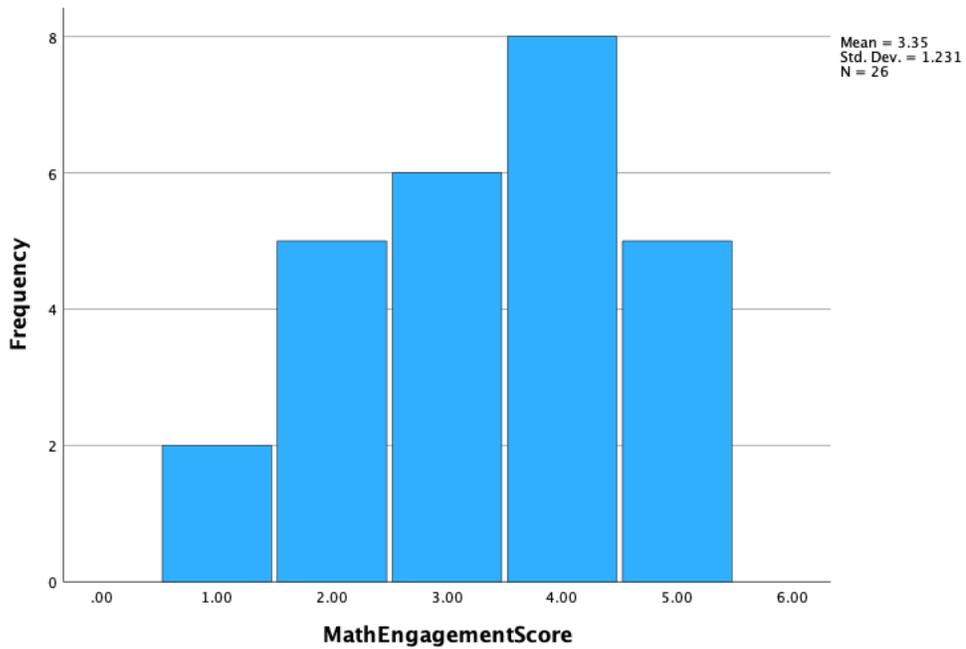Justo Galeas
EDG500
04/21/23

Results

    The null hypothesis states no correlation between student engagement levels and test

scores. The results from this study have shown a moderate positive correlation between student

engagement and test scores in literacy and mathematics.

(Figure 1. A)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MathEngagementScore	26	1.00	5.00	3.3462	1.23101
Valid N (listwise)	26				

(Figure 1. B)

Figure 1.A and Figure 1. B shows the frequencies of the math engagement scores and calculated measures of central tendencies, respectively. The data shows an average math engagement score of 3.35 in the studied population, with a standard deviation of 1.23.
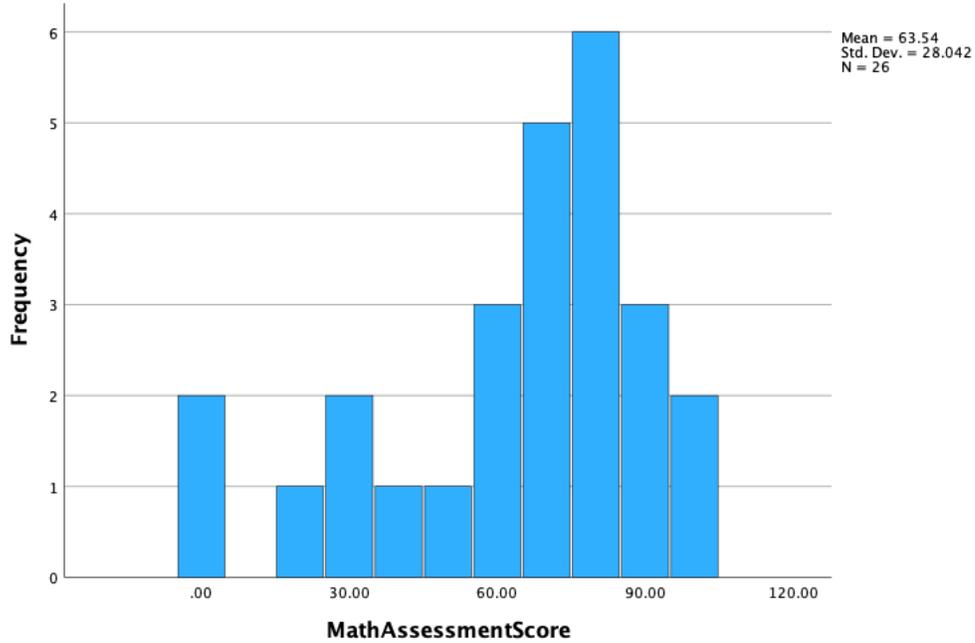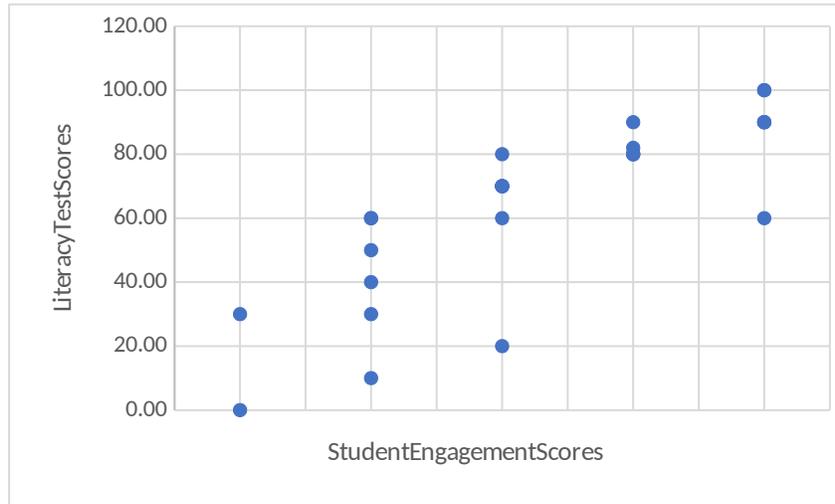

(Figure 2. A)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MathAssessmentScore	26	.00	100.00	63.5385	28.04173
Valid N (listwise)	26				

(Figure 2. B)

Figure 2. A and Figure 2. B shows the frequencies of the math assessment scores and calculated measures of central tendencies, respectively. The data shows an average math assessment score of 63.54 in the studied population, with a standard deviation of 28.04.

(Figure 3. A)

Model Summary

| Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.846[a]	.716	.704	15.25633

a. Predictors: (Constant), MathEngagementScore

Paired Samples Correlations

		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	MathEngagementScore & MathAssessmentScore	26	.846	<.001	<.001

(Figure 3.B)

The proportion of variance between the dependent variable; the post-test scores, and the independent variable; the student engagement scores, were moderate. A clear positive correlation can be visually shown in both graphs (Figure 3.A). The data shows the relationship between the March results for student engagement and test scores for literacy. There is an r-squared value of 0.72, meaning their student engagement scores can explain 72% of the variance in post-test scores (Figure 3. B).
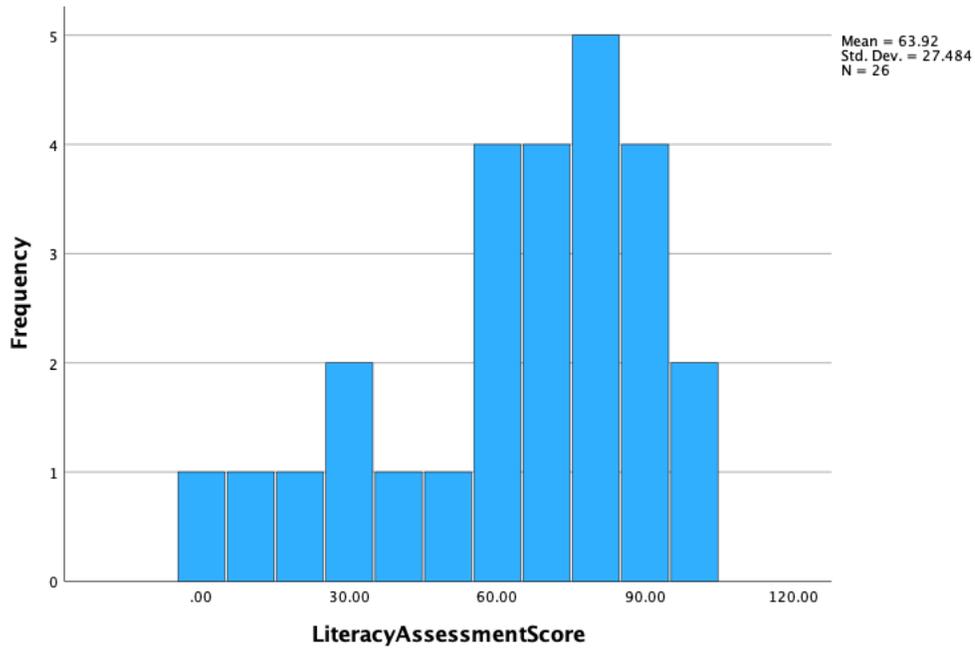

Mean = 3.27
Std. Dev. = 1.282
N = 26
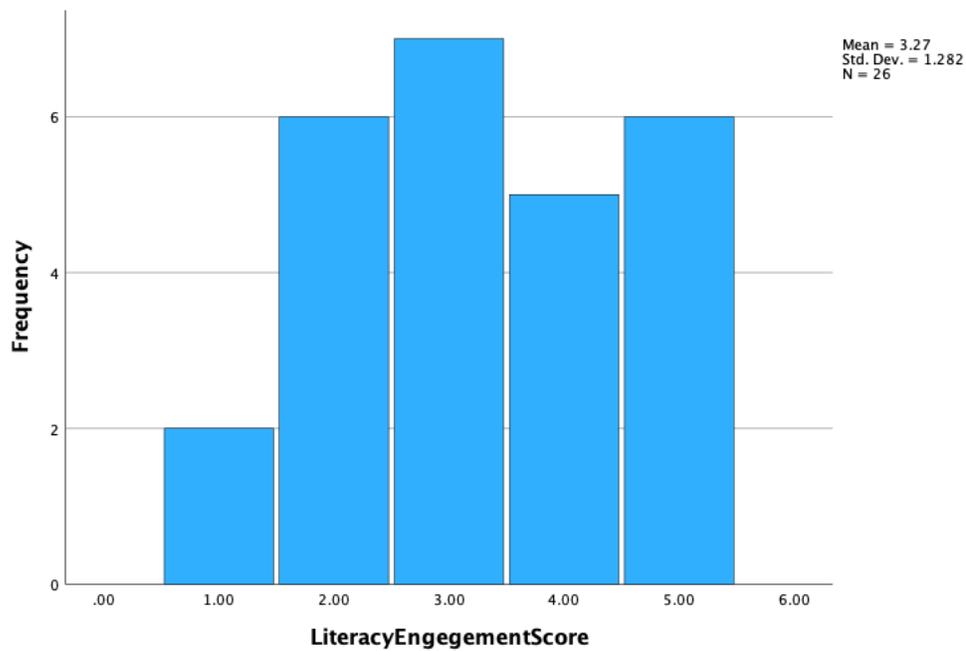
(Figure 4. A)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LiteracyEngegementScore	26	1.00	5.00	3.2692	1.28243
Valid N (listwise)	26				

(Figure 4. B)

Figure 4. A and Figure 4. B shows the frequencies of the literacy engagement scores and calculated measures of central tendencies, respectively. The data shows an average literacy engagement score of 3.27 in the studied population, with a standard deviation of 1.28.
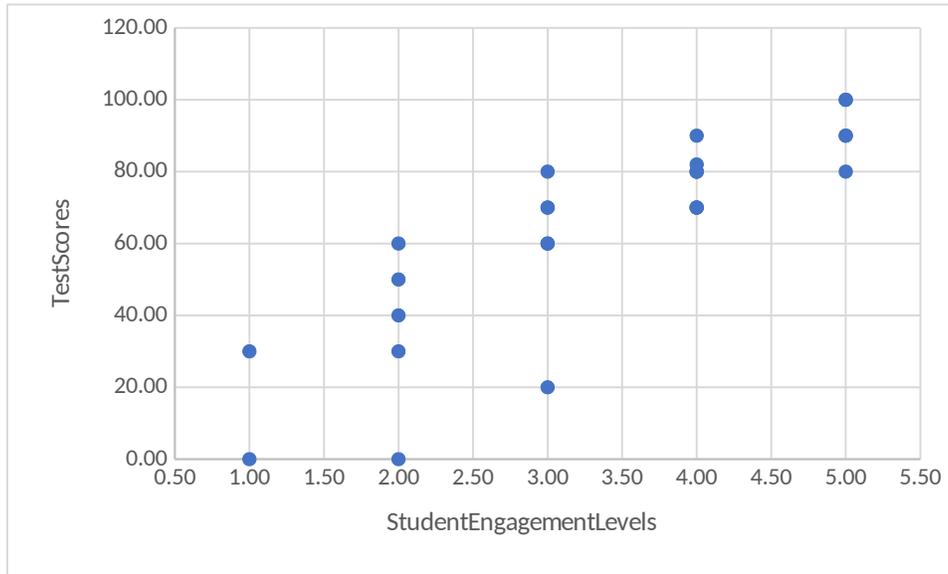

(Figure 5. A)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LiteracyAssessmentScore	26	.00	100.00	63.9231	27.48370
Valid N (listwise)	26				

(Figure 5. B)

Figure 5. A and Figure 5. B shows the frequencies of the literacy assessment scores and calculated measures of central tendencies, respectively. The data shows an average literacy assessment score of 63.54 in the studied population, with a standard deviation of 28.04.

(Figure 6.A)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.811[a]	.658	.643	16.41390

a. Predictors: (Constant), LiteracyEngegementScore

Paired Samples Correlations

			Significance	
	N	Correlation	One-Sided p	Two-Sided p

Pair 1	LiteracyEngegementScore & LiteracyAssessmentScore	26	.811	<.001	<.001

(Figure 6.B)

Figure 6.A and 6.B shows the relationship between the March results for student engagement and test scores for literacy. The proportion of variance between the dependent variable; the post-test scores, and the independent variable; the student engagement scores, were moderate. A clear positive correlation can be visually shown in both graphs (Figure 6.A). As seen, the cluster of points is more spread out. The data shows the relationship between the March results for student engagement and test scores for literacy. There is an r-squared value of 0.66, meaning their student engagement scores can explain 66% of the variance in post-test scores (Figure 6.B.)

Findings

This research found a moderate correlation between student engagement levels and post-test scores. As seen in the graphs (Figure 3. A and Figure 6. A), the scatterplots show a moderate positive trend; literacy test scores typically increase as student engagement increases. These results are aligned with the results from previous studies on the Testing Effect. However, there are several outliers' data points on both graphs. With a significance level of a = 0.05, we can assume our p-value less than or equal to 0.05 will be statistically significant for math and literacy. Since the p-value is less than 0.001, we can reject the null hypothesis of no correlation between student engagement levels and test scores can be rejected. There is sufficient evidence to support the claim that there is a correlation between student engagement levels and test scores.

Limitations

Since this study was done on a particular small population with diverse needs, this study needs to conclude the generalization of its results to only some students. Since there was a considerably large subpopulation of English Language Learners, the results may need to be more accurate regarding their abilities. ELL students who were often engaged in lessons still scored lower than expected, possibly due to a language barrier in their testing. Further research is needed on the testing effect on the ELL student population. Limited sample time could have also limited this study, as a more extended research period would have allowed for more data collection and a better-generalized trend for their students. Another limitation is the elimination of other variables in this study. A more engaging lesson may mean a more engaged teacher willing to put more effort into the quality of their tasks for their students. This may also affect student test scores, as students feel safer taking more risks and learning more. This would all be great for future studies.

Implications and Conclusion

This study has found a positive correlation between student engagement and test scores, suggesting that student engagement is essential to academic performance. If a more engaging classroom learning environment surrounds a student, it may lead to a better testing score and improved performance in that academic area. It could also improve their comprehension and motivation to keep learning and benefit students' future academic achievements. Efforts to strengthen engagement should be a priority for educators.