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*Got Oxygen?*

The purpose of this project was to determine whether the student type (TCA Junior High cross country runners or TCA non-cross country runners) affects their lung capacity. I hypothesized that because cross country runners did aerobic exercise that their lung capacity would be greater than non-cross country runners of the same age group.

This experiment involved testing two groups of students, TCA Junior High cross country and non-cross country runners, to measure their lung capacity. I measured the lung capacity with a device called a spirometer. The subject sat-up straight and as comfortable as possible in a chair with their head and neck centered and not bent forward or backward. The subject would take as deep as breath as possible and exhale all the air in their lungs into the spirometer. A total of three lung capacity measurements were taken for each subject.

The data collected did not conclusively support the original hypothesis. If you look at the mean (average) lung capacity for each student type one might conclude that the hypothesis is correct. However, the data range (average minus random error and average plus random error) for cross country runners is 2.39-3.39 liters and 2.07-2.86 liters for non-cross country runners. This data has a fairly large overlap, between 2.39 – 2.86 liters, which makes the overall results inconclusive. Thus, no statistical difference is evident between cross country runners and non-cross country runners.

These findings lead me to believe that the student type in my experiment did not affect lung capacity.