
Pilates Technique for Improving Dancers' Performance

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When the principal dancer, Odile, performs 32 *fouettés* in Swan Lake, it is easy to admire the accuracy, reliability and harmony of the whole movement. However, dancers are only able to perform this technical skill with the required artistic and aesthetic quality if they are sufficiently strong and flexible. This means that great performances pre-suppose a fully developed body where technique, aesthetics, and physical conditioning work together for performance.¹ Therefore, to achieve excellence dancers must learn how to be artists and athletes.

The development of physical conditioning, however, cannot compromise the dominant artistic aspects. It is exactly this issue that challenges dance teachers, choreographers and researchers and raises questions concerning what kind of conditioning workout can be included in the training process. What is the best way to improve muscular strength? How can enhanced balance and flexibility be optimally developed? In this article, the focus is on whether Pilates can be used as a tool to improve dancers' performance.

Fifteen dance students were tested initially for muscular strength. The research team evaluated how long dancers could sustain a leg raised while performing a *developpé* at *barre* and active flexibility (*developpé* height) (front, side and back, for both legs). *Developpé* height was measured using a camera system.²

After the first test, the dance students were assigned into experimental groups (EG) and control groups (CG). The EG performed mat-based Pilates exercises for 11 weeks (2 sessions a week). The training protocol began with dancers slowly performing three sets of eight repetitions of each exercise, increasing one repetition each week until 12 repetitions were reached. After participants could achieve 12 repetitions, a more advanced form of the exercise was introduced. After 11 weeks, both groups were again tested for muscular strength and active flexibility (examples of the exercises used are presented below).

All dancers who participated in the Pilates sessions increased their levels of muscular strength and flexibility. The dancers in the control group took their usual dance classes

and showed no changes in muscle strength or flexibility. The Pilates sessions, by continuously engaging the abdominal, hip flexors and gluteus muscles, caused muscular adaptation, which contributed to a stronger core, leading to an increased ability to hold the position for a longer period of time (nine seconds longer, on average). According to Grossman and colleagues,³ the ability to sustain positions is crucial to making movements more controlled, elevations higher, and pirouettes more defined.

The Pilates group saw increases in *developpé* height between 4-10°. Although Deighan⁴ suggests that flexibility is a key element of successful dance performance, we believe that the observed gains in the range of movement were due to muscular strength increases rather than flexibility. In fact, according to Welsh,⁵ dancers often show good levels of passive flexibility, but do not exhibit sufficient muscular strength to perform an active movement throughout the maximum range of motion. Thus, the improvements in flexibility may be due to a further strengthening of the abdominal muscles caused by Pilates sessions.

It is possible to conclude that Pilates training may be a useful tool for dance teachers to improve muscular strength and flexibility of their students. Teachers should be aware of the importance of conditioning outside the dance classes, not only to improve performance but also to protect dancers from injuries, and we recommend Pilates because it develops capacities crucial for performance without neglecting the artistic component. In fact, Pilates has principles very close to dance technique and uses movements very similar to certain dance technical skills. By emphasizing breathing, alignment, position and abdominal work, Pilates can support the dance class in the development of optimum dance technique. In this instance, we suggest that Pilates workout approaches the needs of dance technique, making it possible to develop dancers' physical capacities in a specific way.

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