Atipong Pootleak 2008: The Effect of Core Body Strength Training with Exercise Ball and Bench on Agility of Elementary School Students. Master of Arts (Physical Education), Major Field: Physical Education, Department of Physical Education. Thesis Advisor: Associate Professor Charnchai Khuntisiri, M.A. 124 pages.

The purpose of this study were to study and to compare effects of core body strength training programs with the exercise-ball and the bench on agility of elementary school students. Samples were 60 male students who were selected by purposive sampling with randomly assignment. They were divided into 3 groups (20 for each) including one control group and two experimental groups.

The research instruments were the core body strength training programs with the exercise-ball and the bench, and the zig – zag run for testing agility. The duration of training programs were 8 weeks, three times a week. Data were analyzed by using mean, standard deviation, two-way analysis with repeated measures, repeated measure in one – dimentional design, F-test (one-way analysis of variance), and multiple comparison testing by Tukey's method at the statistical significant differences at .05 level.

Findings were found that :- 1) there were relationships among the two strength training programs and the zig-zag run of the control group and the other two experimental groups; 2) the mean of the zig-zag run of the control group among pre-experiment, after the 4th week and after the 8th week training were no significant differences; however, two experimental groups were differences at .05 level; and 3) after the 8th week the mean of the zig-zag run between the control group and experimental group were significant differences in statistic at the level of .05. It can be concluded that both core strength training programs with the exercise-ball and the bench were effect on the agility of the elementary school students.

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