I J C R M

International Journal of Contemporary Research In Multidisciplinary

Research Article

A Comparative Analysis of Teaching Effectiveness and Academic Performance between Government and Private Secondary Schools in Chaltlang, Aizawl

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DOI: https://doi.org/10.5281/zenodo.14932493

Abstract

This study examines teaching effectiveness and academic performance in government and private secondary schools in Chaltlang, Aizawl, underscoring the crucial role of education in intellectual and social development. Teaching quality, assessed through clarity of instruction, teacher-student interaction, and the learning environment, is a key factor influencing student outcomes. Government school teachers demonstrate a "Moderate" level of effectiveness, with an average mean score of 0.690. While they meet basic expectations, areas such as impartial grading, addressing student doubts, and structured note delivery require improvement. In contrast, private school teachers, with an average score of 0.475, excel in subject knowledge and note delivery but need to enhance student encouragement, doubt clarification, and fair grading. Analysis of High School Leaving Certificate (HSLC) results from 2020 to 2024 reveals a significant performance gap, with private school students outperforming their government school peers by an average of 20.87 percentage points. A p-value of 0.024 confirms this difference as statistically significant at the 95% confidence level. To bridge this gap, government schools should focus on improving teacher-student interactions and assessment fairness, while private schools should adopt more student-centered teaching practices. These targeted improvements will enhance educational outcomes across both sectors.

Manuscript Information

- **ISSN No:** 2583-7397
- **Received:** 11-01-2025
- **Accepted:** 29-01-2025
- **Published:** 26-02-2025
- **IJCRM:**4(S1); 2025: 25-30

- **Plagiarism Checked:** Yes
- **Peer Review Process:** Yes

How to Cite this Article

Lalengkima D, Zohlupuii. A comparative analysis of teaching effectiveness and academic performance between government and private secondary schools in Chaltlang, Aizawl. Int J Contemp Res Multidiscip. 2025;4(S1):25–30.

Access this Article Online

www.multiarticlesjournal.com

KEYWORDS: Teaching Effectiveness, Academic Performance, Government Schools, Private Schools, Educational Quality

1. INTRODUCTION

Education plays a pivotal role in shaping the intellectual and social development of individuals, influencing their prospects and contributions to society. The quality of education, which is determined by various factors including teaching effectiveness, directly impacts academic performance, especially at the secondary school level. In India, there is a marked difference in the quality of education provided by government and private schools, largely due to disparities in resources, teaching methods, and institutional management. The effectiveness of teaching,

which encompasses the clarity of instruction, teacher-student interaction, and the ability to cater to individual learning needs, is a critical determinant of student achievement. Chaltlang, a locality within the city of Aizawl, presents an interesting case for examining these educational disparities. This region is home to both government and private secondary schools that cater to a diverse student population. While private schools are often perceived to offer superior teaching quality and academic performance, government schools tend to face challenges such as inadequate infrastructure, overcrowded classrooms, and limited resources (Rao, 2019). These differences raise important questions regarding how teaching effectiveness varies between the two types of institutions and whether these variations are reflected in the academic performance of their students. This study aims to provide a comparative analysis of teaching effectiveness and academic performance between government and private secondary schools in Chaltlang, Aizawl. By examining both the perceptions of students and teachers regarding teaching quality and the academic outcomes of students from both school types, the study seeks to provide a comprehensive understanding of the factors that contribute to educational success. Specifically, it will assess various dimensions of teaching effectiveness, such as clarity in teaching, student engagement, teacher preparedness, and the ability to address student concerns. The focus on Chaltlang is particularly significant as it offers an opportunity to explore local educational dynamics and draw conclusions that may be applicable to similar settings across the region. The findings from this study could inform policy decisions regarding educational reform, resource allocation, and teacher training programs in both government and private sectors. Furthermore, by comparing academic performance, this study contributes to the ongoing debate regarding the role of private versus public schooling in determining educational outcomes, and provides evidence that can potentially guide improvements in teaching practices across both sectors.

2. LITERATURE REVIEW

The effectiveness of teaching and its subsequent impact on academic performance has been extensively researched at both global and local levels. Teaching effectiveness encompasses several factors, including instructional clarity, teacher-student interaction, the use of instructional materials, and the ability to create a conducive learning environment. These factors significantly influence student performance, particularly in secondary education, where foundational knowledge is established. Globally, studies have consistently shown that teaching effectiveness correlates with improved student outcomes. Hattie (2009) conducted a meta-analysis of over 800 studies and found that teacher-student interactions, instructional quality, and classroom environment were among the most significant factors influencing student achievement. Similarly, a study by Kane et al. (2013) in the United States found that effective teaching, characterized by high expectations and clear instructional practices, led to higher student performance. These findings underline the importance of teacher quality in shaping academic outcomes across different educational systems. In India, the divide between government and private schools in terms of teaching effectiveness and academic performance is well-documented. According to a study by Desai, Desai, and Lall (2015), private schools in India generally outperform government schools in terms of both teaching quality and student achievement. Private institutions tend to have smaller class sizes, better infrastructure, and more qualified teachers, all of which contribute to higher academic performance. Conversely, government schools often face challenges such as overcrowded classrooms, limited teaching resources, and lower teacher salaries, which affect teaching quality (Kingdon, 2017). These disparities contribute to the persistent performance gap between the two sectors. Regionally, studies conducted in North-East India, including the Mizoram region, highlight similar challenges in government schools. A study by Zama (2020) on education in Mizoram found that while private schools offered more modern teaching methods and better infrastructure, government schools struggled with high dropout rates and low student engagement. However, there are also indications that the gap is narrowing, with increasing government efforts to improve teacher training and infrastructure in public schools (Rai, 2018).

Therefore, while global and national studies underscore the critical role of teaching effectiveness in student performance, regional studies in Mizoram confirm the broader trends of disparities between public and private schools. The current study aims to contribute to this body of literature by examining the specific context of Chaltlang, Aizawl, to further explore the relationship between teaching quality and academic outcomes.

3. OBJECTIVE

The fundamental objective of this study is to compare the teaching effectiveness and academic performance between public and private educational institutions within the Chaltlang Local Council area.

4. METHODOLOGY

Data Sources and Sampling Design

The research utilizes both primary and secondary data sources. Primary Data were gathered through well-structured questionnaires administered at both the individual and household levels. Additionally, interviews were conducted with parents to gain further insights into their perceptions of the educational environment. Several 50 Class X students were randomly selected from both public and private schools, ensuring a balanced comparison. This resulted in a total of 100 students participating in the study. Furthermore, to gain a deeper understanding of teaching effectiveness, 15 parents from each school and 7 teachers from each institution were randomly chosen for interviews, making a total of 44 parents and teachers involved in the study. In addition to primary data, secondary data were sourced from the Mizoram Board of School Education (MBSE), government websites, and academic resources such as books, reports, and articles to supplement the study and provide a well-rounded perspective.

Selection of Institutions

Government Chaltlang High School (a public institution) and Greenland Higher Secondary School (a private institution) were selected purposively based on their availability within the area.

Data Analysis

The collected data were analyzed using various descriptive statistics such as mean values to summarize the central tendency, percentages to assess distributions, and standard deviation to measure the variability in responses. For comparing the academic performance between public and private schools, inferential statistics, specifically the Independent T-test, were employed to determine the statistical significance of the differences. The formula of the independent t-test is given below:

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Where,

$\bar{x}_1$: is the mean of the first group

$\bar{x}_2$: is the mean of the second group

s_1^2: is the variance of the first group

n_1: is the sample size of the first group

s_2^2: is the variance of the second group

n_2: is the sample size of the second group

Additionally, a dimension index was used to calculate the weighted mean values of various teaching attributes, providing a measure of teaching effectiveness. The following formula has been employed to compute the weighted mean value of teaching effectiveness:

$$TEI = \frac{A_i - m_i}{M_i - m_i}$$

Where,

TEI = Teaching Effectiveness Index

A_(i =) Actual Value

m_(i =) Minimum Value

M_(i =) Maximum Value

The Teaching Effectiveness Index for each indicator of the total respondents was calculated by

$$TEI_i = \frac{\sum TE\ I_i}{N}$$

Where,

∑TEIi = Summated standardized score of all the respondents

N = Number of students covered in the study.

This combination of data sources and statistical methods aims to offer a comprehensive comparison of educational outcomes and teaching quality between public and private institutions in the Chaltlang area.

5. RESULTS AND DISCUSSIONS

This study examines the perceptions of teaching effectiveness among students in government and private schools. By analyzing ratings across various dimensions of teaching quality, such as subject knowledge, clarity, and student encouragement, this section of the study aims to identify key differences in how students from these two types of institutions evaluate their teachers.

Comparative Evaluation of Teaching Effectiveness

Teaching effectiveness is essential for improving learning outcomes in educational institutions. Teachers play a pivotal role in the teaching-learning process. The respondents were provided with structured questionnaires to assess their teachers based on predefined parameters. Table 1 presents a comprehensive overview of the ratings on various aspects of teaching effectiveness for teachers in government schools, as evaluated by students.

Table 1: Ratings on Teaching Effectiveness of Teachers in Government School

Statements	Very high	High	Medium	Low	Mean Value
Clear teaching	26	21	11	2	0.745
Regularity	18	17	11	4	0.745
More points than in text- books	15	15	18	2	0.715
Capacity to clear doubts	9	16	20	5	0.645
Encouragement	10	14	20	6	0.635
Being cheerful in class	15	13	15	7	0.665
Concern for students	14	21	7	8	0.700
Encouraging students to ask questions	18	16	15	1	0.755
Preparedness	22	14	20	14	0.680
Knowledge of the subject	24	16	8	2	0.805
Giving notes in class	6	8	12	24	0.450
Impartial correction of answer books	9	20	14	7	0.645
Willing to help students even outside the class	17	14	12	7	0.695
Appreciating the deserving students	15	17	14	4	0.715
Reviewing the lesson of the previous class	17	22	7	22	0.750
Average Value	**0.690**				

Source: Primary Data, 2024

The ratings are organized into four categories: Very High (>0.800), High (0.700 to 0.899), Medium (0.501 to 0.699), and Low (>0.500), reflecting the level of effectiveness for each attribute. In the case of government school teachers, one standout area is Knowledge of the Subject, which receives an outstanding effectiveness rating of 0.805. This high rating indicates that the teachers demonstrate exceptional expertise and mastery of their subject matter, which significantly enhances the learning experience for students. Alongside this, several other aspects of teaching show high effectiveness. For example, Clarity in Teaching is rated at 0.745, suggesting that most students are satisfied with the teacher's ability to communicate lessons clearly and effectively. Similarly, the teacher's Regularity in class, with a rating of 0.745, reflects a high level of consistency and reliability in delivering lessons. Students also appreciate the teacher's Ability to Provide Additional Points Beyond the Textbook, which is rated highly, suggesting that the lessons are rich in content and go beyond what is merely prescribed in textbooks, enhancing the depth of understanding. Furthermore, the teacher's Concern for Students is rated at 0.755, indicating that students feel genuinely valued and cared for in the learning environment. This is complemented by the teacher's ability to foster an open and engaging classroom environment where students feel comfortable asking questions and participating in discussions. Another area of strength is the teacher's Ability to Review Past Lessons, which is rated at 0.750. This reflects the teacher's capacity to reinforce and refresh students' memories, contributing to better retention and comprehension of the material. Additionally, the teacher is highly effective in Appreciating Students Who Perform Well, with a rating of 0.715, which encourages continued effort and motivates students to strive for excellence. Despite these strengths, there are several areas where the teacher's effectiveness is rated as moderate. For instance, the teacher offers Support Beyond Class Hours with a mean value of 0.695, indicating that while there is some level of availability and engagement, more could be done to improve accessibility and provide additional help to students. Preparedness is also rated moderately at 0.680, suggesting that while the teacher is generally prepared for class, there are opportunities to improve lesson planning and execution. Similarly, the teacher's Cheerfulness in Class is rated at 0.665, indicating a positive classroom environment, though it still leaves room for improvement in fostering a more engaging and livelier atmosphere. Impartiality in Grading and Clearance of Doubts are both areas where moderate effectiveness is observed, with ratings of 0.645. These scores suggest that while students feel their doubts are addressed, there is still room for the teacher to ensure more thorough clarification and to improve the fairness and transparency of grading practices. The teacher's ability to Encourage Students is also rated moderately at 0.635, indicating that while encouragement is present, there is scope for greater motivation and support for students to reach their potential.

One area that needs considerable improvement is the provision of Notes in Class, which is rated as 0.450. This suggests that students feel the notes provided are insufficient, requiring a better structure or more comprehensive content to support their learning. The overall average mean value across all attributes is 0.690, which falls into the "Moderate" category (ranging from 0.501 to 0.699). This suggests that, while the teacher's performance in government schools is generally adequate and meets basic expectations, there is significant room for improvement across several key areas to enhance overall teaching effectiveness. Again, the ratings provided by respondents for teachers working in private schools are shown in Table 2 below. It could be observed from the table 2 that the teacher in the private school exhibits low effectiveness across various teaching areas. Notably, the teacher demonstrates strong knowledge and mastery of the subject matter, as indicated by the mean value of 0.550 for Knowledge of the Subject. This reflects a high level of expertise that is highly valued by the students. The teacher's ability to provide notes is rated at 0.520, suggesting that while students appreciate the notes, there is room for improvement in their organization and comprehensiveness.

Table 2: Ratings on Teaching Effectiveness of Teachers Working in Private School

Statements	Very High	High	Medium	Low	Mean value
Clear teaching	11	27	10	1	0.515
Regularity	8	26	16	0	0.490
More points than in text- books	6	20	21	3	0.445
Capacity to clear doubts	2	23	25	0	0.425
Encouragement	8	20	19	2	0.420
Being cheerful in class	14	22	13	1	0.515
Concern for students	13	19	18	0	0.490
Encouraging students to ask questions	10	17	23	0	0.480
Preparedness	6	30	12	2	0.480
Knowledge of the subject	20	20	10	0	0.550
Giving notes in class	15	23	11	1	0.520
Impartial correction of answer books	4	21	19	5	0.410
Willing to help students even outside the class	7	26	13	4	0.455
Appreciating the deserving students	10	22	17	1	0.475
Reviewing the lesson of the previous class	6	25	17	2	0.450
Average Value	**0.475**				

Source: Primary Data, 2024

In terms of classroom dynamics, the teacher scores 0.515 for both Cheerfulness in Class and Clear Teaching, indicating a positive classroom environment and effective communication of lessons. However, there is still potential to enhance the clarity of teaching and the overall atmosphere further. Several other areas show low effectiveness, including Regularity and Concern for Students, both of which have a mean value of 0.490. These scores suggest that the teacher maintains consistency in scheduling lessons, and students generally feel a moderate level of concern for their well-being. While Encouragement and Student Interaction have a mean of 0.480, reflecting some efforts to foster engagement, there is still considerable room for improvement in creating a more open, question-friendly classroom environment. The teacher's Preparedness is similarly rated at 0.480, pointing to a generally well-prepared approach but suggesting that better planning could enhance lesson delivery. With a mean of 0.475, the teacher's ability to recognize and motivate students who perform well is also seen as low. However, areas such as Reviewing Past Lessons (rated 0.450) and Willingness to Help Students Outside of Class (0.455) indicate a need for more effective review practices and increased accessibility outside of class hours. While the teacher provides some additional content beyond the textbook (0.445), students feel that there could be more emphasis on supplemental learning. The teacher's Capacity to Clear Doubts is rated at 0.425, suggesting room for improvement in addressing student concerns more thoroughly. Encouragement is rated even lower at 0.420, indicating that while some motivation is provided, there is a need for more consistent and impactful encouragement. Lastly, Impartial Correction of Answer Books scored the lowest at 0.410, indicating a significant area of concern where the fairness and transparency of grading need to be improved. Overall, the teacher's average effectiveness score of 0.475 suggests that while the teacher performs well in certain areas, such as subject knowledge and clear teaching, there is substantial room for improvement in fostering greater student engagement, accessibility, and ensuring fairness in evaluation.

Thus, it is clear that students perceive government school teachers as more effective in terms of subject knowledge, clarity, student engagement, and lesson preparation. On the other hand, private school teachers show slightly better performance in providing structured notes. The results suggest that private schools may focus more on structured teaching materials, whereas government schools emphasize engagement, teaching clarity, and subject expertise.

Comparative Analysis of Academic Performance Between Government and Private Schools

To compare the academic performance between public and private schools, the pass percentages of High School Leaving Certificate (HSLC) results from the past five years (2020–2024) were analyzed using inferential statistics, specifically the independent t-test. The results are presented in Table 3 below.

The analysis of academic performance, based on the pass percentages in the HSLC results, indicates a significant disparity between government and private school students. Private school students achieved a higher mean score of 94.73, while government school students had a mean score of 73.86. This reflects a considerable performance gap of 20.87 percentage points. Furthermore, the standard deviation for government school scores (13.52) is considerably higher than that of private schools (2.80), indicating greater variability in student performance. In contrast, the lower standard deviation in private school results suggests more consistent and standardized academic outcomes.

Table 3: Descriptive Statistics of Academics Performance

	Institution	N	Mean	Std. Deviation	Std. Error Mean
HSLC Result	Government School	5	73.86	13.52	6.04
	Private School	5	94.73	2.80	1.25

These findings suggest that private school students consistently outperform their government school counterparts. The wider dispersion in government school scores may be attributed to variations in educational quality, availability of resources, teaching methodologies, or differences in student backgrounds and learning environments. Further, to determine whether this difference in mean scores is statistically significant, an Independent Samples T-Test was conducted. This inferential statistical test compares the HSLC results of government and private schools to assess whether the observed differences are due to chance or represent a meaningful disparity. The results of the T-test are presented in Table 4 below.

Table 4: Comparison of Academic Performance Based on HSLC Result

Assumption	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	SED	95% CID	
								Lower	Upper
Equal variances assumed	18.079	.003	-3.381	8	.010	-20.872	6.173	-35.106	-6.638
Equal variances not assumed			-3.381	4.343	.024	-20.872	6.173	-37.489	-4.255

The statistical analysis of academic performance based on the HSLC results indicates that equal variances cannot be assumed, as shown by Levene's Test for Equality of Variances, which yielded a p-value of 0.003—below the significance threshold of 0.05. As a result, we reject the null hypothesis of equal variances, confirming a significant difference in score variability between government and private schools. Therefore, for a more accurate interpretation, we refer to the "Equal variances not assumed" row in the Independent Samples T-Test. The t-value of -3.381 highlights the substantial difference in mean scores between government and private school students. The Sig. (2-tailed) value of 0.024 (from the "Equal variances not assumed" row) is less than 0.05, indicating that this difference is statistically significant and unlikely to be due to random chance. The mean difference of -20.872 shows that, on average, private school students scored 20.87 points higher than their government school counterparts. Moreover, the 95% Confidence Interval (-37.489, -4.255) does not include zero, further validating the significance of this difference. These findings provide robust statistical evidence that private school students outperform government school students in HSLC results. The greater variability in scores among government school students, as reflected in the higher standard deviation, suggests disparities in educational quality, resources, teaching effectiveness, and student preparedness. This variability permits further investigation into the factors influencing academic performance, particularly in government schools, to bridge the performance gap and improve educational outcomes for all students.

6. CONCLUSION

This study highlights significant disparities in both teaching quality and academic performance between government and private secondary schools. Notably, students perceive government school teachers as more effective in areas such as subject knowledge, clarity of instruction, student engagement, and lesson preparation. In contrast, private school teachers tend to excel in providing structured teaching materials, particularly well-organized notes. These findings suggest that private schools prioritize the development of structured teaching resources, while government schools focus more on fostering student engagement, enhancing teaching clarity, and demonstrating subject expertise. In terms of academic performance, private school students consistently outperform their government school counterparts by an average of 20.87 percentage points. This performance gap emphasizes the profound impact that teaching effectiveness has on student outcomes. To address these disparities, both public and private schools must recognize their respective strengths and areas for improvement. By understanding these differences, targeted measures should be implemented by teachers, educational departments, and the government to enhance teaching effectiveness and academic performance. Such improvements will contribute to producing students who are better prepared academically and more competitive at both national and international levels, ensuring better outcomes for all.

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