***Lampiran 16***

**Deskripsi Analisisa Data**

Kelas Eksperimen

|  |  |  |
| --- | --- | --- |
| **Statistics** | | |
| Pretest\_Eskperimen | | |
| N | Valid | 24 |
| Missing | 0 |
| Mean | | 50.83 |
| Median | | 50.00 |
| Mode | | 50 |
| Std. Deviation | | 14.039 |
| Variance | | 197.101 |
| Range | | 45 |
| Minimum | | 30 |
| Maximum | | 75 |
| Sum | | 1220 |

|  |  |  |
| --- | --- | --- |
| **Statistics** | | |
| Posttest\_Eksperimen | | |
| N | Valid | 24 |
| Missing | 0 |
| Mean | | 77.71 |
| Median | | 80.00 |
| Mode | | 80 |
| Std. Deviation | | 8.338 |
| Variance | | 69.520 |
| Range | | 25 |
| Minimum | | 65 |
| Maximum | | 90 |
| Sum | | 1865 |
| a. Multiple modes exist. The smallest value is shown | | |

Kelas Kontrol

|  |  |  |
| --- | --- | --- |
| **Statistics** | | |
| Pretest\_Kontrol | | |
| N | Valid | 22 |
| Missing | 0 |
| Mean | | 45.45 |
| Median | | 45.00 |
| Mode | | 30 |
| Std. Deviation | | 13.620 |
| Variance | | 185.498 |
| Range | | 50 |
| Minimum | | 20 |
| Maximum | | 70 |
| Sum | | 1000 |
| a. Multiple modes exist. The smallest value is shown | | |

|  |  |  |
| --- | --- | --- |
| **Statistics** | | |
| Posttest\_Kontrol | | |
| N | Valid | 22 |
| Missing | 0 |
| Mean | | 60.00 |
| Median | | 60.00 |
| Mode | | 45 |
| Std. Deviation | | 11.952 |
| Variance | | 142.857 |
| Range | | 40 |
| Minimum | | 40 |
| Maximum | | 80 |
| Sum | | 1320 |

***Lampiran 17***

**Uji Normalitas**

*Pre-test*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Descriptives** | | | | |
|  | | | Statistic | Std. Error |
| eksperimen | Mean | | 50.6818 | 3.12606 |
| 95% Confidence Interval for Mean | Lower Bound | 44.1808 |  |
| Upper Bound | 57.1828 |  |
| 5% Trimmed Mean | | 50.4798 |  |
| Median | | 50.0000 |  |
| Variance | | 214.989 |  |
| Std. Deviation | | 14.66251 |  |
| Minimum | | 30.00 |  |
| Maximum | | 75.00 |  |
| Range | | 45.00 |  |
| Interquartile Range | | 21.25 |  |
| Skewness | | .189 | .491 |
| Kurtosis | | -.845 | .953 |
| kontrol | Mean | | 45.4545 | 2.90374 |
| 95% Confidence Interval for Mean | Lower Bound | 39.4159 |  |
| Upper Bound | 51.4932 |  |
| 5% Trimmed Mean | | 45.4545 |  |
| Median | | 45.0000 |  |
| Variance | | 185.498 |  |
| Std. Deviation | | 13.61976 |  |
| Minimum | | 20.00 |  |
| Maximum | | 70.00 |  |
| Range | | 50.00 |  |
| Interquartile Range | | 21.25 |  |
| Skewness | | .113 | .491 |
| Kurtosis | | -.675 | .953 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tests of Normality** | | | | | | |
|  | Kolmogorov-Smirnova | | | Shapiro-Wilk | | |
| Statistic | Df | Sig. | Statistic | df | Sig. |
| eksperimen | .109 | 22 | .200\* | .934 | 22 | .150 |
| kontrol | .122 | 22 | .200\* | .961 | 22 | .519 |
| \*. This is a lower bound of the true significance. | | | | | | |
| a. Lilliefors Significance Correction | | | | | | |

*Post-test*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Descriptives** | | | | |
|  | | | Statistic | Std. Error |
| eksperimen | Mean | | 78.1818 | 1.75765 |
| 95% Confidence Interval for Mean | Lower Bound | 74.5266 |  |
| Upper Bound | 81.8371 |  |
| 5% Trimmed Mean | | 78.2576 |  |
| Median | | 80.0000 |  |
| Variance | | 67.965 |  |
| Std. Deviation | | 8.24411 |  |
| Minimum | | 65.00 |  |
| Maximum | | 90.00 |  |
| Range | | 25.00 |  |
| Interquartile Range | | 15.00 |  |
| Skewness | | -.195 | .491 |
| Kurtosis | | -1.096 | .953 |
| Control | Mean | | 60.0000 | 2.54824 |
| 95% Confidence Interval for Mean | Lower Bound | 54.7007 |  |
| Upper Bound | 65.2993 |  |
| 5% Trimmed Mean | | 59.9747 |  |
| Median | | 60.0000 |  |
| Variance | | 142.857 |  |
| Std. Deviation | | 11.95229 |  |
| Minimum | | 40.00 |  |
| Maximum | | 80.00 |  |
| Range | | 40.00 |  |
| Interquartile Range | | 25.00 |  |
| Skewness | | -.069 | .491 |
| Kurtosis | | -.942 | .953 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tests of Normality** | | | | | | |
|  | Kolmogorov-Smirnova | | | Shapiro-Wilk | | |
| Statistic | Df | Sig. | Statistic | df | Sig. |
| eksperimen | .160 | 22 | .151 | .923 | 22 | .089 |
| Control | .168 | 22 | .108 | .935 | 22 | .156 |
| a. Lilliefors Significance Correction | | | | | | |

***Lampiran 18***

**Uji Homogenitas**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test of Homogeneity of Variances** | | | |
| Pre-test | | | |
| Levene Statistic | df1 | df2 | Sig. |
| .000 | 1 | 44 | .994 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ANOVA** | | | | | |
| Pre-test | | | | | |
|  | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups | 332.082 | 1 | 332.082 | 1.734 | .195 |
| Within Groups | 8428.788 | 44 | 191.563 |  |  |
| Total | 8760.870 | 45 |  |  |  |

***Lampiran 19***

**Independent Sampel t-Test**

*Pre-test*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group Statistics** | | | | | |
|  | Kelompok\_kelas | N | Mean | Std. Deviation | Std. Error Mean |
| nilai\_pretest | eksperimen | 24 | 50.8333 | 14.03928 | 2.86576 |
| kontrol | 22 | 45.4545 | 13.61976 | 2.90374 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Independent Samples Test** | | | | | | | | | | |
|  | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| F | Sig. | T | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| Lower | Upper |
| nilai\_  pretest | Equal variances assumed | .000 | .994 | 1.317 | 44 | .195 | 5.37879 | 4.08525 | -2.85448 | 13.61206 |
| Equal variances not assumed |  |  | 1.318 | 43.849 | .194 | 5.37879 | 4.07974 | -2.84419 | 13.60176 |

*Post-test*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group Statistics** | | | | | |
|  | Kelompok\_kelas | N | Mean | Std. Deviation | Std. Error Mean |
| nilai\_postest | Eksperimen | 24 | 77.7083 | 8.33786 | 1.70196 |
| Control | 22 | 60.0000 | 11.95229 | 2.54824 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Independent Samples Test** | | | | | | | | | | |
|  | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| Lower | Upper |
| nilai\_  postest | Equal variances assumed | 2.224 | .143 | 5.868 | 44 | .000 | 17.70833 | 3.01763 | 11.62671 | 23.78996 |
| Equal variances not assumed |  |  | 5.779 | 37.162 | .000 | 17.70833 | 3.06434 | 11.50031 | 23.91636 |

***Lampiran 20***

**Paired sampel t-Test**

Kelas Eksperimen

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Paired Samples Statistics** | | | | | |
|  | | Mean | N | Std. Deviation | Std. Error Mean |
| Pair 1 | Pretest | 50.8333 | 24 | 14.03928 | 2.86576 |
| Posttest | 77.7083 | 24 | 8.33786 | 1.70196 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Paired Samples Correlations** | | | | |
|  | | N | Correlation | Sig. |
| Pair 1 | pretest & postest | 24 | .258 | .223 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Paired Samples Test** | | | | | | | | | |
|  | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
| Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | |
| Lower | Upper |
| Pair 1 | pretest – posttest | -26.87500 | 14.35668 | 2.93054 | -32.93729 | -20.81271 | -9.171 | 23 | .000 |

Kelas Kontrol

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Paired Samples Statistics** | | | | | |
|  | | Mean | N | Std. Deviation | Std. Error Mean |
| Pair 1 | Pretest | 45.4545 | 22 | 13.61976 | 2.90374 |
| Posttest | 60.0000 | 22 | 11.95229 | 2.54824 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Paired Samples Correlations** | | | | |
|  | | N | Correlation | Sig. |
| Pair 1 | pretest & postest | 22 | .322 | .144 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Paired Samples Test** | | | | | | | | | |
|  | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
| Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | |
| Lower | Upper |
| Pair 1 | pretest – posttest | -14.54545 | 14.95303 | 3.18800 | -21.17526 | -7.91565 | -4.563 | 21 | .066 |