

Teacher Efficacy and Educational Outcomes in Secondary Tribal Schools of West Bengal: A Socio-Educational Analysis

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Abstract:

The present study examines teacher efficacy and educational outcomes in secondary tribal schools of West Bengal through a socio-educational perspective. The research aims to analyze the relationship between teachers' instructional effectiveness and students' academic performance in tribal educational settings. A quantitative research design was adopted, and data were collected from 300 secondary school teachers using a structured questionnaire. Statistical techniques such as mean, standard deviation, correlation, regression, and t-test were used for data analysis. The findings revealed that teacher efficacy significantly influences educational outcomes, including academic achievement, classroom participation, attendance, and learning motivation among tribal students. The study also identified socio-educational factors such as infrastructure, parental support, and socio-economic conditions as important determinants of teaching effectiveness. The research highlights the need for strengthening teacher competency, institutional support, and inclusive educational policies to improve tribal education systems in West Bengal.

Keywords: Teacher Efficacy, Educational Outcomes, Tribal Education, Secondary Schools, West Bengal, Socio-Educational Analysis.

Introduction

Education plays a crucial role in the social, economic, and cultural development of a nation. The quality of education largely depends upon the effectiveness and efficacy of teachers, particularly at the secondary school level where students undergo significant intellectual, emotional, and social transformation. Teacher efficacy refers to a teacher's belief in their ability to plan, organize, and execute activities required to achieve educational goals and improve student learning outcomes. In recent years, the concept of teacher efficacy has gained considerable attention in educational research because it directly influences classroom performance, instructional quality, student motivation, and academic achievement (Kundu & Mahato, 2024). In the context of tribal education, teacher efficacy becomes even more important because tribal schools often face numerous socio-economic, cultural, and infrastructural challenges that affect the teaching-learning process.

India is home to one of the largest tribal populations in the world, and West Bengal contains a substantial tribal community concentrated in districts such as Purulia, Jhargram, Bankura, Birbhum, and Paschim Medinipur. Despite various governmental initiatives and educational reforms, tribal communities continue to experience educational deprivation, low literacy rates, inadequate school infrastructure, poor teacher availability, and high dropout rates. Tribal students often come from economically disadvantaged backgrounds where access to educational resources, parental guidance, and learning support is limited. In such circumstances, the role of teachers becomes highly significant in shaping educational outcomes and motivating students toward academic participation and success (Barman & Roy, 2023).

Teacher efficacy is closely associated with the ability of teachers to create positive learning environments, manage classrooms effectively, use innovative instructional strategies, and engage students actively in learning activities. Teachers with high efficacy tend to demonstrate greater commitment, confidence, and adaptability in dealing with diverse learners. They are more likely to encourage student participation, provide constructive feedback, and employ learner-centered teaching methods that enhance educational achievement (Gupta & Sharma, 2023). Conversely, teachers with low efficacy may struggle with classroom management, instructional delivery, and student engagement, ultimately affecting the quality of education in schools.

The educational condition of tribal schools in West Bengal reflects multiple social and institutional barriers that influence both teaching practices and student performance. Many tribal schools are located in remote and rural areas where educational facilities remain inadequate. Lack of trained teachers, multilingual classroom challenges, poverty, absenteeism, and insufficient learning materials create obstacles in achieving quality education. Teachers working in tribal schools often encounter additional responsibilities and emotional stress while attempting to bridge educational disparities among students from marginalized communities (Das & Mukherjee, 2024). Therefore, examining teacher efficacy within this socio-educational environment is essential for understanding the broader educational challenges faced by tribal schools.

Educational outcomes represent the measurable achievements of students in terms of academic performance, attendance, participation, retention, and overall learning development. Research studies have consistently shown that effective teachers positively influence students' academic achievement and psychological development. High teacher efficacy contributes to improved instructional quality, stronger teacher-student relationships, and enhanced learning motivation among students (Roy & Ekka, 2022). In tribal schools, where students may lack educational support at home, the teacher often serves not only as an instructor but also as a mentor, motivator, and social guide. Hence, the effectiveness of teachers directly impacts the educational progress and future opportunities of tribal students.

Socio-educational factors such as socio-economic status, parental literacy, school infrastructure, cultural diversity, teacher training, and community support also play an important role in determining teacher efficacy and educational outcomes. Tribal communities often experience social exclusion, economic hardships, and limited access to educational opportunities, which create additional pressure on schools and teachers. Teachers working in such environments require specialized pedagogical skills, cultural sensitivity, and professional commitment to address the unique educational needs of tribal learners (Halder & Oraon, 2022). The absence of adequate institutional support and professional development opportunities may negatively affect teachers' confidence and performance.

Furthermore, teacher motivation and professional competency significantly influence the quality of secondary education. Studies indicate that teachers who possess strong self-efficacy beliefs are more resilient, innovative, and student-oriented in their teaching practices (Debnath, 2021). They are more capable of managing classroom challenges and maintaining positive academic environments even under difficult circumstances. In tribal schools, where educational inequalities are more visible, effective teachers can contribute toward reducing learning gaps and promoting inclusive education. Therefore, strengthening teacher efficacy can be considered an important strategy for improving educational equity and social development in tribal regions.

The present study titled "Teacher Efficacy and Educational Outcomes in Secondary Tribal Schools of West Bengal: A Socio-Educational Analysis" aims to explore the relationship between teacher efficacy and educational outcomes in tribal secondary schools. The study seeks to examine how socio-educational

conditions influence teaching effectiveness and student achievement within the tribal educational context. By analyzing the perceptions, competencies, and classroom practices of teachers, the research intends to identify key factors affecting educational quality in tribal schools. The findings of the study may provide valuable insights for policymakers, educational administrators, and researchers in developing strategies for enhancing teacher performance and improving tribal education systems in West Bengal.

Literature Review

Teacher efficacy has emerged as one of the most influential factors in determining the quality of teaching and the academic success of students. Educational researchers have consistently emphasized that teachers who possess strong beliefs in their instructional abilities are more capable of creating effective classroom environments, motivating students, and improving learning outcomes. Recent studies conducted across different educational contexts reveal that teacher efficacy significantly contributes to students' academic achievement, classroom participation, and emotional development. Ahsan and Rahman (2024) observed that teachers with higher efficacy levels demonstrate stronger instructional commitment and are more successful in enhancing student learning outcomes, particularly in socially disadvantaged communities. Their study highlighted that teacher confidence and classroom engagement positively influence academic performance and reduce learning barriers among marginalized learners.

The theoretical understanding of teacher efficacy is deeply connected with social cognitive theory, which explains that individuals' beliefs about their abilities influence their performance and behavioral outcomes. Bandura and Locke (2021) emphasized that self-efficacy beliefs affect teachers' motivation, resilience, instructional decision-making, and classroom management capabilities. Teachers with stronger efficacy beliefs tend to adopt innovative teaching methods and demonstrate greater persistence in challenging educational situations. Such characteristics become especially important in tribal and rural educational settings where teachers encounter socio-economic and infrastructural difficulties.

Research related to tribal education in India reveals that educational inequalities continue to persist among tribal populations despite various governmental interventions. Barman and Roy (2023) examined the challenges faced by tribal schools in eastern India and found that inadequate infrastructure, lack of trained teachers, socio-economic deprivation, and cultural marginalization significantly affect educational quality and student participation. The study emphasized that tribal students often experience limited educational support systems, making teacher effectiveness a critical determinant of educational success. Similarly, Nayak and Hembram (2023) reported that dropout rates and educational disengagement remain high among tribal students due to poverty, social exclusion, and inadequate academic guidance.

Several researchers have focused on the relationship between teacher effectiveness and classroom practices in rural and tribal schools. Chatterjee and Ghosh (2022) found that effective classroom management, communication skills, and learner-centered instructional practices positively affect student achievement in secondary schools. Their findings suggested that teachers who maintain positive classroom interactions and use participatory teaching methods are more successful in improving students' academic engagement. Mukhopadhyay (2022) further highlighted that classroom management skills significantly influence teaching performance and learning outcomes. According to the study, teachers who are capable of maintaining discipline, encouraging interaction, and adapting instructional methods according to student needs achieve better educational results.

The socio-educational environment of tribal schools also plays an important role in shaping teacher efficacy and educational outcomes. Das and Mukherjee (2024) examined socio-educational determinants of student achievement in tribal schools and concluded that factors such as family income, parental literacy, school facilities, and community support significantly influence educational performance. The

study indicated that students studying in economically deprived tribal regions face multiple obstacles in accessing quality education, thereby increasing the responsibilities of teachers. Teachers working in such environments require higher levels of adaptability, empathy, and professional commitment to support students effectively.

Teacher motivation and professional competency are also closely associated with educational effectiveness. Debnath (2021) explored the relationship between professional competency and teacher motivation in secondary education and found that motivated teachers demonstrate greater confidence, creativity, and instructional effectiveness. The study emphasized that professional development opportunities, training programs, and institutional support contribute positively toward strengthening teacher efficacy. Gupta and Sharma (2023) similarly reported that teachers with strong self-efficacy beliefs exhibit better instructional quality and classroom engagement, particularly in socially disadvantaged educational settings. Their findings indicated that teacher efficacy not only influences academic outcomes but also shapes students' attitudes toward learning and school participation.

Research on tribal adolescents and school environments has further highlighted the importance of supportive educational conditions. Haldar and Oraon (2022) examined the relationship between school environment and educational attainment among tribal students and found that positive school climate, teacher encouragement, and peer support improve student retention and academic participation. The absence of supportive educational environments often results in poor attendance, low motivation, and educational discontinuity among tribal learners. Therefore, teacher behavior and institutional support systems become critical factors in promoting educational inclusion.

The relationship between teacher efficacy and student engagement has been widely discussed in recent educational literature. Kundu and Mahato (2024) conducted an empirical investigation on teacher efficacy and student engagement in secondary schools and found a strong positive relationship between teachers' confidence levels and students' classroom participation. Teachers who possess higher efficacy beliefs are more likely to use interactive teaching strategies, encourage student collaboration, and foster critical thinking skills. These teaching behaviors contribute significantly toward improving educational outcomes and student satisfaction.

Studies comparing rural and tribal educational systems also demonstrate the influence of teacher competency on student performance. Mishra and Singh (2021) reported that tribal schools often face shortages of qualified teachers and educational resources, leading to lower academic performance among students compared to urban schools. Roy and Ekka (2022) similarly found that teacher competency positively influences students' examination performance, attendance, and learning motivation in tribal schools. Their research emphasized that teachers act as major educational facilitators in socially marginalized communities where parental educational support is limited.

Recent studies have also explored the psychological and institutional dimensions of teacher support systems. Varanasi et al. (2024) highlighted the importance of collective social support interventions for teachers working in low-income schools. Their findings suggested that emotional support, professional collaboration, and institutional recognition strengthen teacher morale and improve instructional effectiveness. Ghosh and Soren (2025) further argued that improving teacher quality and educational infrastructure is essential for enhancing learning outcomes in tribal secondary schools across India.

3. Research Methodology

3.1 Research Design

The present study adopted a descriptive and analytical research design to examine teacher efficacy and educational outcomes in secondary tribal schools of West Bengal. The descriptive design was used to understand the existing educational conditions, teacher competency levels, and socio-educational factors influencing tribal education. The analytical approach helped in identifying the relationship between teacher efficacy and students' educational outcomes through statistical analysis. This design was considered suitable because it enabled systematic collection, interpretation, and evaluation of quantitative data related to teaching effectiveness and educational performance.

3.2 Nature of the Study

The study was quantitative in nature and focused on collecting numerical data through structured questionnaires. The quantitative approach allowed the researcher to measure teacher efficacy levels, classroom practices, and educational outcomes objectively. Statistical techniques such as mean, standard deviation, correlation, regression, and t-test were used to analyze the collected data and test the research hypotheses. The study also included socio-educational dimensions to understand the broader educational realities of tribal schools.

3.3 Study Area

The study was conducted in selected secondary tribal schools of West Bengal. Tribal-dominated districts such as Purulia, Jhargram, Bankura, and Paschim Medinipur were considered important areas for data collection because these regions have significant tribal populations and face various educational challenges. The selected schools represented rural and socially disadvantaged educational settings where teachers play a major role in improving learning opportunities and educational outcomes among tribal students.

3.4 Population of the Study

The population of the study consisted of teachers working in secondary tribal schools of West Bengal. Teachers from government and government-aided schools were included in the study because they directly contribute to classroom teaching and student learning processes. The population included teachers from different academic backgrounds, age groups, teaching experiences, and subject specializations to ensure diversity and representativeness in the study.

3.5 Sample Size and Sampling Technique

A sample of 300 secondary school teachers was selected for the study. The researcher used purposive and stratified random sampling techniques to select respondents from tribal schools. Stratification was done on the basis of district and school type to ensure balanced representation of teachers from different educational institutions. The sample size was considered adequate for conducting statistical analysis and drawing meaningful conclusions regarding teacher efficacy and educational outcomes.

3.6 Sources of Data Collection

The study utilized both primary and secondary sources of data. Primary data were collected directly from teachers through a structured questionnaire designed specifically for the study. Secondary data were obtained from books, research journals, government educational reports, policy documents, dissertations, and published articles related to teacher efficacy, tribal education, and educational outcomes. The use of both sources helped in strengthening the theoretical and empirical foundation of the research.

3.7 Research Instrument

A structured questionnaire was used as the main research instrument for data collection. The questionnaire consisted of close-ended statements based on a five-point Likert scale ranging from Strongly Disagree to Strongly Agree. The instrument included sections related to classroom management, instructional strategies, teaching motivation, student engagement, subject competency, and educational outcomes. The questionnaire was prepared after reviewing relevant literature and previous studies related to teacher efficacy and tribal education.

4. Results and Data Analysis

This Study presents the analysis and interpretation of data collected from teachers working in secondary tribal schools of West Bengal. The study was conducted to examine teacher efficacy and its influence on educational outcomes in tribal educational settings. The collected data were analyzed using descriptive and inferential statistical techniques such as frequency distribution, mean, standard deviation, correlation analysis, regression analysis, and independent sample t-test. The Study includes demographic analysis of respondents, descriptive statistics of study variables, reliability analysis, correlation analysis, regression findings, and hypothesis testing. The interpretation of each table is provided in paragraph form to ensure a comprehensive understanding of the findings.

4.2 Demographic Profile of Respondents

Table 1 Demographic Characteristics of Respondents (N = 300)

Variable	Category	Frequency	Percentage
Gender	Male	178	59.3%
	Female	122	40.7%
Age Group	25–35 Years	72	24.0%
	36–45 Years	128	42.7%
	46–55 Years	74	24.7%
	Above 55 Years	26	8.6%
Educational Qualification	Graduate	58	19.3%
	Postgraduate	186	62.0%
	Ph.D./M.Phil.	56	18.7%
Teaching Experience	Below 5 Years	48	16.0%
	5–10 Years	96	32.0%
	11–20 Years	114	38.0%
	Above 20 Years	42	14.0%
School Type	Government	214	71.3%
	Government Aided	86	28.7%

The demographic analysis indicates that the majority of respondents were male teachers (59.3%), while female teachers represented 40.7% of the total sample. Most respondents belonged to the age group of 36–45 years, indicating that experienced middle-aged teachers constituted the dominant workforce in tribal secondary schools. In terms of educational qualifications, the majority of teachers possessed postgraduate degrees, reflecting a reasonably qualified teaching population. The analysis of teaching experience revealed that most teachers had 11–20 years of experience, suggesting substantial exposure to classroom teaching and tribal educational environments. Furthermore, the majority of respondents were employed in government schools, highlighting the major role played by public educational institutions in tribal education.

4.3 Descriptive Statistics of Study Variables

Table 2 Descriptive Statistics of Teacher Efficacy Variables

Variables	Minimum	Maximum	Mean	Std. Deviation
Classroom Management	1	5	4.12	0.641
Instructional Strategy	1	5	4.05	0.688
Student Engagement	1	5	3.96	0.724
Subject Competency	2	5	4.18	0.593
Teaching Motivation	1	5	4.01	0.671
Overall Teacher Efficacy	1	5	4.06	0.603

The descriptive statistics show that teachers demonstrated relatively high levels of efficacy across all dimensions. Subject competency recorded the highest mean value (4.18), indicating that teachers possessed confidence in their subject knowledge and instructional capabilities. Classroom management also reflected a high mean score, suggesting that teachers were capable of maintaining classroom discipline and creating positive learning environments. Student engagement obtained a comparatively lower mean score, indicating challenges in motivating tribal students toward active classroom participation. Overall, the findings suggest that teachers in tribal secondary schools exhibit moderate to high levels of professional efficacy.

4.4 Descriptive Statistics of Educational Outcomes

Table 3: Educational Outcome Indicators

Variables	Minimum	Maximum	Mean	Std. Deviation
Academic Achievement	1	5	3.88	0.715
Attendance Rate	1	5	3.74	0.802
Classroom Participation	1	5	3.69	0.764
Learning Motivation	1	5	3.81	0.691
Student Retention	1	5	3.57	0.853
Overall Educational Outcomes	1	5	3.74	0.694

The educational outcome indicators reveal moderate educational performance among tribal secondary school students. Academic achievement recorded the highest mean value, indicating satisfactory academic progress among students. However, student retention and classroom participation demonstrated comparatively lower mean values, suggesting that tribal schools continue to face issues related to absenteeism, dropout tendencies, and low classroom involvement. The findings indicate that although educational outcomes are moderately positive, there remain substantial areas requiring improvement within tribal educational settings.

4.5 Reliability Analysis

Table 4: Reliability Statistics

Construct	Number of Items	Cronbach's Alpha
Teacher Efficacy	20	0.891
Educational Outcomes	15	0.874
Socio-Educational Factors	10	0.852
Overall Scale Reliability	45	0.902

The reliability analysis demonstrates strong internal consistency among the study variables. The Cronbach's Alpha values for all constructs exceeded the acceptable threshold of 0.70, indicating that the

questionnaire items were reliable and suitable for further statistical analysis. The overall scale reliability value of 0.902 confirms excellent consistency of the measurement instrument.

4.6 Correlation Analysis

Table 5: Correlation Matrix of Study Variables

Variables	Teacher Efficacy	Educational Outcomes	Socio-Educational Factors
Teacher Efficacy	1	0.742**	0.618**
Educational Outcomes	0.742**	1	0.583**
Socio-Educational Factors	0.618**	0.583**	1

Correlation significant at 0.01 level

The correlation analysis reveals a strong positive relationship between teacher efficacy and educational outcomes ($r = 0.742$), indicating that higher levels of teacher efficacy are associated with improved educational performance among tribal students. The findings also demonstrate a significant relationship between socio-educational factors and teacher efficacy. This suggests that factors such as school infrastructure, socio-economic conditions, and parental support significantly influence teaching effectiveness and student achievement.

4.7 Regression Analysis

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error
1	0.742	0.551	0.547	0.421

Table 7: ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	64.218	1	64.218	362.451	0.000
Residual	52.781	298	0.177		
Total	116.999	299			

Table 8: Coefficients Table

Variables	B	Std. Error	Beta	t	Sig.
Constant	0.914	0.141		6.482	0.000
Teacher Efficacy	0.695	0.037	0.742	19.038	0.000

The regression analysis indicates that teacher efficacy significantly predicts educational outcomes in tribal secondary schools. The R-square value of 0.551 suggests that teacher efficacy explains approximately 55.1% of the variation in educational outcomes. The ANOVA results confirm that the regression model is statistically significant. The regression coefficient for teacher efficacy is positive and significant,

demonstrating that improvements in teacher efficacy lead to better educational outcomes among tribal students. These findings support the argument that teacher effectiveness plays a central role in enhancing academic achievement, classroom participation, and student motivation.

4.8 Independent Sample t-Test

Table 9: Gender-wise Comparison of Teacher Efficacy

Gender	N	Mean	Std. Deviation	t-value	Sig.
Male	178	4.11	0.592	2.184	0.030
Female	122	3.98	0.617		

The independent sample t-test reveals a statistically significant difference in teacher efficacy between male and female teachers. Male teachers demonstrated slightly higher efficacy scores compared to female teachers. The findings may be associated with differences in work environment, professional exposure, and institutional responsibilities within tribal schools.

4.9 Hypothesis Testing

Table 10: Hypothesis Testing Summary

Hypothesis	Statistical Tool	Result	Decision
H01: No significant relationship exists between teacher efficacy and educational outcomes	Correlation	Significant (p < 0.01)	Rejected
H02: Socio-educational factors do not influence teacher efficacy	Correlation	Significant (p < 0.01)	Rejected
H03: No significant difference exists in teacher efficacy based on gender	t-Test	Significant (p < 0.05)	Rejected

The hypothesis testing results indicate that all null hypotheses were rejected. Teacher efficacy demonstrated a strong positive influence on educational outcomes. Socio-educational factors significantly affected teacher performance and instructional effectiveness. Additionally, gender differences were observed in teacher efficacy levels. These findings confirm the importance of strengthening teacher competency and improving socio-educational conditions in tribal secondary schools.

4.10 Summary

The Study analyzed the relationship between teacher efficacy and educational outcomes in secondary tribal schools of West Bengal. The findings revealed that teachers demonstrated moderate to high levels of efficacy, particularly in classroom management and subject competency. Educational outcomes among students were moderately positive but affected by socio-economic and institutional challenges. Correlation and regression analyses confirmed that teacher efficacy significantly influences educational outcomes. The study further highlighted the role of socio-educational factors in shaping teacher effectiveness and student achievement. Overall, the findings emphasize the importance of teacher development, institutional support, and educational reforms for improving tribal secondary education in West Bengal.

5. Conclusion

The study concludes that teacher efficacy plays a significant role in determining educational outcomes in secondary tribal schools of West Bengal. Teachers with higher levels of instructional competency, classroom management skills, and teaching motivation contribute positively toward students' academic achievement, participation, and overall learning development. The findings further indicate that socio-educational factors such as school infrastructure, economic background, parental involvement, and institutional support strongly influence both teacher performance and student outcomes in tribal educational settings. Despite various educational challenges faced by tribal schools, effective and motivated teachers can create positive learning environments and reduce educational inequalities among marginalized students. The study emphasizes the importance of teacher training programs, policy support, and improved educational resources for strengthening tribal education systems. Overall, enhancing teacher efficacy can serve as an important strategy for promoting inclusive education, educational equity, and sustainable socio-educational development in tribal regions of West Bengal.

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