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The Effect of Technical Instruction on the Athletic Performance of Squash Players

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Athletic performance in the beginning stages of learning to play squash can be affected by a number of factors which are often observed by coaches to fall into certain patterns over time. One such noted phenomenon is that when teaching squash skills to beginners, performance invariably deteriorates before improving after giving technical instruction. It is suspected that changing the focus from what to do, to how to do it causes athletic performance to initially suffer.

Past studies that looked at topics similar to this phenomenon include "Investigations in Reaction-Time and Attention" by Charles B. Bliss and "The Influence of Concomitant Activity and Fatigue upon Certain Form's of Reciprocal Hand Movement and Its Fundamental Components" by David P. Boder. The research conducted by Bliss (1893) found that attempts to shorten reaction time by focusing attention toward the specific hand or hand movement instead often produced the opposite effect, i.e. lengthening reaction time. Boder's (1935) studies similarly produced results that highlighted the importance of systematic introspection, thinking intently on what one is doing, and its effect on the performance of a motor task.

In our study we examined the effect of providing technical instruction on the performance outcome of introductory-level squash players. We believe that an increased focus on the technical aspects of hitting a shot will initially produce a decrease in athletic performance. We conducted an experiment using students in the PHE 101M Racket Sports: Squash Class taught by Connecticut College men's and women's squash Coach Bill McNally. Our proposal is that the Bliss-Boder hypothesis will manifest in beginners learning squash in that we will see a performance decrement result when an athlete is

instructed to think about body movement patterns or action plans before and during the execution of a well-learned skill.

The participants in our study included 6 men and 1 woman. All were beginner level squash players and prior to enrolling in the class, all the participants had little to no squash experience.

To conduct the study, participants were instructed on an individual basis to attempt to hit a self-fed ball from the back of the service box at a 16” x 21” inch square target overlapping the service line. All the participants were given 30 attempts to hit the target; results were tallied by the experimenters. Following each participant’s completion of the first round, the participants received individual technically oriented instruction from Coach McNally to focus on hitting the ball with attention drawn to proper grip, early racquet preparation and follow-through. They then were given a second opportunity to hit the target as many times out of 30 attempts as possible while still focusing on the proper grip, preparation and follow-through. The results for the second round were tallied by the experimenters.

Examination of the data displayed a higher mean average of shots that hit the target out of thirty attempts in the first round (M=7.57) than in the second round (M=6.71). The completion of a paired-samples t-test, however, produced no significant results.

Though the outcome was not statistically significant, there was a visible disparity between the first and second rounds in terms of the spread of shots around the target based on casual observation of the record taken by the experimenters on where each shot contacted the front wall of the court. The shots in the second round were distributed

further from the target than those in the first. Therefore, based on this casual observation and analysis of the means, there is reason to believe that a focus on technical instruction may initially hinder athletic performance and that statistically significant results could be achieved by redoing or modifying the methodology of the study. While our results are promising, there is certainly room for additional research directed towards helping to understand the effect of technical instruction on athletic performance.

This study could have serious implications in terms of coaching squash, especially at the beginner level and its results, with further experimentation, could also prove to generalize to other sports. Understanding that performance may decline with the addition of technical instruction can assist coaches in creating more efficient, effective, and comprehensive coaching strategies.

References

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(Note: Allison Read is a summa cum laude graduate, Class of ’05, Connecticut College, New London, CT. A four year varsity squash player, Allison was the Captain of her team her senior year. Bradley Schwimmer is a cum laude graduate, Class of ’05, Connecticut College, New London, CT. Also a four year participant in the men’s varsity squash program, Bradley was co-captain his senior year. Both authors had no squash experience before Connecticut College. Both student players majored in psychology and this study was performed beyond their academic requirements. Their interest in this subject grew out of their personal experiences in receiving instruction in the Connecticut College Varsity Squash Program. Bill McNally)