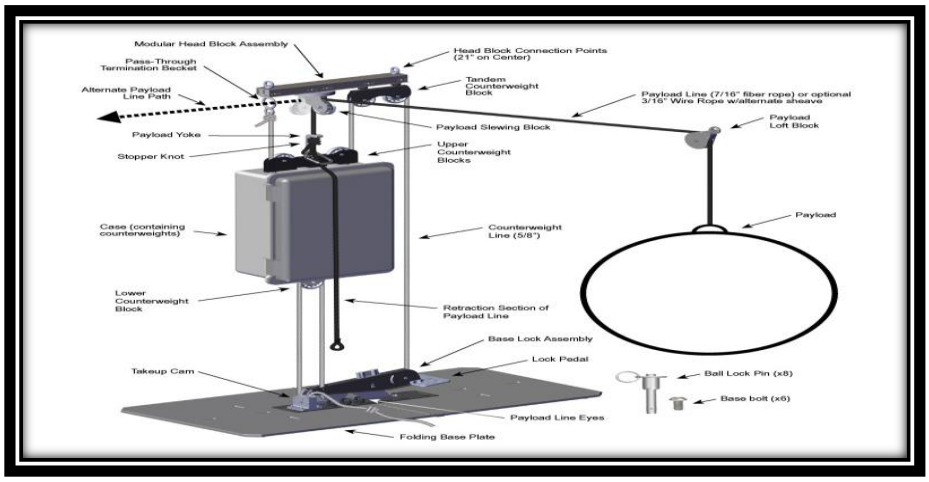


Figure 22: Butterfly Lift System (https://goo.gl/images/fSSKuV)

In thinking about how aerial dance and aerial circus have changed and merged to reflect converging aesthetics, it is fair to assume new spatial and physical possibilities will continue advancing on a path of innovation and change. In exploring aerial movement and the crafting of performance, it is essential to understand how aerial apparatus design continues to influence the movement product. Not unlike the converging narrative aesthetic of aerial dance and aerial circus, the aerial apparatus has undergone and continues to undergo a cycle of reinvention.

Somatic Thought and Movement Systems

The integration of somatic bodywork is gaining recognition within a diverse community of occupations. Emerging somatic literature, research and data provide environments for learning about one's body, and tools for deepening understanding of self within an extended context. The researcher's interest in somatic thought as a catalyst for informing and transforming her teaching practice is central to this study. Additionally, the researcher's observations of somatic practice

and somatic-based movement methods has sustained a deep-seated curiosity about what might be learned or discovered. The researcher's pragmatic and theoretical experiences, have also led to the recognition of the inherent value of somatic-based practices and their influence on kinesthetic sensing, mind-body connectivity and body awareness. These experiences are relevant to commentary provided by Sylvie Fortin who makes a case for the current evolution of the field of somatics saying, "Indeed the field of somatics is growing in unexpected ways, as are its players who tend to eventually pursue a practice of their own design" (1).

Derived from the Greek word soma, meaning the living body in its wholeness, this root origin yielded the umbrella term somatics. This term is credited to Thomas Hanna. His contribution to the field of somatology led to the system known as Hanna Somatic Education (wwwhttp://hannasomatics.com). In deepening understanding of the soma, Hanna provides the following thought:

> The uniqueness of human beings is in being, simultaneously, subjects and objects. Humans are self-sensing and subjects while, at the same time, they are observable and manipulatable objects. To yourself, you are soma. To others you are body. Only you can perceive yourself as soma—no one else can so. But everyone else can see you as a body. Even you can see yourself as a body by looking into a mirror. In the mirror you will see an external, third-person "him" or "her" just like everyone else; but only you have the privileged perception of also seeing me (Hana 20).

Julie Brodie and Elin Lobel defined somatics by explaining how the work of Moshe Feldenkrais and Hanna reflects fundamental principles inclusive of the entire being-body, mind, and spirit viewpoint. They said:

> It is the idea that the soma is a changeable, fluid entity that responds to both external and internal stimuli. This means the focus is on the individual experience; how one feels as opposed to how others perceive another person feels. By increasing internal sensitivity or listening to one's body, it is possible to become aware of habitual ways of moving and responding and arrive at new movement possibilities. In this manner, somatic thinking emphasizes the process, rather than the product. Somatic systems vary in their approach yet fundamentally share the notion of breath, sensing, connectivity and initiation as common elements. These authors assert that there is a baseline truth about the way the

> body works and moves, and that awareness is the first step toward changing and sharing a common goal of improving alignment and movement efficiency to enhance physical functioning and artistic capacity. (6)

Based on the researcher's investigations of somatic literature, the fundamental principles of breath, sensing, connectivity and initiation were selected as the focus in this thesis project. It was discovered through direct and indirect sharing that these principles constitute fundamental aspects of somatic thinking and are reflected in older somatic systems such as the Alexander Technique, the Feldenkrais Method, Bartenieff Fundamentals, Body-Mind Centering and Ideokinesis. They are also the basis of newly emerging somatic-based practices and can be applied to the teaching and learning of movement. In *Moving Consciously: Somatic Transformation through Dance, Yoga and Touch,* author Sondra Fraleigh described movement-based somatics. She indicated:

> As a practice, movement-based somatics refers to approaches that cultivate experiences of the lived body, sensory appreciation (aesthetic and aesthetics), and awareness through movement. Somatic movement approaches include movement patterning, experiential anatomy, developmental movement, somatic yoga, and dance for personal and community development. These approaches often make explicit use of performance and expressive imagination. The use of touch is also prominent in movement-based somatics, especially as applies to movement facilitation in the bodywork and yoga and in contact in dance. (5)

The aforementioned definition aligns significantly with key aspects of the design of this study. The researcher has taken a broad-based approach to somatics in this study with the goal of informing and transforming purposeful aerial dance teaching experiences. The essential goal was to make a shift towards a cross-cultural approach.

A Sensory-Based Strategy for Teaching Aerial Dance

Historically and in the present, aerial arts teaching strategies have embodied various approaches and differing points of view. Accordingly, Hanes asserted:

> All perspectives hold validity and are appropriate in context to different goals and learning environments. From the circus perspective grounded in a long tradition, emphasis is often placed on using the laws of physics, connecting exercise science and sports psychology, structured around a linear progression of skills and drills. The fitness perspective and industry provide classes focusing on the health and benefits of aerial work and technical expressions. A third perspective, aerial dance, places less emphasis on developing levels of fitness. The practice reflects qualities that of its' modern and postmodern lineage. The creative and improvisational aspects of the form balance the skills expression. (7)

In accordance with each perspective, it is suggested that current and evolving points of view will continue to attract distinct learners and learning outcome goals. The shift as a global experience within the field of aerial arts continues to be enriched through these diverse perspectives. Since the researcher has encountered various learning environments, teaching styles and perspectives, a somatics, sensory-based aerial dance teaching strategy was adopted as the motivation for this study. Furthermore, the integration of a sensory-based approach became central to this study after the researcher's review of her goals through the lens of self-knowledge, personal discovery, and teaching experiences that are unique to aerial dance.

The Progressing Ballet Technique
Principles and Practices

Progressing Ballet Technique (PBT), created by Marie Walton-Mahon, has emerged as an innovative tool for deepening understanding of movement, enhancing training for muscle memory, and learning skills necessary for developing classical ballet technique (https://pbt.dance/home). The groundbreaking design and initiative of PBT is to improve core stability, weight placement and body alignment. Outcomes of learning movement through the PBT method include an understanding and activation of muscle memory to: 1) activate turn out; 2) enhance adage movements; 3) accelerate allegro dance steps; 4) activate batterie; 5) help control landings 6) breakdown the exercises into their component parts; 7) build a developmental

series of exercises; 8) design age relevant exercises; and 9) correct performance of muscle groups that assist each movement (www.pbt).

The overarching principles of PBT introduce short repeatable forms of movement patterning and repatterning through self-moving and/or guided touch, enabling the practitioner to shift towards self-knowledge, awareness and transformation. Teacher-led cueing guide a student through experiential values considered to be the center of each practice. Transformational conditions are deepened by the integration of practice tools in the form of resistance devices (bands, balls, walls and domes). Practitioners are encouraged to examine and reexamine movement habits by moving consciously and intentionally. The progression of PBT instruction considers levels of self-knowledge, understanding and abilities that foster conditions for self-growth and conscious embodiment.

When integrated with fundamental principles intrinsic to aerial dance movement, PBT's overarching concepts provide relevant content. By design, key aspects of PBT's advanced flow forms patterns and provides conditions that explore planes of movement as an emergent potential for expression. PBT movement-based practice grounded in somatic intention is gaining expansive recognition for its inherent, multipurpose and transformational value. A copy of the PBT somatic exercises used in this study can be found in Appendix C.

Somatic intention through the use of PBT should provide students freedom to explore ways of knowing and experiencing through the lens of aesthetic purpose. It could be a way to artfully and creatively investigate while learning aerial dance movement. The researcher also believes that the body processes involved in PBT practice could have a far-reaching effect in cultivating how perception of somatic movement arts might influence emotional levels of participation during aerial movement. In the presentation of PBT content, the use of imagery as a

marker for connecting ground to air sensibility is reflected in principles expressed by Fraleigh who states:

> Somatic processes account for emotional responsiveness, since emotion is a major somatic marker. Image and archetype grow from these because emotions coalesce in images—visual, aural, kinesthetic, and in relation to all of the senses. Dance and theater are rich sources for such imagery, whether abstract or narrative. (7)

Improved Fitness

Developing, maintaining and increasing levels of fitness are of prime importance for sustaining the physical demands associated with a particular perspective approach to learning the aerial dance art form. Whether the extent of a practice embodies traditional aerial circus, contemporary aerial dance or a blended framework, the body as a template requires functionality.

A commonly misunderstood notion is that upper body strength is solely responsible for achieving skill and ability in aerial dance, either while moving or still. The type of fitness required is more expansive and should include a spectrum of approaches. As with any and all forms of dance, in aerial dance the body is the instrument through which movement as a form of communication emerges. From this assumption and understanding it is fair to imply that maintenance and functionality of the body instrument is key in meeting the demands of the art form. There are a variety of components to fostering appropriate fitness as a maintenance plan of action, and there are many ways levels of fitness can be measured. With a solid understanding of this topic, individuals can then address those aspects of training that directly impact their own fitness.

In her book *Aerial Physique Fit*, Jill Franklin shares blended concepts through proven methods, and principles, targeting improved fitness appropriate for aerial practice. Each chapter presents guidelines, technique tips and modifications organized under fitness components such as

cardiorespiratory endurance, muscular endurance, muscular strength, muscular power, flexibility, balance, speed, and body composition (6).

Franklin's book also revealed a bridge between traditional conditioning methods and somatic-based thought such as the thinking found in PBT. This is reflected in exercises that integrate and reflect the use of (yoga) mat-based work, fitness resistance tools and progression style movement content.

The training tips, modifications and guidelines in this book also provided a rich source of information and preparation for teaching aerial dance ground to air navigation. The core program highlights key exercises that benefit straight leg inversions relevant for a variety of aerial skill movement (47). In addition, Franklin's seven bullet point guidelines reflected a global understanding of and exercise science concepts for designing the training methods used in this study (14). Each chapter methodically explains exercises accompanied by visually mapped illustrations of body regions familiar and new, and provided relevant content for a mixed ability practice. Finally, the additional information provided under the "why" screen shot sections in Franklin's book provided a fundamental understanding of how an exercise might influence or inform movement.

Chapter nine, titled "Conditioning and Injury Prevention," in Hanes' book provided further concepts for introducing cross training in the researcher's aerial dance instruction methods. This is true because this chapter included information about specificity, diversity, intensity, and training cycles (73). This content provided clarity and direction for structuring activities for the experimental group in this study which integrated somatic intention and bodywork in the training methods.

Reviewing planes of movement and possible movement directions based on anatomy was a foundational element to understanding fitness as well. Ann Staugaard-Jones' book, *The Anatomy of Exercise & Movement for the Study of Dance, Pilates, Sports, and Yoga* provided theoretical information about muscles and their actions that the researcher used as a teaching strategy in this study. The use of applied exercise and anatomy recreated a landscape of understanding and connected form and function. Chapter One in this book, dives deep by explaining key and relevant terms that describe direction, movement and planes of the body used in both the experimental and control groups in this study.

Movement Efficiency

Performing effective actions with minimal effort is important to fostering movement efficiency. It is a process that is important to the practitioner, but as the researcher it was necessary to decide which aspects of efficiency were relevant to this study. As a certified practitioner of American Ballet Theater pedagogy, the movement efficiency training structure designed by the researcher was influenced by classical dance guidelines. The overarching principles of the subjects' age and ability determined appropriate practice through conscious embodiment of key concepts, leading to the development of the teaching techniques.

Hanes' chapter on defining and initiating technique makes reference to Adam Woolley founder of CircusEdge in New York City. In this chapter, Wooley provided rich, insightful and useful content. He posed four key questions aimed at coalescing ideas that focus on moving with ease in terms of biomechanical function, aesthetic goals, lesson progression, and adaptability. At a glance, the points presented asked the practitioner to consider the following: 1) Is the movement easier or more possible when it is performed in a certain way? This question points to efficiency. 2) Is the movement safer when a particular approach is used? This question points to

biomechanics. 3) Does the movement look better when there is more than one way in which it can be performed? This question points to aesthetics or beauty. 4) Does the way a movement is learned prepare you for learning another subsequent skill? This question points to progression. A fifth question that Hanes posed relates to connectivity because it asks whether the way a movement is learned can translate to a variety of situations. This question points to adaptability (46). The researcher found each of the preceding questions was attractive and closely connected to the goals of this study.

The researcher also reviewed somatic exercises designed to influence sensory-motor pathways and movement efficiency. The somatic exercise program designed by Hanna, and influenced by the work of Moshe Feldenkrais, reflected conscious attention during movement and stillness. This program is both theoretical and action oriented. In chapter fourteen of his book, Hanna offered specific procedures for making changes in the sensory-motor areas of the brain in order to maintain internal control of the body's muscle systems (95). These exercises, which were presented in the form of eight lessons, included illustrations, descriptive imagery and key insights relevant to this study. Additionally, movement efficiency was fostered because the researcher had the freedom to integrate principles from PBT with the somatic exercises, providing a platform to investigate and restructure ground-based aerial dance applications.

Aesthetic Sensitivity

In thinking about how to structure her study, the researcher decided it was essential to identify a single component of aesthetic sensitivity in order to be able to observe the emergence of this trait in students. As a result, the use of breath as it related to aesthetic sensitivity was identified as the area of focus. The trait breath was identified following an extensive observation of aerial arts activities during practices and performances because at the introductory level aerial

dance students are prone to hold their breath. Holding the breath may be an internal response or form of trepidation displayed as students learn to transition from the ground to the air. The researcher believed she could observe the students use of breath, and thus their developing aesthetic sensitivity, as they gestured, moved and embodied varied aspects of aerial dance technique. When students improve their aerial dance skills, a gradual change can usually be observed to produce more harmonious actions.

The researcher's decision to observe the nature of her students' breathing in relation to their aesthetic sensitivity was reinforced by Brodie and Lobel who believed breathing was a bridge between the conscious and unconscious mind (39). In chapter two of their book, these authors examined different actions and the types of breathing that resulted. The illustrations, movement exercises and teaching tips were highly useful to the researcher when she developed exercises that prompted students to form their bodily or proprioceptive responses during aerial dance training. In aerial practice the use of appropriate breathing techniques can help or hinder such goals. It is also a marker to gauge levels of fear and trepidation in learning, performing and even mastering levels of proficiency.

Embodying a Sense of Flight

An important question emerged as the researcher reflected on the meaning of an embodied sense of flying. Thus, how can the instructor use words to effectively communicate a sense of flight that elicits an appropriate, personalized kinesthetic response in students? This issue led to formulating a general guiding principle relevant to the study and encouraged the researcher to ask her students the following question. What is the intent behind your action? The following definition of aerial dance reinforced the researcher's decision to emphasize the connection between action and intent. In one resource, aerial was defined as:

> Anything that lifts a dancer off the ground with an apparatus, such as a trapeze, hoop, rope and harness, stilts, bed frames, suspended bicycles, or lawn chairs. However, it's not just the lift off that makes it aerial dance; it's the intention of the choreographer using aerial and its relationship to modern dance aesthetics. (Smith & Bernasconi 6)

The researcher used a number of sources to design her study. One source written by Hanes was especially informative because it included different models of presentation in a classroom setting. This information helped the researcher consider which teaching approach was appropriate for both the experimental and control groups. All the literature reviewed provided extensive and pertinent information for each area of focus in this study and guidance for designing its general overall structure.

CHAPTER III

METHODOLOGY

This chapter details the methods used in completing an action research project that was twelve weeks long. In addition, immediately following the completion of the project, several days were dedicated to reviewing and organizing materials

Preparation for Conducting the Project

In preparation for conducting the thesis project, the researcher reviewed her plan of action with her thesis adviser and prepared all the needed materials. The researcher also secured approval from the University of Northern Colorado Institutional Review Board (IRB) and personnel at the researcher's teaching institution. The key institutional personnel contacted included the school head, associate head and department chair. It was determined that the institution's mission statement resonated appropriately with both the role of the students as perspective participants in the study and the researcher's role as their teacher and facilitator of the study.

Institutional Review Board Approval

In compliance with standard research procedures, the researcher followed set guidelines, and provided her research narrative and other required documents to the IRB committee. Approval from IRB was granted after the above documents were received in their final edited form. In addition to the research narrative, the researcher submitted samples of her consent forms and research instruments during the approval process. The researcher received final approval to conduct the study on January 18, 2018.

Research Context

This research took place at the performing arts complex located within the teaching and learning institution where the researcher is employed as a full-time dance faculty. It is the belief of the researcher's learning institution that technology is an integral part of learning and an essential tool in supporting student engagement and productivity. The individualized technology set-up at the school enhances and expands in-person and remote participation through digital learning devices. In the case of this study, students' laptops or school issued laptops supported the research goals. The researcher and student participants in the study had access to the school's Internet system seven days a week for twenty-four hours each day.

The participants in this action research study were upper division students enrolled in year-long aerial dance courses offered within the performing arts program at the researcher's institution. The aerial dance courses were not required but chosen by the students as a course selection option. The course selection option provides students the opportunity to enroll in and earn required credits in performing arts and physical education. In the case of this study, the participating students were evenly split between fulfilling their performing arts option or their physical education credit requirement. Since the researcher has an extensive background in the aerial arts, and previous success with course designs, there was a reasonable expectation that there would be sufficient enrollment numbers in each aerial dance course in order to conduct the study as designed.

The two aerial dance classes described above constituted the experimental and control groups in the study. Those students participating in the aerial dance unit for performing arts credit made up the experimental group, and those registered for physical education credit were in the control group. Each group consisted of equal enrollment numbers at the onset of the study.

The experimental group was taught using the somatic-based PBT teaching techniques described in the previous chapter, and the control group was taught using traditional aerial dance instructional methods. Thirty invitations were given to the students in the two aerial dance classes to invite them to participate in the study. Initially, six students signed on to participate in the study, but only five completed the full research study. Four of the participants were female and one was male.

Contact days for both the PBT experimental group and the control group aligned well providing equal contact days within a nine-day school cycle. Saturdays were used to make-up for interrupted contact days when students were sick or had to attend special school or community events. Each of the five subjects displayed an overwhelming commitment to the study by their willingness to participate in each component of the research design. Each of the five participants were at a novice level of aerial dance skills and aerial circus ability at the beginning of the study. All study participants displayed an appreciation of dance and enthusiasm for enhancing their aerial movement abilities throughout this study.

This study took place in three separate spaces which were located in close proximity. One space was designated for the aerial movement component, a second one for the digital interviews, and a third space was the studio dance lab in which the students in the experimental group practiced the somatic techniques. The set-up of each environment was optimal for encouraging involvement in the activities described above.

Somatic Movement Studio

The somatic movement studio, which doubled as a conventional dance studio, is equipped with standard mirrors, wall-mounted and free-standing ballet barres and a sound system. The researcher had advocated for and been provided with the use of this dance studio and the accompanying equipment a number of years before the study took place. This earlier request was made as a tool to enhance the dance class environment. A state-of-the-art newer generation interactive SMART board was also installed in this dance studio. The researcher was able to deliver key somatic concepts using the SMART board to enhance students' participation and understanding.

After her encounter with somatic thought and practice, the researcher acquired funds to equip the dance studio with practice mats, fitness balls and various movement resistance tools. The use of fitness balls is an essential component of PBT practice. To accommodate somatotype differences each participant selected appropriately from 55, 65 or 75-centimeter dimension balls. Those students in the PBT experimental group engaged in sequentially designed somatic-based movement sessions led by the researcher. They were also allotted time for reflective electronic journaling which was prompted by a single open-ended question.

Aerial Dance Lab

The initiative to create an aerial arts lab emerged from the researcher's interest in developing her own career, and a growing trend and interest in aerial dance. This led to in-depth discussions with key performing arts school heads on how to initiate an introductory level aerial activity that would result in a positive outcome. The initial program, which was taught by the researcher, was designed as a community outreach

offering. The success of the community-based program provided a platform to further explore and expand an aerial arts unit for the school's academic year-round student participants. In

discussions about budget and overall costs, the safety, space and related essentials had to be systematically considered.

To launch an aerial arts lab, the researcher provided personally owned and fundamentally essential items for an introductory level program. The lab was equipped to meet two areas of interest—aerial circus and aerial dance. Aerial circus uses static single, double, and multiple trapeze designs. As noted in a previous chapter, such apparatuses accommodate a specified number of aerial movement figures. In addition, nine aerial silk stations were provided for aerial dance practices. The fabrics utilized in the study were made of high-grade super stretch tricot. This choice was effective in accommodating the ground to air factor of aerial dance.

In setting up the aerial dance lab, careful consideration had to be given to fostering safety first practices. Each participant in the study had to be mindful and learn aerial rigging protocol. Being able to navigate the ground and grid set-up was essential to enhancing understanding and expanding knowledge of the aerial arts practice. On the ground there were appropriate guidelines for the locations of mat areas which need to be directly under each aerial station. These guidelines were made clear and had to be carefully followed. On the aerial grid, participants learned and mastered essentials in terms of knowing how to anchor rigging points and hoist each piece of connected hardware to the anchor points.

Learning aerial dance terminology, correct execution, and understanding the language of the rigging parts of the apparatus were critical to the process and participation in the study. At the end of the study each participant displayed levels of mastery while on the ground, mid-air and on the grid of the aerial apparatus. The required level of efficiency and knowledge needed for successful navigation of the dance lab set up and strike (tear down) after each aerial practice session was essential.

Remote Participation

The ability to access and connect to the school's Internet system facilitated expeditious communication between the study's participants and the researcher. This tool enabled the students and researcher to access and store content through an encoded Google Docs shared folder. Each participant created an individual file under an assigned code. This was a way to assure confidentiality, identify each subject and track recent entries. This remote network tool was effective and practical for addressing details involved in the project.

Research Design

In the design of the project, the researcher considered logistics of scheduling and how to organize each component of the study appropriately and effectively. Once the researcher had the full support of her teaching institution, a clear direction of how to navigate aspects of the study became clearer. The researcher had full access to needed spaces when they were available throughout a school week and also on occasion on Saturdays. When appropriate, research was conducted during class time to address specific points in the study. Five research tools were utilized to collect essential data. These tools, which will be explained under the instrumentation section of this chapter, include an electronic interview, a pre-test and posttest assessment, student reflective journaling, and lastly an exit survey.

The final design and aim of the study was to examine the following questions: 1) How might the use of somatic practice methods improve students' muscular strength and endurance in specific body areas when performing static and stationary exercises? 2) How might the use of somatics improve strength and endurance when performing movement exercises? And, 3) How might the use of somatic-based practice methods improve students' understanding of movement elements and their overall body and aesthetic sensitivity?

Experimental Group

In order to attract students to participate in the study, the researcher handed out envelopes containing detailed information about the project, plus essential consent forms. This content was given to all fifteen members of this class. Three fully completed and signed forms were returned two weeks after announcing the study and handing out the information packets. These three students were the participants in the experimental group. These subjects' materials were coded in a way that distinguished them from the control group and also afforded them confidentiality.

The members of the study's experimental group had diverse dance backgrounds in regard to the acquisition of technique within specialized dance genres such as world, social and a traditional concert dance. The three subjects' specific dance experiences included Flamenco, Spanish Dance, Escuela Bolera (a slow, romantic, gliding Spanish dance), and classical ballet training rooted in Italian-French methodology. The collective interest of this group in wanting to develop fitness levels, movement skills, engage in PBT practice and explore aerial movement was positive.

Control Group

The researcher followed a similar format of announcing and presenting informational material about the study to the second class. These fifteen students were also coded or labeled in a way that distinguished them from members of the experimental group and which provided for confidentiality. As with the experimental group, three students expressed an interest in participating in the study from beginning to end. However, over a period of two weeks, one member of this group dropped out of the study, leaving two as the final number in the control group. As a whole, this group displayed an interest in experiencing aerial circus and the thrill

associated with performing tricks. Product over process exemplified the aesthetic approach used in teaching this group.

The dance training background of the control group consisted of classical ballet, jazz dance at the fundamental level and select world dance styles, also at the beginning level. As such, the decision to assign these participants to the control group made sense because of their collective attitude and recognized preference for conventional practices and information-based rather than experiential learning.

Instrumentation

Five research instruments were used to collect the data in this study. These instruments are described under each of the following subheadings. The researcher's decision to include a variety of measures reflected a varied approach and an interest in expanding the potential outcome of the study.

Electronic Interview

Both groups, experimental and control, were issued the electronic interview. The five student participants in the study digitally recorded their response to twelve open-ended questions. The interview protocol was issued to each participant individually and scheduled for a forty-five-minute block of time. Two physical spaces were provided in which participants could record responses to twelve open-ended questions. One space was the researcher's school office and the other one was an alcove between the aerial dance lab and the somatic movement studio. The researcher provided and set-up an electronic laptop device and then left the interview environment so the subjects could record their responses in private. Signage was posted to prevent any disruptions, encourage privacy and the confidentiality. A copy of the electronic interview questions can be found in Appendix B.

The electronic interviews were transcribed and reviewed to identify common themes. The detailed nature of the transcription process took a considerable amount of focus and time. This aspect of the study will be addressed in-depth in the discussion chapter.

Pre-Test and Posttest

The purpose and design of the physical assessment implemented a way to establish a baseline measure of ability and identify specific areas of fitness. The first assessment was completed to measure muscular strength, and the second to measure muscular endurance. The appropriateness of the aerial dance lab provided a reliable and practical space for completing this assessment. The members of the experimental and control group were assessed together as a group, but the two groups were assessed separately.

An examination of muscular strength and endurance of primary muscle groups during exercise was completed using different parts of the test instrument than those used to assess strength and endurance in static positions. Thus, test components for muscular strength and muscular endurance were tested using both dynamic and static skills. A description of these test components can be found in Appendix B.

Tables for muscular strength and muscular endurance were created to record the results of these measures and as a later reference for each participant's abilities in these areas. Towards the end of the study, these tables were also used for recording the posttest assessment of these same abilities. Use of the tables provided a strategic element that encouraged continuity, and factual and timely collection of data. The assessment rubric of muscular strength and endurance for the pre and posttest followed the same format. A copy of the tables used to record these measurements can be found in Appendix B.

Student Journaling

All participants were instructed to create an encoded electronic folder on Google docs. This folder was labeled Process and Reflective Practice. The file was accessed when appropriate and as needed to inform the researcher of relevant information key to the study. All responses were encoded to ensure confidentiality. Both the experimental and control group participants were asked to reflect and record responses in the electronic folder to a single open-ended question. The open-ended question encouraged an interpretive and exploratory approach to enable the subjects to express their thoughts, feelings and reactions to their practice sessions. This question was: Synthesize and describe an aspect of your session as it relates to concepts presented and effectiveness in your practice. The researcher felt this question was relevant to each aerial practice session experience because it could be filtered through the lens of either somatics teaching techniques (experimental group), or traditional aerial dance teaching practices (control group.) Each reflective practice entry was used to track distinctive processes and progress over the duration of the study.

Exit Survey

The exit survey was issued as a paper questionnaire and distributed at the end of the study to both groups—experimental and control. The questions addressed content specific areas asking about experiences targeting PBT or traditional practice methods. A copy of the exit surveys can be seen in Appendix B. Each participant completed and submitted the survey form within a week's time of initial distribution. All forms were stored in a binder and secured according to the research consent form confidentiality stipulations.

Summary

In above paragraphs, the researcher has described her interest in investigating somatic-based aerial arts teaching techniques as a possible transformative teaching device in aerial dance

practice and explained the methods used in this study. The following chapter highlights particulars in greater detail.

CHAPTER IV

DISCUSSION

This study was completed within reasonable expectations based on the proposed research schedule. The pre- and posttest measures of muscular strength and endurance are reported in this chapter along with a summary of major themes that emerged from the qualitative data from the interviews, journal entries and the exit surveys. The content of this chapter follows the order in which each research instrument was used in the study.

Outcome of the Preliminary Interview

The interviews involved a straightforward process in which the researcher hoped to understand what each student wanted to gain from being involved in an aerial dance class. Through the interview questions, the researcher also hoped to make the students' learning process more personal and maximize the self-directed nature of their actions during the classes. In addition, the interview questions provided a strategy for deepening the researcher's understanding of each participant's movement, dance, sport, and fitness level and their willingness in their responses to define and shift their sensibilities about aerial dance practice and process.

Several themes emerged from the preliminary interview responses for both groups. It was apparent that the students' dance training experiences were diverse and sporadic but enjoyable. Descriptions of the students' previous dance training, its duration or frequency, and the students' response to that training can be seen in Table 1. Students 1 and 2 were in the control group, while students 3-5 participated in the experimental group.

Some of the students participating in the study were also involved in various sports prior to the onset of this research. These sports included equestrian sports, soccer and swimming.

However, the students' participation in the sports activities was described as being at a low level with only intermittent involvement. Overall, the students' self -assessment of their fitness level was rated as modest. The students' descriptions of their dance,-sport and fitness levels can also be seen in Table 1 below. Subject numbers PBT I–III were assigned to the experimental group, and the control group numbers were TRAD I-II.

Table 1

Students' Answers in Interview

Subject number	Previous Dance Experiences	Previous Sport Experiences	Self –assessed fitness levels
1. PBT I	Yes/Flamenco	Some/Equestrian	Low
2. PBT II	Yes/Contemporary	Some/Swimming	Mid-High
3. PBT III	Yes/Latin Social	No	Low
4. TRAD I	Yes/Classical Ballet	No	Low
5. TRAD II	Yes/Step & Stomp	Yes/Soccer	High

Outcome of the Pre-test and Posttest Assessments

The pre-test and posttest physical assessment rubrics reflected the students' muscular strength and muscular endurance during both static positions and dynamic movement. These abilities and capacities are key characteristic areas of expertise in aerial ground training and aerial movement progressions. The researcher believed these assessments were important to tracking the progress of each student during the study. The muscular strength and endurance tests were done at the beginning and end of the study.

The muscular endurance and strength measuring instrument included six exercises which were scored by the researcher on a grading scale from 0-5 points with 5 being the highest level of accomplishment. The areas scored for muscular endurance included: 1) assessment in which the student demonstrated appropriate alignment while performing up to 5 repetitions of the static skills; 2) the ability to sustain a position for a particular length of time; and 3) the ability to perform an extended movement progression. The areas included in the muscular strength assessment involved: 1) observed levels of muscular contraction; 2) the ability to move against resistance; and 3) the ability to move in opposition to gravity while performing a repetitive exercise. These assessments were conducted as a live interchange between performance of the actions, and the researcher's observation and documentation of particulars. A detailed description of the muscular endurance and strength test can be found in Appendix B along with the pre-test and posttest grading scale tables.

Outcome of Pre-test Assessments

A wide array of outcomes was displayed on the pre-test among the five students who participated in the study, pointing to key areas of deficiency in both the muscular endurance and strength assessment categories. The results of the pre-test assessments can be viewed in Table 2.

Table 2

Pre-test Outcomes of Muscular Endurance and Muscular Strength Testing

Subject Number	Appropri-ate Alignment	Sustaining a position	Perform extended movement	Contraction ability	Movement against resistance	Movement in opposition

			progression			to gravity
1. PBT I	2	2	2	2	2	1
2. PBT II	3	3	3	3	3	2
3. PBT III	1	1	1	1	1	1
4. TRAD I	1	1	1	1	1	1
5. TRAD II	5	5	3	3	3	3

Based on the ratings displayed in this table, it was apparent there were differences between the experimental and control groups at the onset of the study. It appeared one member of the control group, the student labeled TRAD I, scored at least a point lower on all measures than the members of the experimental group and the other member of the control group. The student labeled TRAD II, who was in the control group also scored higher on all measures than any other students in the study. The scores for the student labeled PBT I, were in the middle range of the set of scores, while the student labeled PBT II achieved the second highest scores, and the one labeled PBT III scored the lowest overall.

The posttest scores for muscular endurance and strength can be seen in table 3. The scores reported in this table are based on the same measures used to score the students during the pre-test

Outcome of Posttest Assessments

Table 3

Posttest Outcomes of Muscular Endurance and Muscular Strength Testing

Subject Number	Appropri-ate Alignment	Sustaining a position	Perform extended movement progression	Contraction ability	Movement against resistance	Movement in opposition to gravity
1. PBT I	3	3	3	3	3	3
2. PBT II	5	5	5	5	5	4
3. PBT III	3	3	3	3	3	3
4. TRAD I	2	2	1	1	1	1
5. TRAD II	5	5	3	3	3	3

The pre-and post differences showed increased and significant ability in both areas of muscular strength except for TRAD I who sustained an injury at her wrist and lower arm region. As such this student was encouraged to modify her participation during the vertical hanging exercises. The student did participate in the floor based traditional conditioning exercises when possible.

Outcome of Student Journaling

Reflective practice through student journaling was key to fostering the student participants' self-awareness of their development during the research process. The researcher believed if the students described their personalized learning journey through a reflective lens they would deepen their connection to the study. Thus, an open-ended question was digitally posted through a secure shared platform that addressed the goal of three class sessions. The students were allotted ample time to reflect, respond and post immediately at the end of a class session. The researcher had easy access to the students' comments through the shared digital folder. This provided an advantageous tool for the final analysis.

In regard to performing the static exercises, the control group described an increased ability in performing single skill movements with initial assistance. The single skill movements included: holding a floor and vertical static hang position on a horizontal bar. This skill required increased upper body strength and endurance. Further along in the series of classes, the control group students' responses revealed a deeper level of self-trust and less need for the researcher aided spotting strategy when mounting the aerial apparatus and performing basic skills such as a double and single bent knee hang.

In contrast, the experimental group expressed deep levels of self-trust and increased ability in performing static exercises without the aid of a spotter or other mechanical devices from the onset of the study. In regard to developing strength and flexibility, both groups felt they experienced levels of improvement in both of these areas.

Responses to the last journal prompt, asking participants to describe the effectiveness of reflecting and journaling in regard to their practice, revealed levels of understanding and ability to communicate experiences using the language of movement elements learned in the classes. The experimental group displayed thorough and detailed responses from their practice sessions by describing critical information about concepts presented. The comments of this group demonstrated they understood class content.

PBT I student articulated an appreciation for deepening her emerging understanding of her own process by having an opportunity to review aspects of her practice. This student stated, "The time and opportunity to document experiences allows me to promptly think about specific aspects I thought to be personally meaningful and relevant to understanding information presented." PBT III student communicated her thoughts when she wrote, "Journaling is an effective way of mapping out thoughts, self-assessing my process and progress as well as

providing a way [to] organize and plan out goals for the next practice." Comments formulated by student labeled TRAD I expressed the following, "Actively thinking about, writing and sharing how I felt about my practice, encourages purposeful conversations about particular learning experiences. The student labeled as TRAD II said, "Periodic journaling was a way to revisit and rethink less productive practices and devise a plan to modify it."

Outcome of Exit Survey

The exit survey questions distributed to the control group were formatted to address experiences within traditional aerial circus practice. In response to this survey, these students noticed improvement in their strength and endurance particularly when performing single skills such as the vertical and double knee hang stock aerial positions. In these positions, the performer must activate and engage muscle groups in the upper leg and gluteal region in order to maintain levels of stability and encourage deep body awareness and sensitivity. However, the control group students thought their improvement in balance and aerial movement awareness was inconsequential. Finally, this group concurred that the use of reflective practice and journaling was an effective way to track and share their experiences. The responses to this last question were concise in comparison to those made by the experimental group in response to the question.

Reponses from the experimental group in the exit survey revealed significant points in regard to how the practice of PBT influenced their practice and developed their abilities. These students felt they experienced increased levels of strength, endurance, body awareness and sensitivity. They also commented that the use of the PBT somatic techniques fostered their connectivity and presence. These students ranked their aerial movement awareness as high by the end of the study. The students in the experimental group also noted they had developed a positive attitude about the notion of self-directed practice and their ability to shift into the next

level of aerial movement skills. In addition, this group had a positive response to focusing on process experiences over product and outcome. It was apparent in the responses of the experimental group that emphasizing the means of achieving an action was more important than focusing on the final aim. See Appendix B for copies of the exit surveys.

Comparison of Research Outcomes for Experimental and Control Groups

Overall, the research outcomes for both the experimental and control groups revealed pertinent information about areas of knowledge, understanding, strengths and weaknesses relevant to the study aim. Insights about how and why a particular practice (somatic-based or traditional) resided with an individual emerged. The experimental group leaned into and fostered core features of a somatic-based practice. The attractive aspects of self-regulation, self-development and self-reflectiveness opened up new pathways of knowing, experiencing, practicing and performing. In comparison the control group, having displayed preference for teacher centered regulated practices of traditional based "commend-style" instruction was a distinctive outcome.

Based on the outcome of the muscular testing, there were apparent differences between the scores of the students at the onset of the study.

Some of the reflections reported in the students' journals varied between the experimental and control groups. While the experimental group students reported self-trust at the beginning of the study, the control group students felt they developed self-trust as a result of participating in the study. The control group members described an increased ability to perform single skill movements, but the experimental group students did not mention this skill in their reflections. Both groups felt that they experienced improvements in strength and flexibility overall. In

addition, both groups were able to use the language of the movement elements to communicate about their level of understanding and abilities, although the students in the experimental group displayed detailed and thorough responses, showing they understood class content.

On the exit survey, the control group students again mentioned their improvement when performing single-skill movements, but thought their improvement in balance and awareness was inconsequential. This group also approved of the use of reflective practice through journaling and thought it was effective because it allowed them to track and share their experiences in the class.

The experimental group provided more detailed responses on the exit survey. They believed the use of the PBT teaching techniques contributed to developing their aerial dance abilities and mentioned improvements in their strength, endurance, body awareness, sensitivity, connectivity and presence. The members of the experimental group even ranked their aerial movement awareness as high by the end of the study. An interesting comment made by some members of this group was that they had developed a positive attitude about self-directed practice from participating in this study and were ready to shift to the next level of aerial dance skills. This group also came to value the process of experiencing content over arriving at a point where a product was produced.

CHAPTER V

CONCLUSION

Summary of Study Outcomes

The benefit of integrating somatic-based movement as a tool to influence aesthetic sensitivity and awareness in aerial dance practice was recognized as an outcome of this study. While this study relied on the PBT method and structure, the researcher understood the potential value of using other organized somatic systems that predated the creation of the PBT technique. As a reflective practice, the experimental group of students appreciated the personalized approach of embodying principles of somatic intention and the self-knowledge they gained during the duration of this study. They also appreciated the emphasis on process.

The control group students did acquire aerial dance movement skills, although the content of their classes placed more value on product over process. In either case, participants in each group remained highly engaged in aspects of their practice and aerial movement goals.

Limitations and Recommendations

There were some limitations to this study. One limitation was that the number of participants who were fully committed to the study from start to finish was less than had been hoped for. Out of a possible thirty individuals only five consented to participate. The small pool of participants suggested an urgency that encouraged the researcher to maintain as favorable conditions throughout the study and to complete the study in as timely a manner as possible.

Another limitation was navigating through unforeseen yet anticipated absences arising from personal illness, a non-dance related injury, and related school obligations. These limitations interrupted the flow of class progressions and accounted for less time for students to

process the content of lessons. The loss of time during school hours necessitated the use of weekend sessions as the best possible solution for this issue.

One consideration for possible future action research designs based on similar content, would be to rethink how to recruit a pool of participants. It would help to have a group of participants who were less tightly scheduled and not as overwhelmed academically. Although this was not an option in terms of scheduling, more students might have volunteered to participate in the study if it had been conducted during a summer workshop when there is less academic pressure than during the regular school year.

Another recourse might have been to do more preliminary work to help the students understand the nature and meaning of the somatic practices and their importance in learning movement skills. The students might have been provided with an overview of somatics in general and information about multiple somatic systems without describing the details of PBT, the somatic system used in this research project. Such information might have peaked the students' interest and encouraged them to participate in this study.

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APPENDIX A

INSTITUITIONAL REVIEW BOARD DOCUMENTS

UNIVERSITY of
NORTHERN COLORADO

College of Performing and Visual Arts
School of Theatre Arts and Dance

ASSENT FORM FOR HUMAN PARTICIPATION IN RESEARCH
UNIVERISTY OF NORTHERN COLORADO
STUDENT

Thesis Title: Progressive Flight: A Transformative and Somatically-Informed Performance Practice for the Aerial Dance Student Practitioner

Researcher: Rosalinda Rojas, Graduate Student at the University of Northern Colorado

Contact Information: 505.459.3385, rojas@aa.edu

Research Advisor: Dr. Sandra Minton, University of Northern Colorado, sandra.minton@unco.edu

Your child is being asked to take part in a research study of the effectiveness of traditional aerial circus training methods and Progressing Ballet Technique to enhance body awareness and develop aesthetic sensitivity relevant in aerial dance movement. I am asking your child to take part because you are registered in a World Dance at Albuquerque Academy course that includes an introductory-advanced level aerial arts movement component. Please read this form carefully and ask any questions you may have before agreeing to take part in the study.

What the study is about: The aim of this study is to examine and compare the effectiveness of traditional aerial dance training methods with Progressing Ballet Technique (PBT) practice in terms of developing muscular strength, endurance, body awareness, and aesthetic sensitivity relevant to and necessary for correctly performing aerial dance movement. This research integrates specific exercises from traditional aerial circus as a tool to influence patterns of body action as a synergized performance practice for entry-level students of aerial dance movement. This study investigates (1) How might the use of traditional aerial circus dance methods improve

students' muscular strength and endurance in specific body areas when performing static or stationary exercises, (2) How might the uses of traditional aerial circus dance methods improve muscular strength and endurance when performing movement exercises? (3) How might the use of traditional aerial circus methods improve students' understanding of movement elements (space, timing, and quality), and their overall body awareness and aesthetic sensitivity. Participation in this study will ask you to: (1) be videotaped during the entrance interview, (2) practice select traditional circus exercise strengthening methods (3) learn low point aerial dance movement, (4) create a student journal file on Google docs on the first day of this study, and (5) participate in a videotaped pre-posttest assessment of your strength and endurance ability, and (6) complete a written exit survey questionnaire. Each component is conducted in a time efficient manner.

Risks: The risks and discomforts inherent in this study are no greater than those normally encountered during regular low point aerial dance class participation. Muscular soreness and slight cramping of the hand and forearm region is typical in aerial movement skill learning and practice. The researcher/teacher will take every effort to ensure your child is properly warm-up and are guided through each session practice in order to avoid injury. The aerial dance practice space is set up and follows aerial arts safety protocol and practice guidelines. Your child will be instructed to let the researcher/teacher know ahead of time if you have an injury or other reason you cannot participate in a particular activity-ground or low point aerial mounting. If your child participates, you agree to take on all risks involved, and the teacher, university, and Albuquerque Academy are not liable.

Your answers will be confidential. Every effort will be made to protect your child's identity. The records of this study will be kept private. In any sort of report I make public, I will not include any information that will make it possible to identify you. A code system will be used to identify all participant responses that include the initial videotaped entrance interviewed, pre-posttest assessments, the Google docs student journal file, and the written exit survey questionnaire information. No actual names will be used. I will use pseudonyms. The goal of the research is to simply document the success of somatic education through practice and process for entry-level student practitioner of aerial dance movement. All documents pertaining to this study will be stored in a locked cabinet in the home of the researcher and destroyed after the completion of this research study.

I consent to be videotaped ___Yes ___No
Student Signature: _____
I consent to journal on Google Docs ___Yes ___No
Student Signature: _____

No one else will have access. The signed consent forms will be delivered to Crabbe Hall, room 308, the office of Dance Education MA co-coordinator where they will be stored in a locked file cabinet. Notes, video recording and online student journals will be destroyed after the completion of this study.

Taking part is voluntary: Participation is voluntary. Your child and you still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to

which you and your child are otherwise entitled. Having read the above and having had an opportunity to ask any questions, please sign below if your child would like to participate in this research. A copy of this form will be given to you to retain for future references. If you have any concerns about your selection or treatment as a research participant, please contact Sherry May, IRB Administrator, Office of Sponsored Programs, 25 Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970.351.1910.

If you have questions: The researcher conducting this study is Rosalinda Rojas. Please ask any questions you have now. If you have questions later, you may contact me with the information listed above. Please retain one copy of this letter for your records,

Thank you for assisting me in my research. Sincerely,

Rosalinda Rojas

APPENDIX B

RESEARCH INSTRUMENTS

VIDEO TAPED ENTRANCE INTERVIEW

Describe your dance training before participating in the world dance class.

Are you currently studying any style of dance outside of Albuquerque Academy?

What part of the world dance class course evoked interest?

Describe your short and long term dance goals.

Describe your cross training habits.

Describe your participation of or connection with individual sport training.

Describe and rate your current dance fitness.

Explain any past or current dance injuries sustained.

How do your rate your strength and endurance?

Describe types of movement qualities that evoke a strong response for you personally.

Define practice and process?

Describe your readiness to participate in self-discovery movement.

PRE- TES & POSTTEST OF MUSCULAR STRENGTH AND MUSCULAR ENDURANCE ASSESSMENT

Ground/Low Point Aerial Static Drill	Primary Muscle Groups	(S) Strength Score 0/5-5/5	(E) Endurance Score 0/5-5/5	Combined Score
(S) Push Ups Full Plank Position/Hold & (E) Push ups	Shoulder Region			
(S) Trunk Lift Position & (E) Arch Ups	Torso/Spine Region			
(S) V Sitting Position Hold & (E) Pike Ups	Abdominal Region			
(S) Piking Sitting Double Leg Hold & (E) Lifts	Hip Region: Flexors			
(S) Static Vertical Hang & (E) Modified Pull Ups	Hand, Wrist, Shoulder, Torso Region			
(S) Static Double Knee Hang Position & (E) Mounting Reps	Shoulder Torso, Spine, Hip Anterior/Posterior Upper Leg Ankle/Foot Region			

(E) Muscle Endurance Grading Scale Table

Rate	Description
0/5	Unable to complete exercise
1/5	Completes 1 demonstrating correct alignment
2/5	Completes 2 repetitions demonstrating correct alignment
3/5	Completes 3 repetitions demonstrating correct alignment
4/5	Completes 4 repetitions demonstrating correct alignment
5/5	Completes 5 repetitions demonstrating correct alignment

(S) Muscle Strength Grading Scale Table

Rate	Description
0/5	No contraction demonstrated
1/5	Visible contraction
2/5	Movement with gravity eliminated
3/5	Movement with gravity
4/5	Movement with gravity with some resistance
5/5	Movement with gravity with full resistance

ELECTRONIC STUDENT JOURNAL ENTRY TOPIC
Process and Practice Reflection

EXIT SURVEY

Describe any distinct changes in your body strength and endurance.

Describe any distinct changes in you flexibility, mobility and stability.

Describe any distinct changes in your balance and control.

Describe the sensation when you practice PBT exercises.

Describe the sensation when you practice Aerial Dance movement.

APPENDIX C

PBT EXERCISES

1. PLANK PRESS
2. PLANK PRESS UP TO KNEEL
3. PLANK PRESS TO INVERTED PIKE
4. PLANK PRESS TO ONE LEG PRESS UP HOLD