

The Use of Mirrors in Dance Teaching

Aijia Zhang

Hebei Foreign Studies University, Shijiazhuang, China

Abstract

This article will discuss applying the traditional mirror technique in dance training and its impact on the dancer's body. And further, discuss the changes in the way of dancing by the progress of mirror technology. At the same time, the article will discuss how teachers can guide students to use mirrors correctly in future teaching from classroom practice. Finally, the essay will intensely discuss the teaching significance of the mirror technique in dance practice.

Keywords

Mirror; Technology; Dance teaching.

1. Introduction

Contemporary technology and its rapid development mean that methods of dance teaching are gradually transforming. However, the mirror remains a traditional and indispensable tool for teaching and for self-correction, and is used widely in dance training across the world (Antinori, 2017). Despite the potential impact of mirrors on the self-perception of dancers, they are generally regarded as the most effective way of helping teachers and students to discover and reflect on training issues. This article will discuss the use of mirrors in traditional dance training and the impact of this tool on the body image of dancers and their practice. Furthermore, potential ways in which teachers may guide students to use mirrors correctly in future teaching will be explored. The development of multimedia technology and its impact on dance teaching will be examined, followed by discussion on the progress of mirror technology through assessment of the Delay Mirror system. Finally, this essay will examine the significance of the mirror as a traditional teaching tool in the practice of dance teaching.

The mirror as an object reflects a clear image, with its primary use as a tool for teaching dance thought to begin with ballet in the late eighteenth century, the same era in which mirrors became popular in the homes of European aristocrats (Ehrenberg, 2010). In dance teaching, the mirror remains a popular teaching tool, enabling the development of technique (Ehrenberg, 2010). Mirrors are often used in dance studios to provide students with visual feedback and enable their self-correction. Despite the essential role it plays in dance classrooms across the world, the mirror as a traditional tool for teaching dance has received little attention in research (Radell et al., 2014).

Widely used throughout dance teaching in both Eastern and Western countries (Antinori, 2017), mirrors are employed in the same way regardless of the difference in dance style. A mirror enables students to observe themselves and correct their movements and body postures appropriately; in ballet classes, dancers use the mirror to correct their movements and observe the regularity of their limbs during the warm-up process. Mirrors further allow students to visualise themselves from the perspective of others, such as the potential audience, and implement their understanding into movement (Antinori, 2017). Finally, teachers use mirrors to observe and reflect on the movement of students, which allows them to offer feedback during the demonstration process. As these points highlight, the mirror as a traditional teaching tool is significant in the training of dance artists (Antinori, 2017).

2. Mirrors and Dancers

2.1. Relationship with Dancers

Research on the relationship between dancers and mirrors highlights the functional back-and-forth pattern between the perception of the dancer regarding their movement and their visual reflection (Ehrenberg, 2010). This model presents a preliminary model in the complex network between the relationship between dancers and mirrors, which includes two variables: the visual perception of the image in the mirror by the dancer and their emotional sense of their own body (Ehrenberg, 2010). After analysis of their technique through the mirror, the visual reflection and the aesthetic awareness of the dancer interact in a cyclical action-reaction pattern, a process which is termed the dancer-mirror feedback loop. For example, when a ballet dancer is conducting physical exercise, he can view his image through the mirror, identify any issues, and then adjust the body accordingly in reference to the reflection in front of him. The relationship between the dancer and the mirror is described by philosopher Timo Klemola as a back-and-forth process between the subject and the object (Ehrenberg, 2010), which is a communicative mode: the communication between the kinaesthetic feeling of the action and its visual appearance. Dancers communicate with their own movement through feedback from the mirror.

2.2. Impact on the Dancer's Body

Mirrors are generally regarded as useful tools (Ehrenberg, 2010), recognised in early eras of dance practice as beneficial to student development (Diehl, 2016). Contemporary dance techniques are a particularly effective background against which to explore mirror use, because such modes tend to emphasise the inner kinaesthetic experience (Ehrenberg, 2010). Mirrors help dancers to identify problems and enable the correct modification of their movements, with many regarding the mirror as an effective tool that plays an active role in dance practice and development (Ehrenberg, 2010). For example, observations of the body through the mirror enable dancers to assess the height of their limbs and the distance between different body parts, promoting a positive relationship between the student and their correct positioning. Furthermore, the visual feedback that mirrors provide helps to develop motor skills. In a study conducted by Dearborn and Ross, it was determined that college dancers who studied with mirrors were able to maintain and complete movements better than those who studied without mirrors (Ehrenberg, 2010). Mirrors adopt both an object role and an intermediary role in the support process, guiding and promoting the independent performance of the dancer (Antinori, 2017). Such evident benefits have resulted in mirrors being widely accepted in dance training as an appropriate teaching tool, yet sufficient examination of their potential negative impact has been neglected.

While many dancers regard mirrors to impact positively on their development and technique, the relationship between the dancer and the mirror – the reflected image and the accompanying perception, which may be distorted – is often complex. One such complexity regards the development of the sensorimotor abilities of students, which have been linked directly to other issues: body image, self-perception, technical skills, and artistic performance (Diehl, 2016). In dance teaching, the extent to which mirrors may impact negatively on dancers varies at different stages.

In a study conducted by Radell, Adame and Cole (2014), 30 female beginner ballet dancers were divided into two groups of the same size with the same teacher, the difference between the groups being the presence or absence of mirrors as a teaching tool. The study sought to identify the relationship between mirrors and the body satisfaction reported by the students. The findings revealed that the relationship between the absence of mirrors and the satisfaction felt by the dancers regarding their perception of different parts of their body was statistically

significant: dancers who did not use mirrors during practice reported higher satisfaction with their appearance than those who did (Radell et al., 2014). Despite the evaluation results identifying no significant difference between the two groups of ballet dancers in terms of their technical growth, Radell et al. proposed that the use of mirrors may distract dancers, thereby inhibiting their inherent concentration. For example, progress may be hindered if students frequently look in the mirror during dance exercises. Regarding higher performing students, those who did not use mirrors in their dance class reported increased satisfaction with their body image. For these students, dancing without a mirror appeared to encourage the reduction of self-criticism, resulting in them feeling more satisfied with different parts of their bodies. Radell et al. determined on the basis of their findings that the effect of mirrors on learning is based on dance experience. The ability of beginner students to accept, retain, and self-correct dance technique is usually less developed than those with more dance experience; because low-level performers have not developed their skills to assess their dance abilities they are less self-critical than high-level performers, which means they are more likely to feel satisfied with their overall performance. Conversely, for dancers with more experience, their observation and evaluation skills are more attuned, meaning they use mirrors to facilitate physical 'kinaesthetic feedback' constructively to adjust their performance (Radell et al., 2014). Therefore, when reflecting on their process through a mirror, they become more critical.

While some dance teachers and students are critical of mirrors and propose that excessive reliance on this tool is problematic, many do not report favouring dance classrooms without mirrors. Despite issues of self-criticism that mirrors may propel, the repositioning of dancers through the tool enables a dynamic process (Antinori, 2017). From a cognitive perspective, Holmes and Spence (2010) propose that the self-correction enabled by mirrors impacts positively on the ability of dancers to learn. Therefore, when considering the progress of technique, it can be argued that the benefits of mirrors as a tool in dance teaching outweigh the disadvantages.

3. The Correct Use of Mirrors By Dancers

As an art form, dance requires significant body and internal consciousness. Attuned proprioception – a person's perception of their spatial positioning – is, therefore, particularly valuable to dancers (Diehl, 2016). Unfortunately, many traditional settings in which dance is taught overlook the central importance of proprioception in dancers. In traditional dance classrooms in the West, mirrors help to reflect the timing and spatial perceptions of students while further becoming a means through which self-criticism may develop (Diehl, 2016). By enabling dancers to become consumed by perceived imperfections, mirrors may affect their inspiration, creativity and quality of movement. For example, in the ballet training, students became disproportionately focused on themselves in the mirror. This led to them colliding with other students, forgetting the dance order, and further diminished their ability to demonstrate musicality in their movement. In addition, facial muscles may become overly tense due to dramatic expressions (Diehl, 2016), the occurrence of which demonstrates the significant dependence of the students on the mirror. If dancers frequently use mirrors inappropriately when practicing without developing other sensory systems, the development of their skills may be impaired when dancers are asked to work without dancing. In this case, the mirror may inhibit the full motor sensitivity of dancers and may further inhibit their wider performance potential. Therefore, the correct use of mirrors in dance teaching is conducive to the learning and self-correction ability of dancers (Ehrenberg, 2010).

Since mirrors are widespread throughout dance training, educators hold the responsibility to reflect on the influence of mirrors on dancers, while further adopting and encouraging effective strategies for using mirrors (Diehl, 2016). Strategies such as those outlined below could be

offered to dance students to ensure their appropriate utilisation of mirrors in their practice and daily life:

- A. Keep a journal to remain aware of the extent to which you reflect on yourself in the mirror, both inside and outside dance class, paying particular attention to inner thoughts and feelings that arise from looking in the mirror. Focus on the positive aspects of your body and its movements.
- B. During training in class, focus attention away from the mirror to ensure such focus does not impact on your learning experience. After the class is over, write about any changes you feel in regards to the self, as well as positive characteristics.
- C. Conduct dance training without mirrors after class to remove the visual influence on your development and focus on the questions and suggestions raised by teachers and classmates.
- D. Talk with classmates and teachers to reflect on your process and development should you feel yourself relying too heavily on the mirror.
- E. Explore other physical exercises that do not use mirrors as a teaching tool.
- F. Receive feedback of the body through the mirror constructively; do not feel disheartened by mistakes but instead seek to examine and adapt your movements appropriately by offering yourself time to contemplate on and understand your body. Learn to self-correct without a mirror.
- G. Encourage new sensory experiences in the body by practicing in nature and trying outdoor walking or dancing.
- H. Adjust the feeling of movement in various aspects of your life. Pay attention to your body during any physical activity and reflect on the differences between dance and other physical experiences.
- I. Try a form of meditation.
- J. Research the latest studies in dance education and request from your teacher additional resources (Diehl, 2016).

4. The Development of Multimedia Technology in Dance Teaching

4.1. Background

The global development and profound influence of science and information technology mean that multimedia technology has developed rapidly (Hongmei et al., 2016), with some researchers highlighting that such progress has transformed the teaching mode, content and method of dance (Bianchini et al., 2016). In traditional environments, dance teaching occurs within a classroom in which students learn face-to-face with the teacher. In such classrooms, the mirror is a traditional and indispensable teaching tool. However, the development of dance technology in recent years has led to a gradual rise in the use of multimedia technology for teaching dance, which is becoming increasingly widespread (Li et al., 2018). Interactive multimedia with an audio-visual function, projected through computer or TV screens, has enabled an innovative and vibrant human-machine interactive mode through which dancers receive immediate feedback. Such technology has transformed dance teaching and exerted profound influence on the process by significantly reducing issues prevalent in traditional classrooms (Hongmei et al., 2016). This novel mode of learning promotes in students a strong interest in learning and therefore stimulates their desire to learn, forming a continuous and effective learning motivation. Within the context of teaching dance, the introduction of multimedia technology breaks from traditional methods and plays a fundamental role in guiding the development and reform of teaching (Hongmei et al., 2016).

4.2. Multimedia Technology in Dance Teaching

The multimedia teaching of dance integrates speech-processing, image-processing and audio-visual technology, along with the digitisation of speech and image signals for storage, processing, control, editing and searching. Interactive audio-visual functions of multimedia teaching are adopted, enabling the innovative illustration of process and immediate feedback. In the traditional process of teaching dance, all aspects of the class are set by the teacher, including content and methods, to which the students must adhere. In contrast, interactive learning environments allow students to choose their own content and practice according to their learning level and interest. Furthermore, the technology encourages initiative in students through the construction of favourable conditions attuned to their own needs and cognition (Hongmei et al., 2016).

As an art form, dance is an expression through human body language, with movement employed as the central mode of demonstration (Hongmei et al., 2016). As such, the teaching of dance must ensure that students have enough time to train sufficiently and truly understand the skill of expression through body language and movement. Contemporary teaching, performance and choreography now incorporate technological elements for the development of this expression, with such advancements in technology having created an inclusive learning environment. This enables dancers to not only hone their skills but further improve their digital literacy in their profession appropriately. More importantly, digital technology has the potential to break down barriers for future dance practitioners and develop a new cultural environment in which to teach and perform (Weber et al., 2017). Multimedia technology used for teaching dance coordinates hardware and software equipment, the combination of which enables the benefits of multimedia teaching to develop fully (Hongmei et al., 2016). The technology integrates images, music, video, text and other forms of information, with the coordination of these multiple forms helping to develop a solid teaching function (Hongmei et al., 2016).

The diversity, depth and rapidity of this function means that such technology is likely to challenge the dominant position of the dance teacher in the learning environment. Dance teachers organise, educate and manage the class, but the attraction of multimedia technology has resulted in the role of traditional dance teachers declining (Hongmei et al., 2016), with an increasing number of students persuaded by the benefits of such technology over attending traditional dance classes. A result of this is a lack of emotional and effective communication and interaction between teachers and students.

A characteristic of multimedia teaching technology is the rapid transmission of significant amounts of information to the student (Hongmei et al., 2016), but this has both benefits and drawbacks. On the one hand, it may decrease teaching time by improving efficiency, speed up the teaching process and increase the volume of teaching content; on the other hand, the acceleration of the pace at which new content is taught may be overwhelming for students and prove difficult for them to comprehend the information properly. Furthermore, the extended amount of information to learn may impact on the time afforded to students for practice (Hongmei et al., 2016).

4.3. Use of the Delay Mirror (DM)

As previously highlighted, the mirror is a traditional teaching tool widely used in different dance classrooms, but technological development has further transformed the mirror, with the DM now used during interactive learning. As a device, the DM records video streams, which are displayed on the computer screen with a small delay of several seconds (Molina-Tanco et al., 2017). The minor delay is intentional: dancers are able to observe their own movements as if looking into a normal mirror, but the delay allows them to observe dynamic body movements, which is possible only through video. There are few technologies devoted specifically to dance,

likely due to a lack of technical understanding regarding the necessary requirements. The DM is an exception, with exploratory assessments for the system having been conducted within the context of a ballet curriculum. The functional requirements of a standard video system, such as record and display, are central to the DM. However, this system is less intrusive than video recording, which may disrupt the flow of the class. The DM system adopts the principle of mirror reflection in a manner separate from traditional mirrors (Molina-Tanco et al., 2017). As previously mentioned, when dancers focus excessive attention on the mirror and its reflection of their body movements during practice, they are likely to devote insufficient attention to their surrounding environment while further propelling and overstating internal criticism of their perceived defects. The development of DM technology enables students to observe their actions while further assisting them with their better concentration by directing their focus towards the dynamic movements reflected on the screen, which is not possible through the use of normal mirrors.

Experimental investigation suggests that the DM is useful for students in class (Molina-Tanco et al., 2017), with the results demonstrating that the system is beneficial to student self-assessment and further enables teachers to offer more detailed feedback. Using DM technology for student self-assessment emphasises the autonomy of the student, which may accordingly help them to develop as a dancer by teaching them to correct through self-examination and reflection rather than relying on teachers to correct errors. The system offers this sense of autonomy while further enabling the increased supervision and evaluation of an individual by the teacher. For example, in classrooms with large numbers of students, it is unlikely that the teacher will have the means to offer feedback to each student, which may halt their development and progress. The development of DM technology affords teachers the opportunity to evaluate each student, identify particular errors that may otherwise have been neglected and offer constructive feedback if necessary. By viewing themselves in the DM, students are more likely to understand the mistakes they have made more clearly, enabling their own effective correction of such errors. As these points highlight, the DM has the ability to increase the efficiency of dance teaching significantly. Molina-Tanco et al. (2017) suggest that the existence of mirrors in dance studios is taken for granted without effective evaluation, and propose that the strong practicality of the DM means it may work as a supplement to normal mirrors. Although there are limitations in their study of the DM, arguably the research opens further opportunities for future discoveries.

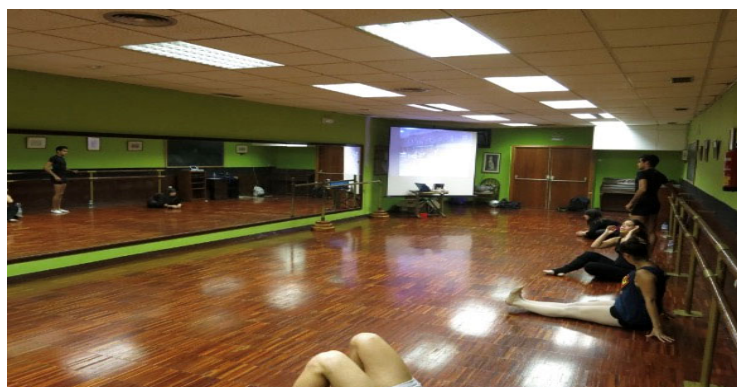


Figure 1. Molina-Tanco, L., García-Berdónes, C., & Reyes-Lecuona, A. (2017).

The Delay Mirror: A Technological Innovation Specific to the Dance Studio.

Proceedings of the 4th International Conference on Movement Computing - MOCO '17, 1–6.

<https://doi.org/10.1145/3077981.3078033>

4.4. Limitations of Multimedia Technology in Dance Teaching

Some limitations and disadvantages remain regarding the use of multimedia technology in dance teaching. As a traditional art form, dance and the methods for teaching dance are well-established and it may be difficult to adapt innovative technological methods appropriately to all fields. Furthermore, most software for teaching dance are solidified products with no technical platform for processing, editing and development (Weber et al., 2017), meaning dance teachers are reliant on software created by others which they cannot adapt. More importantly, dance teachers may lack the skills required to operate multimedia teaching, resulting in either difficulties and obstacles or the necessity for technological training. Therefore, the effect of dance teaching in a traditional manner may be difficult to achieve to the same standard using technological methods. Regarding the aims of multimedia course teaching, arguably it cannot meet the scientific standard of traditional dance teaching, with different goals difficult to coordinate (Weber et al., 2017). This may lead to class objectives becoming blurred, resulting in student confusion.

5. The Significance of Dance Technology in Dance Teaching

Technological developments mean that dance has entered an exciting new field, yet such progress duly affects the transmission and interactivity of dance teaching (Anderson, 2012). The innovative treatment of traditional teaching modes has afforded the practice of dance further possibilities and opportunities, yet arguably technology is unable to encompass or adapt to all aspects of traditional methods. Furthermore, new technology will not necessarily change the pedagogical beliefs of dance teachers, who may place more significance on teacher-student interaction. The possibility of dance technology rests in the promotion and progress of innovating teaching methods and encouraging dance practitioners to meet new challenges and opportunities for the contemporary development of dance teaching.

6. Conclusion

As this essay has examined, the application of mirrors in dance teaching has both advantages and drawbacks. Despite researchers and dance practitioners highlighting certain issues propelled by the use of mirrors in classrooms – such as body image dissatisfaction – they remain indispensable to dance teaching due to their enabling of student self-correction. In addition, with the development of dance multimedia technology, the specific dance teaching methods have also changed. There are still limitations in the research of dance technology, and further research is needed in the future.

Reference

- [1] Diehl, K. (2016). The Mirror and Ballet Training: Do You Know How Much the Mirror's Presence Is Really Affecting You? *Journal of Dance Education*, 16(2), 67–70. <https://doi.org/10.1080/15290824.2015.1110854>
- [2] Ehrenberg, S. (2010). Reflections on reflections: Mirror use in a university dance training environment. *Theatre, Dance and Performance Training*, 1(2), 172–184. <https://doi.org/10.1080/19443927.2010.505001>
- [3] Liu, S. (2020). The Chinese dance: A mirror of cultural representations. *Research in Dance Education*, 21(2), 153–168. <https://doi.org/10.1080/14647893.2020.1782371>
- [4] Molina-Tanco, L., García-Berdónés, C., & Reyes-Lecuona, A. (2017). The Delay Mirror: A Technological Innovation Specific to the Dance Studio. *Proceedings of the 4th International Conference on Movement Computing - MOCO '17*, 1–6. <https://doi.org/10.1145/3077981.3078033>

- [5] Radell, S. A., Keneman, M. L., Adame, D. D., & Cole, S. P. (2014). My body and its reflection: A case study of eight dance students and the mirror in the ballet classroom. *Research in Dance Education*, 15(2), 161–178. <https://doi.org/10.1080/14647893.2013.879256>
- [6] Vanhelst, J., Béghin, L., Duhamel, A., Manios, Y., Molnar, D., De Henauw, S., Moreno, L. A., Ortega, F. B., Sjöström, M., Widhalm, K., Gottrand, F., Moreno, L. A., Moreno, L. A., Gottrand, F., De Henauw, S., González-Gross, M., Gilbert, C., Kafatos, A., Moreno, L. A., ... Gómez Lorente, J. J. (2016). Physical Activity Is Associated with Attention Capacity in Adolescents. *The Journal of Pediatrics*, 168, 126-131.e2. <https://doi.org/10.1016/j.jpeds.2015.09.029>