Appendix 13. Variants Coefficient, Skewness Ratio, Kurtosis Ratio.

- Variants coefficient

$$\text{Variants Coefficient} = \frac{\text{Std Deviation}}{\text{Mean}} \times 100\ \%$$

$$\text{Pretest} = \frac{10.104}{33.897} \times 100\% \qquad \text{Posttest} = \frac{16.668}{57.58} \times 100\%$$

$$= 28.954\ \%\ \text{(Normal)} \qquad = 28.948\ \%\ \text{(Normal)}$$

- Skewness Ratio

$$\text{Skewness ratio} = \frac{\text{Skewness}}{\text{Skewness Std.error}}$$

$$\text{Pretest} = \frac{-0.166}{0.434} \qquad \text{Posttest} = \frac{0.282}{0.434}$$

$$= -0.38\ \text{(Normal)} \qquad = 0.65\ \text{(Normal)}$$

- Kurtosis Ratio

$$\text{Kurtosis Ratio} = \frac{\text{Kurtosis}}{\text{Kurtosis Std.error}}$$

$$\text{Pretest} = \frac{-1.165}{0.845} \qquad \text{Posttest} = \frac{-0.924}{0.845}$$

$$= -1.37\ \text{(Normal)} \qquad = -1.09\ \text{(Normal)}$$