**On the T-test data analysis…**

The **paired sample *T*-test**, sometimes called the dependent sample *t*-test, is a statistical procedure used to determine whether the mean difference between two sets of observations is zero. **In a paired sample *t*-test, each subject or entity is measured twice,** resulting in *pairs* of observations. Common applications of the paired sample *t*-test include case-control studies or repeated-measures designs. Suppose you are interested in evaluating the effectiveness of a company training program. One approach you might consider would be to measure the performance of a sample of employees before and after completing the program, and analyze the differences using a paired sample *t*-test.

The **Independent Samples *t* Test** compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different. The Independent Samples *t* Test is a parametric test.

The **“One Sample T-Test”** is similar to the “Independent Samples T-Test” except it is used to compare one group’s average value to a single number (for example, do Kansans on average spend more than $13 per month on movies?). For practical purposes you can look at the confidence interval around the average value to gain this same information.