Article

The Impact of English Tutoring Schools on IELTS Score Improvement in Thailand: A Quantitative Evaluation

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Abstract: This paper examines the impact of English tutoring schools on IELTS score improvement in Thailand. Using data from 205 individuals, we employ descriptive statistics, t-tests, and regression models to analyze the effectiveness of tutoring. Results show that the average IELTS score improved from 5.04 to 6.30 after attending tutoring schools, with significant differences observed by gender, age, income, and school. Regression analysis further confirms that tutoring institutions play a significant role in enhancing test performance. The findings highlight the importance of institutional quality and suggest further investigation into additional factors influencing language proficiency. Limitations and future research directions are discussed.

Keywords: English tutoring effectiveness; IELTS score improvement; t-test; regression analysis; econometric analysis; education economics; Thailand

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1. Background

While previous studies have explored the impact of private tutoring in a variety of contexts, limited research has focused specifically on English language proficiency and standardized testing such as IELTS in Southeast Asia. In Thailand, the rapid increase in the number of English tutoring schools reflects a growing demand among students and working professionals for competitive language skills. Policymakers have long debated whether private tutoring enhances educational equity or deepens socioeconomic divides.

There is no doubt that English communication skills are an asset to any non-native English speakers as English is one of the most commonly used language around the world. More importantly, reasonable English test scores are required in applying for graduate schools around the world. One way to improve one's English test score is to attend English tutoring schools. As a result, there are a great number of English tutoring schools established around the world. Thailand is no exception to this global trend.

There are many English tutoring schools in Bangkok and elsewhere in the country with a promise to help their students to improve their English test scores. Given that tuition fees of these schools are not trivial, one may wonder whether attending the school can help improve his or her English test scores.

To answer this question, we have collect data on 205 Thai individuals' IELT test scores. The majority of individuals included in the sample attend leading English tutoring schools in Bangkok.

The descriptive statistics reveal a clear improvement in average IELTS scores after participation in English tutoring schools. This increase from 5.04 to 6.30 is not only statistically significant but also practically meaningful, especially considering that many graduate programs set a minimum threshold of 6.0. The large standard deviation in the post-tutoring scores suggests some variability in outcomes across students, possibly linked to their individual backgrounds, learning environments, or the quality of instruction received.

2. Summary Statistics

Statistics on the difference between the average scores before and after enrollment have the following results (Table 1).

Table 1. Descriptive Statistics of IELTS Scores Before and After Tutoring.

	mean	sd	max	min
Score before	5.040201	0.6969573	7	1
Score after	6.296392	0.7957382	8.5	4

It can be seen that the average English score before participating in the school is 5.040, and the average English score after participating in the school is 6.296.

It can be seen that after attending the English school, the number of people whose scores have changed is 187, among which the number of people who have improved their scores is 173. After enrollment, the average increase is 1.31, and the average percentage of score improvement is 27.27% (Table 2).

Table 2. Score Improvement and Percentage Change Summary.

Tot obs	Score increase	Score diff	Score change percent
187	173	1.315508	27.272727

The chart shows the magnitude and percentage of changes in students' English scores.

H0: The two mean values are equal, and there is no significant difference

H1: The two mean values are not equal, there is a significant difference

Data hypothesis: The sample distribution conforms to the normal distribution and meets the same variance. Students who have participated in an English school do a t-test. According to the pre-entry scores and post-entry scores, test whether there is a significant difference in the mean of student scores under different groups. If the p-value is small, the null hypothesis is rejected and the difference is significant [1]. If the p-value is large, the null hypothesis is accepted, and the difference is not significant. Show the data in Figure 1 through a line chart.

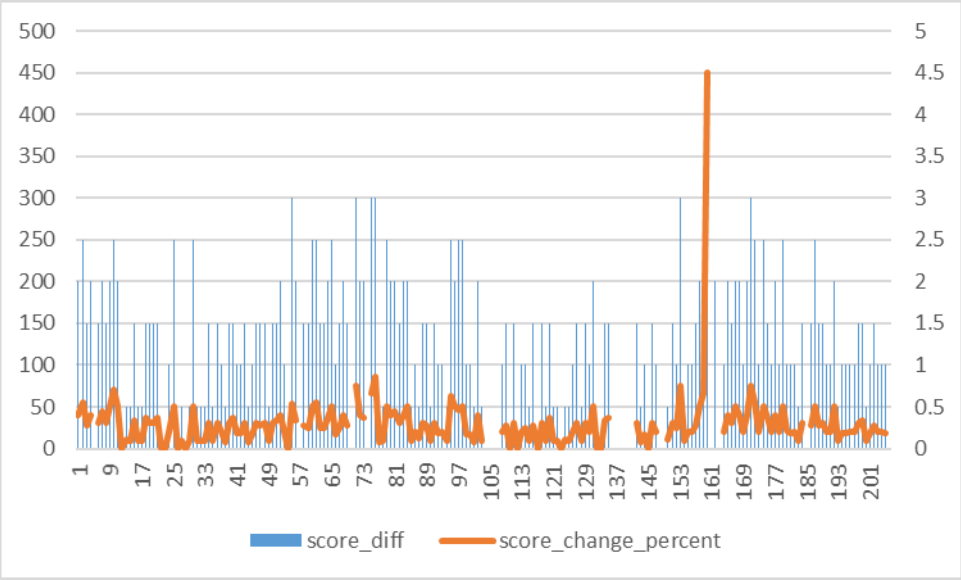

Figure 1. Line Chart of Score Changes Before and After Tutoring.

From the analysis results, the t value in the t test is -17.853, and the p value is 0, indicating that the null hypothesis should be rejected. In other words, participating in English tuition has a significant impact on the overall IELTS score (Table 3).

Table 3. T-Test of Mean Scores Before and After Tutoring.

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]
Score before	187	4.967914	0.0468389	0.6405118	4.875511 5.060318
Score after	193	6.295337	0.0574177	0.7976718	6.182086 6.408587
combined	380	5.642105	0.0503995	0.9824668	5.543008 5.741203
diff		-1.327422	0.0743528		-1.473619 -1.181225
Diff=mean (Score before)-mean (Score after)					t=-17.853
Ho: diff = 0				Degrees of freedom = 378	
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0	
Pr(T < t) = 0.0000		Pr(|T|>|t|) =0.00		Pr(T>t) =1.0000	

So far, the limitation of the analysis is due to the small sample size collected, and the estimated results may be inaccurate. Use the average score difference to judge that only the average can be shown, and the existence of outliers will make the average fluctuate greatly. When the data deviates significantly from the normal distribution, because the t-test depends on a larger sample size to obtain a better approximation, its power may decrease significantly, which is not as high as the non-parametric test power. In addition to taking English courses, the number of IELTS exams will also have an impact. Further insights into score improvement patterns can be found in table 4, table 5 and table 6**.**

Table 4. Score Improvement by Gender.

Gender	Tot obs	Score increase	Score diff	Score change percent
female	93	88	1.3172043	30
male	94	85	1.3138298	25

Table 5. Score Improvement by Age Group.

Age	Tot obs	Score increase	Score diff	Score change percent
18-25 years old	132	119	1.2007576	20
26-35 years old	26	25	1.5769231	27.272727
Less than 18 years old	28	28	1.6071429	30
more than 35 years old	1	1	1.5	30

Table 6. Score Improvement by Occupation.

Occupation	Tot obs	Score increase	Score diff	Score change percent
Non-student	49	42	1.255102	27.272727
Student	138	131	1.3369565	26.136364

It can be seen from the table 7 that the proportion of students' English performance improvement will indeed vary with gender, age, occupation and salary range.

Table 7. Score Improvement by Salary Range.

Salary	Tot obs	Score increase	Score diff	Score change percent
10001-20000	69	67	1.2536232	20
20001-30000	48	45	1.3645833	23.611111
30001-40000	5	5	1.8	30
30001-40000	29	25	1.3793103	27.272727
Less than 10000 Baht	6	3	0.66666667	10
Less than 10000 baht	21	20	1.4285714	27.272727
More than 40000 Baht	9	8	1.2222222	27.272727

In order to understand the effectiveness of different tutoring schools in improving performance, classify according to top schools, and conduct statistical analysis on the

number of students in different schools who have improved their scores and the percentage of average scores. It was found that New Cambridge Institute's student score improvement rate was 44.444%, the highest among all schools. Therefore I prefer New Cambridge Institute. I think that there is no need to carry out statistical tests on the difference of the average value [2]. The percentage of improvement in English performance of students in different schools must be significantly different (Table 8).

Table 8. Score Improvement by Tutoring School.

Lesson school	Tot obs	Score increase	Score diff	Score change percent
British Council	69	61	1.1594203	20
Chula Tutor	1	1	2	40
EduFirst School	1	1	0.5	10
IDP	1	1	0.5	9.0909091
Kaes's Language& Tutorial School	2	2	2.25	56.25
Kk tutor	1	0	0	0
New Cambridge Institute	3	3	2.1666667	44.444444
Oxbridge Institute	31	31	2	36.363636
Paradigm Languages	6	6	1.5833333	28.333333
RMIT Institute	2	2	1.25	26.388889
The Smart Tutor	33	32	1.4090909	27.272727
Wall Street	35	31	0.8428571	11.111111
Walsal College	2	2	1	21.212121

To check whether the increase in scores is due to the school's different demographics of students. Use pie charts and bar charts to illustrate this ratio (Figure 2 and Figure 3).

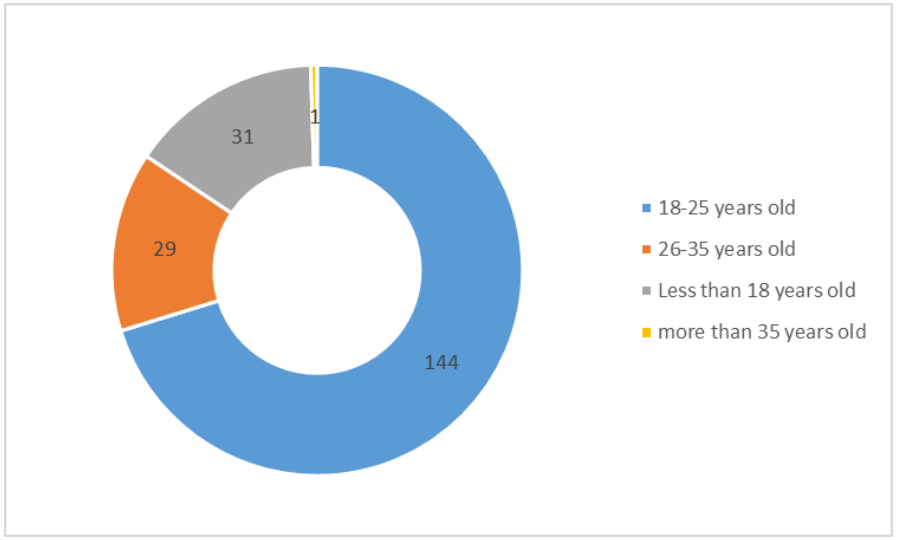

Figure 2. Age Group Distribution of Respondents.

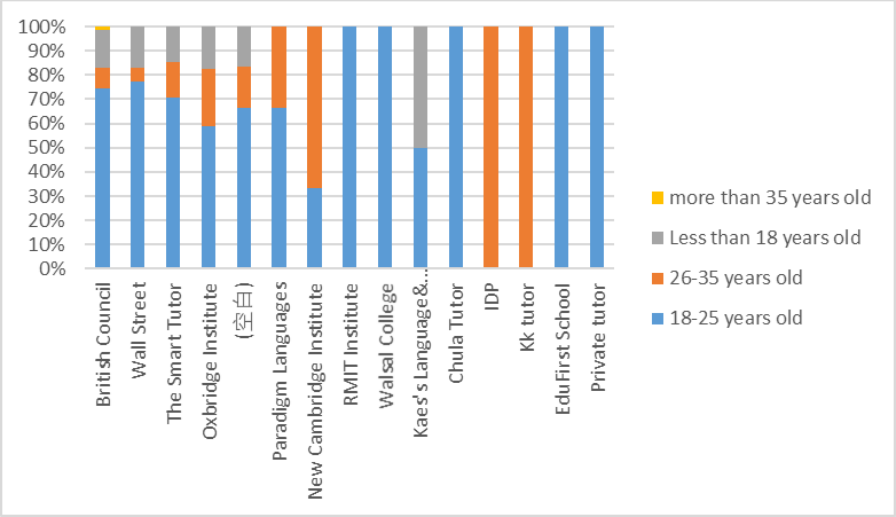

Figure 3. Age Group Proportion by School.

The regression analyses support the hypothesis that attending tutoring school positively affects IELTS scores, even after controlling for gender, age, student status, and salary. Interestingly, the coefficient for the school variable remains significant in both models using score before and score after as dependent variables. This suggests that institutional quality may play a critical role. The lack of significance for gender and age indicates that tutoring effectiveness is broadly consistent across these groups.

From a policy standpoint, these findings can inform government regulation and support mechanisms for quality assurance in the tutoring sector. Ministries of education could consider certification standards for private English centers and require evidence of outcome improvement as a criterion for licensing. Additionally, financial subsidies or vouchers for low-income students to access high-quality tutoring could help narrow the inequality gap that tutoring markets often exacerbate [3].

It can be seen from the figure above that most of the students are 18-35 years old, and the number of students in different schools is different. I prefer bar graphs, which can be more intuitive to see the proportions of each age group in each school.

3. Regression Analysis

Controlling for other variables, regression analysis is used to study whether attending an English tuition school has an impact on IELTS students. Create variables for each person's first test score and last test score Regression 1 uses the first test score of each individual as the dependent variable. Regression 2 uses the last test score of each individual as the dependent variable.

As can be seen from the table 9, the average value of the variance expansion factor is 1.43, which is less than 10, indicating that there is no complete collinearity. To ensure that there is no perfect collinearity in the regression. Do a multicollinearity test, the test results are as follows:

Table 9. VIF Test for Regression Model (Score Before and After).

Variable	VIF	1/VIF
Salary range	1.96	0.509087
Student	1.81	0.552669
Age range	1.54	0.650399
Score last	1.14	0.876443
School	1.14	0.879958
Gender new	1.02	0.982921

Mean VIF	1.43

It can be seen from the regression results that the regression coefficient before joining the school is 0.0889, which is significant at the 0.05 level of significance. The regression coefficient after joining the school is 0.131, which is significant at the significance level of 0.01. It shows that participating in school counseling has an impact on the improvement of students' English performance. The adjusted R-squares of the regression equation are 0.067 and 0.087, respectively [4].

The regression analysis results are as follows (Table 10).

Table 10. Descriptive Statistics of IELTS Scores Before and After Tutoring.

	(1)	(2)
	Score first	**Score last**
School	0.0889*	0.131**
	(0.0358）	(0.0436）
Gender new	-0.136	-0.0183
	(0.110)	(0.119)
Age range	-0.130	-0.145
	(0.149)	(0.165)
Student	0.119	-0.00442
	(0.170)	(0.183)
Salary range	0.117	0.205*
	(0.0797)	(0.0907)
cons	4.650***	5.704***
	(0.274)	(0.299)
N	145	142
adj. R-sq	0.067	0.087
F	3.077	3.680
p	0.0115	0.00373

Standard errors in parentheses.
* p<0.05, ** p<0.01, *** p<0.001.

Through regression analysis, under the control of other variables, research whether there are differences in the effects of English tutoring in different institutions. Regression 1 takes the difference of each individual's score as the dependent variable. Regression 2 uses the percentage change of each individual's score as the dependent variable. Regression 3 shows whether its score increases as a dependent variable. To ensure that there is no perfect collinearity in the regression. Do a multicollinearity test:

It can be seen from the table 11 that the average value of the variance expansion factor is 1.38, which is less than 10, indicating that there is no complete collinearity.

Table 11. Descriptive Statistics of IELTS Scores Before and After Tutoring.

Variable	VIF	1/VIF
Salary range	1.96	0.509049
student	1.83	0.547037
Age range	1.55	0.646677
Score increase	1.13	0.887750
School	1.08	0.923909
Gender new	1.07	0.933840
Score change	1.06	0.945326
Mean VIF	1.38	

From the results of the three regressions, it can be concluded that the effectiveness of English tuition schools varies from school to school. When the difference in scores of each

individual is used as the dependent variable, the regression coefficient of the school is 0.0925, indicating that different schools have a significant impact on the difference in scores. When the percentage change of each individual's score is taken as a percentage, the school's regression coefficient is -0.139, and it is not significant. When the score increase is the dependent variable, the regression coefficient of the school is 0.0119, indicating that the school has a positive effect on the improvement of English performance [5].

The regression analysis results are as follows (Table 12).

Table 12. Descriptive Statistics of IELTS Scores Before and After Tutoring.

	(1) Score diff	(2) Score change percent	(3) Score increase
School	0.0925	-0.139	0.0119
	(0.0511)	(2.608)	(0.0156)
Gender new	0.0445	-4.798	0.0994*
	(0.137)	(7.004)	(0.0420)
Age range	-0.135	-3.082	-0.0594
	(0.194)	(9.893)	(0.0593)
Student	0.0159	-11.17	-0.0704
	(0.218)	(11.14)	(0.0668)
Salary range	0.108	6.869	0.0541
	(0.105)	(5.367)	(0.0322)
_cons	1.013**	34.68	0.921***
	(0.345)	(17.62)	(0.106)
N	137	137	137
adj. R-sq	0.003	-0.021	0.041
F	1.085	0.431	2.158
p	0.372	0.827	0.0626

Standard errors in parentheses.
* p<0.05, ** p<0.01, *** p<0.001.

3.1. Use Regression Analysis to See if the Effectiveness of Each Agency for Score Differences Varies by Gender.

To ensure that there is no perfect collinearity in the regression, a multicollinearity test is performed.

As can be seen from the table 13, the average value of the variance expansion factor is 1.47, which is less than 10, indicating that there is no complete collinearity. The regression analysis results are as follows:

Table 13. Descriptive Statistics of IELTS Scores Before and After Tutoring.

Variable	VIF	1/VIF
Salary range	1.91	0.523669
Student	1.80	0.554417
Age range	1.53	0.651699
School	1.08	0.928317
Gender new	1.02	0.983686
Mean VIF	1.47	

Despite the clear improvement shown in this study, several limitations must be acknowledged. First, the sample size, although sufficient for basic statistical inference, may not represent the entire Thai student population. Second, self-selection bias is likely, as more motivated or affluent students may be more inclined to enroll in tutoring. Third,

the absence of qualitative data such as student satisfaction, teaching methods, or class size prevents us from understanding how these factors contribute to score changes.

In terms of methodology, the study has controlled for basic demographic factors, and variance inflation factors (VIF) confirm no serious multicollinearity among variables. However, potential endogeneity remains an issue—students who expect to improve may be more likely to join higher-end schools. Advanced econometric techniques such as instrumental variables or fixed-effects panel regressions could be employed in future studies to strengthen causal claims.

In conclusion, this study provides empirical support for the effectiveness of English tutoring in improving IELTS outcomes in Thailand. While private tutoring appears to deliver measurable benefits, stakeholders must remain vigilant regarding equity and access. The insights derived here can guide educators, policymakers, and researchers toward more inclusive and evidence-based educational strategies.

The regression coefficient of gender is 0.044, indicating that gender and score difference are positively correlated, but not significant. The R-square of the regression equation is 0.04, indicating that 4% of the dependent variable can be explained by the independent variable (Table 14).

Table 14. Descriptive Statistics of IELTS Scores Before and After Tutoring.

	Score first
School	0.093
	(1.81）
Gender new	0.044
	(0.32)
Age range	-0.135
	(0.70)
Student	0.016
	(0.07)
Salary range	0.108
	(1.03)
Cons	1.013**
	(2.93)
N	137
R2	0.04

* p<0.05; ** p<0.01.

4. Thinking Outside the Box

Private tutoring, often referred to as “shadow education”, has been a subject of debate in education economics. While it may offer individualized instruction and test-oriented strategies, it also raises concerns regarding access, affordability, and inequality. The Thai context, with its dense network of language centers and rising demand for overseas education, provides a valuable empirical setting to assess the net impact of such interventions on measurable outcomes like IELTS scores.

The present study confirms that tutoring schools contribute significantly to IELTS score improvements. However, the findings also suggest that effectiveness varies by institution, and demographic groups such as younger or lower-income learners may benefit differently. Therefore, regulators may consider measures such as performance-based accreditation for tutoring institutions and policies that provide subsidies or support to underrepresented learners to ensure equitable access to high-quality tutoring services.

Future research could explore longitudinal effects and incorporate qualitative dimensions such as student motivation, instructional style, and teacher qualifications. These enhancements would enrich understanding of the mechanisms through which tutoring affects outcomes.

So far, we have only used part of the given data to explore the effectiveness of English tuition schools and the situation of students. It can be seen from the data set that students' English scores are affected by many factors. In addition to the data in the data set, there should be other factors. For example, in daily life, whether their parents communicate with them in English, etc. If there are more data for analysis, the results obtained will be more accurate and the conclusions are more likely to be established. If there is a serious lack of data during the analysis process, a large amount of useful information will be lost in the analysis process, and the uncertainty of the estimated amount obtained will be more significant. Therefore, additional data is essential.

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