

An Investigation into the Impact of Education-related Policies and Teaching Methods, School Infrastructure, and Student Performance on the Quality of Primary Education in Bangladesh

Chandon Kumar Pal¹, A. F. M Fazle Rabbi² & Abir Mohammed Istieak³

ABSTRACT

The study focuses to investigate the impact of educational policy, method, and school climate on the quality of primary education in Bangladesh. All this in the face of these abiding challenges – the fact that students come from social-economically diverse backgrounds, non-uniform, diverse pedagogical systems impart their education, and infrastructure is a barrier to the quality of education in a developing country. This study's method is quantitative in nature, and data were collected from 306 samples through a 5-point Likert scale questionnaire. The investigation employed Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4 to examine the relationship between four exogenous constructs — Government Awareness Policies, Teaching Methods and Training, School Infrastructure, and Student Performance —and the endogenous construct of Quality of Primary Education. Results suggest that Teaching Methods and Training, Student Performance, and School Infrastructure significantly improve quality, based on the path coefficients of 0.287, 0.280, and 0.252 ($p = 0.000$), supporting the hypotheses accordingly. In contrast, Government Awareness Policies have no statistically significant effect (path coefficient 0.059, $p = 0.301$) in the model, thus rejecting the related hypothesis. The model has constructs with self-consistent indicators (Cronbach's Alpha 0.748–0.806). The research findings demonstrate that the government's involvement in the primary education sector of Bangladesh needs to be improved in terms of teachers' practices and the availability of educational facilities. It also contributes to the global issues of quality in inclusion and, therefore, SDG 4. It is a vision of the moves the policymaker could make, via potential policy options, to enhance teacher training and infrastructure.

Keywords: Primary Education, Education Policy, Teaching Methods, School Infrastructure, Student Performance, PLS-SEM, Bangladesh.

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Introduction

Access to quality primary education is a priority for nations that progress, and the empowerment of the people follows as a subsequent result. It is an entry for learning, a continual, socio-economic determinant, for example, in countries like Bangladesh. But the reality is not as it seems, and the quality of primary education in Bangladesh is almost like a daydream for the opposite reasons: fragmented learning delivery processes, wealth gaps, and insufficient facilities.

Formal and non-formal institutions are adopted by Bangladesh to impart primary education, each of which has its own set of advantages and disadvantages. Al Mamun & Selina Akhter (2019) implemented that the non-formal education (NFE) could be designed better and made effective for the rural people, for this reason, they established that non-formal education is a user-friendly initiative than the formal one, as NFE provides flexible and community-based education. NFE is a powerful means to broaden quality education for the masses of children who have been excluded in the past. Also, BRAC schools, which are a form of NFE, were able to provide quality teaching and learning through a suitable framework for a lesson and warm, engaging, well-planned classroom (Numan & Islam, 2021). Comparing this with the government schools, it is far better. This drives us to critically analyze how the implementation of various educational policies has an impact on the teaching-learning process across different settings.

Quality primary education delivery could be raised through management and monitoring. Alam et al. (2023) discovered vital gaps in the monitoring and supervisory function at the upazila level that has been affecting quality education delivery. Poor academic supervision, low teacher morale, and professionalism may mar the attainment of the intended level of educational outcome (Alam et al., 2021). School leadership, particularly head teachers, is imperative in this regard. Ahmmed et al. (2022) prescribes organized school improvement planning and community involvement as two leading priorities in raising quality education that should not also disregard the structural problems which exist in today's primary education system. The problems of crowded classes, fragmented administrative policy and insufficient teachers' professionalism in government primary schools (Rahman, 2021). Lack of centralization and coordination further leads to the disunity of educational outcomes due to the nonexistence of common curriculum (Alam et al., 2022). This is partly because disparities in access to and quality of schools can lead to low levels of competencies particularly for rural children.

Methods of teaching and professional development activities are important determinants of the quality of education. Hasan et al. (2018) recommended the adoption of Total Quality Management (TQM) in the primary education level to mitigate the inefficiency of the systems, decrease the dropout rate, and improve the teacher-student relationship. In research conducted by Chowdhury et al. (2022), it was found that the urban primary school science teachers were optimistic to teach and their performance was more positive if there was sufficient monitoring

and supervision, professional development, and less workload for the teachers. This suggests that the teaching-learning modalities are not suitable to the type of education at the primary education level in Bangladesh. The education sector has also been further exposed during the COVID-19 pandemic with harmful, excessive learning losses and huge, massive competencies gap. Masoom & Siddik (2024) in particular urged educational authorities, with a sense of urgency, to consider mitigating educational losses from learning loss in the future – a far more consequential and serious thing than learning loss. Basic or grass-root conceptions of quality of education easily relate and shed light on those attributes discussed above that define academic success - skills, values, attitudes and educational outcomes (Banu, 2014).

Within the scope of this research, the quality of primary education is analyzed through the lens of four key aspects - education policy, teaching, school facilities and student outcomes. Education-related policies provide the basis for the curriculum, recruitment of teachers, and allocation of resources, and these policies influence institutional practices. Teaching methods have a significant impact on both the way students learn and the way they think. Teaching and learning require a physical environment, and school infrastructure is therefore a factor affecting attendance, comfort and security. Student performance is the result of all these inputs, and thus it can be regarded as the ultimate measure of quality of education. These variables together capture the full range of influences at both the systemic and the classroom levels that determine the quality of primary education in Bangladesh.

This paper brings together different views on how classroom and policy interventions might work together to make primary education better in Bangladesh. It also looks at how national policies, teaching approaches, and system pressures connect giving education stakeholders things to think about. This puts the paper in a worldwide discussion on giving all kids good education that includes everyone, while linking it to support for the United Nations' Sustainable Development Goal 4.

Objective of the Study

The core objective of this study is to factors affecting the quality of primary education. Other objectives are as follows-

- i. To evaluate the influence of educational awareness policies on the quality of primary education in Bangladesh.
- ii. To evaluate the effectiveness of instructional methodologies and their influence on student learning outcomes within primary educational institutions.
- iii. To examine the effect of school infrastructure (such as classrooms, teaching materials, and sanitation) on the quality of primary education.

Research Questions

Research queries of this study are as follows-

- a) Has the impact of the government's awareness policy on the quality of primary education in Bangladesh?
- b) What effects do pedagogical methods and teacher training have on student learning?
- c) What is the contribution of school buildings to the provision of quality primary education?

Literature Review

Primary education is the foundation of human development and social progress. The home system in Bangladesh has faced many problems, even though it has been the subject of efforts to reform. This literature review is a synthesis of research on the effects of education policies and practices on the quality of primary education in Bangladesh, with special reference to how education policies and teaching practices have influenced the quality of primary education. Advertising Even in Bagha Upazila of Rajshahi district, a typical Bangladesh situation with inadequate classrooms, lack of teachers, ineffective teaching and learning materials and infrastructural inadequacies characterized primary education (Al Zaman et al., 2024). All these shortcomings are part of a systemic quality crisis of primary education. Similarly, negative teacher performance, together with overcrowded classrooms and inappropriate administrative attitudes in relation to government primary schools, were also noticed in general (Kormoker et al., 2022). The quality of primary schooling has deteriorated in spite of the fact that EFA policies were adopted, indicating a gap between what is on paper and what happens on the ground (Remi et al., 2015).

Teachers are an important factor in quality education. Alam et al. (2021) highlight the importance of knowledge in teachers' and parents' views about the quality of education to design effective policies. However, professional development initiatives, such as the Teaching Quality Improvement (TQI) project, often fail to translate into classroom effectiveness due to barriers like inadequate training, rigid school cultures, and exam-centric teaching norms (Moyer & Sperandio, 2019). Moreover, the Continuous Professional Development (CPD) programs in Bangladesh need to be more adaptive to the dynamic educational landscape of the 21st century (A. K. M. B. Alam & Shengquan, 2019). Pedagogical approaches significantly impact student performance. Student-centered and interactive methods improve overall performance but show inconsistent results in science education (Roy et al., 2020). (R. Chowdhury & Sarkar, 2018) argue for inquiry-oriented teaching strategies in science, combined with assessment for learning, to enhance learning outcomes. In the same way, friendly student-teacher relations are pivotal in enhancing student achievement, motivation, and behavior (Ahmed et al., 2024). But, high student-teacher ratios and lack of teaching aids

obstruct optimal pedagogic practice (Singh et al., 2020).

The basic quality of education is highly contingent upon infrastructure and accessibility of learning materials. Asadullah & Chaudhury (2013) identify a direct correlation between infrastructure quality and student performance. Like, in Sylhet city, the government schools face scarcity in terms of infrastructure, money, and teaching tools, and this has a negative impact on ECD (Nath, 2012). There is thus an urgent need for investments in the revision of curricula to integrate technology and in the improvement of assessment to address these issues (Mojumder & Roshid, 2018). A number of policy measures have been introduced in an effort to change this situation. The National Education Policy 2010, along with programs like the Second Primary Education Development Program (PEDP II), has promoted inclusive education (Ahsan & Mullick, 2013). The CREATE project's role in influencing discourse on access, equity, and quality in education (DeJaeghere & Wiger, 2013). However, gaps remain in translating policy into effective practice, particularly in rural areas where non-formal education models often outperform formal systems (Gee, 2015).

Socioeconomic dynamics also influence educational results. The medium-term impact of the primary education stipend and finds modest gains in enrolment, coupled with negative effects on boys' grade progression in poor households (Baulch, 2011). To effect this, community involvement and good administrative management are essential to combat these socioeconomic problems (Waheduzzaman & As-Saber, 2015). The significance of community involvement in education reform becomes of paramount importance in the context of areas such as Char areas, which have specific geographic and social dynamics, adding to existing systemic hurdles. Although the current knowledge base presents an articulate picture of the problems and remedies of primary education in Bangladesh, numerous lacunae remain. First, there is limited research on the long-term impacts of teacher training programs and their integration into classroom practices. Second, studies rarely explore the intersection of educational policies with local socio-cultural contexts, particularly in underserved rural areas like Bagha Upazila. Third, while technology's potential to improve the quality of basic education is recognized, the empirical evidence on this issue is relatively scant, especially with regard to the accessibility and the readiness of the teachers (Zaman et al., 2025).

One important knowledge gap is in this dynamic between teacher motivation and student outcomes, especially in resource-constrained environments. While current literature points to the lack of infrastructure and the inefficiency of systems, less attention has been paid to psychological aspects and the professionalism of the educators. In addition, the transformative role of ICT in primary education has largely been ignored. According to Zaman et al. (2025), a lack of proper training and resources prevents its effective usage although teachers understand the value of technology. Filling these gaps will require a multipronged strategy that unites policy reform with targeted investment in teacher training, school infrastructure, technology integration, and more.

The impact of teacher training programs should be evaluated over time in follow-up studies. This requires a contextualized policy analysis to address regional differences in education quality. Research on using ICT in primary schools and its effects on teaching and learning would also be useful. New grassroots approaches to schooling for poor and disadvantaged rural communities could spark ideas for solutions that work on a larger scale. Looking into social aspects and education rules related to inclusive practices will build up proof to help make better policies. Studies on mental health and how teachers grow in tough situations will give hints on how to make teachers more effective.

Theoretical Underpinning

The theory relies on two major concepts drawn from systems theory and constructivist learning theory. Such perspectives greatly assist in understanding the full range of interacting forces that come together to influence the quality of primary education in Bangladesh.

The systems theory emanates from the works of Von Bertalanffy (1972) and emphasizes components and dynamics of systems. In the context of education, policies, resources, teacher education, classroom practices, and student outcomes define the system. Therefore, a system, by definition, provides a way of looking at and thinking about the consequences of all the policy decisions that have either been developed at the national and/or institutional level that directly affect school and specifically how they each connect or not in a way that supports the quality of teaching and learning in the classroom. An example of this in Bangladesh, where policies that direct primary education are centralized, for example the curriculum, teacher recruitment, allocation of resources, systems theory can provide an adequate explanation of how well-matched or mismatched parts of the system might support or diminish quality of education. It proposes that without aligned development of one strand or part of the system components, there will be no improvement therein e.g., teaching, policy support, infrastructure, monitoring.

For the study at hand, Systems Theory serves as the meta-theoretical lens through which to examine how the four key components of the primary education system (education policies, teaching methods, school facilities, and student achievement) are co-dependent with one another. When policy processes (like curriculum development, teacher hiring) are out of synchrony with school resources and classroom practices, the system's equilibrium is disturbed and quality diminishes. On the other hand, a cadenced system (policy, infrastructure and teaching) support and delivery, harmonizing around the needs of the child, correlates positively with student learning and system-level quality. Therefore, Systems Theory enables one to view quality primary education as systemic alignment, and the product of inter-component operability.

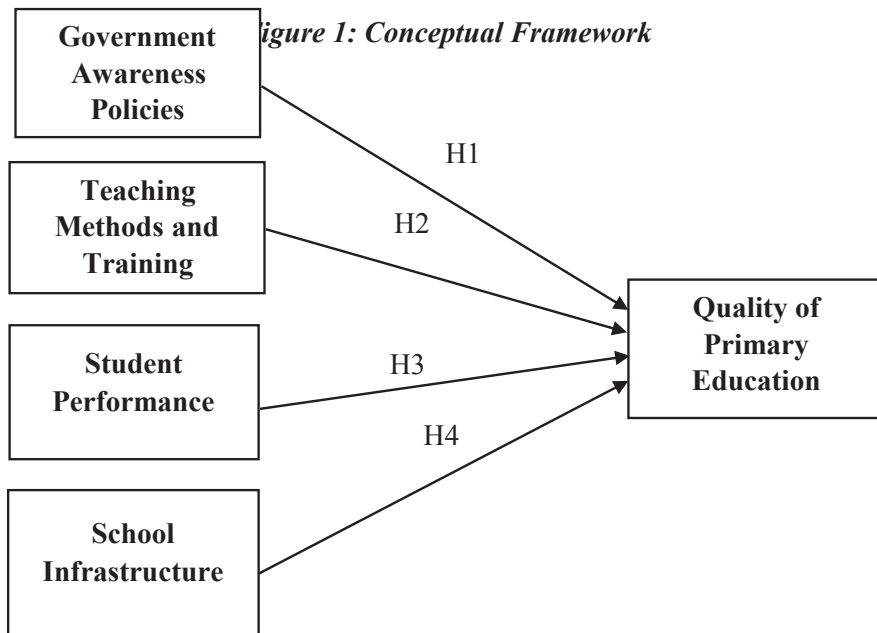
In this article, we draw from Constructivist Learning Theory, as applied by Piaget (1952) and later by Vygotsky (1978), where the emphasis is on the learner's role in knowledge construction through experience and interaction. The constructivist model reinforces the idea that the quality of pedagogic practice is an aspect of the quality of all learning. The focus on student-centered pedagogies (familiar concepts such as cooperative learning, enquiry-based learning, and differentiated instruction) resonates with the rhetoric of educational reform in Bangladesh. The constructivist view contributes to an understanding of why some kinds of traditional learning by rote can be ineffective for the creation of higher-order thinking skills, and shows how innovative practices can create higher levels of student motivation and student achievement.

At this level, Constructivist Learning Theory is used to describe the level of interaction between teaching and learning and student outcomes and engagement. Active engagement in learning through effective pedagogy and constructive interaction with peers are consistent with constructivist theory and are directly linked to cognitive development and achievement of students. In addition, constructivist views advocate for the provision of infrastructure and teacher education programmed that empower participatory, learner-center set ups. Hence, quality of teaching and classroom acts as mediating agents for higher level policy and infrastructural inputs in influencing student learning outcomes.

Considered jointly, these two theories provide a broad explanatory framework for understanding the convergence of macro-level educational policies with micro-level classroom practice and the resultant quality of primary education. Systems Theory provides a rationale for the requirement for policy coherence and systemic reform, whilst Constructivist Learning Theory focuses on pedagogical effectiveness and teacher-student interaction in learning. In this way, the combination of these theories bridges the structural (policy, infrastructure) and process (teaching, learning) levels to show that the effectiveness of primary education is a function of both macro-policy regimes and micro-pedagogical practice. This theoretical relationship guides also our empirical analysis as it shapes the consideration of the interaction of each factor, policy, teaching, infrastructure and student performance within systemic and constructivist, in terms of impacting on the quality of primary education in Bangladesh. Their incorporation provides a solid theoretical basis for the present investigation.

Conceptual Framework

According to the theoretical discussion and the literature review, quality of primary education depends on some factors such as government awareness policies, teaching methods and pedagogy, training of the teachers, school infrastructures, and student performance. The concept is plotted as figure.



Hypotheses

From the literature review and theoretical support, the hypotheses are-

- H1: Government awareness policies have a positive impact on Quality of Primary Education.
- H2: Modern teaching methods and training have a positive impact on Quality of Primary Education
- H3: student performance has a positive impact on Quality of Primary Education
- H4: Improved school infrastructure is positively correlated with Quality of Primary Education.

Methodology

Research Design

The study adopts a quantitative research approach using a five-point Likert scale-based structured questionnaire for assessing the attitudes of the respondents towards the effects of

education-related policies and instructional methods on the quality of primary education in Bangladesh. The primary data from the respondents is the focal point of analysis. A convenience sampling method was used in data collection due to the ease of access and practicality. In analyzing the data, Structural Equation Modeling (SEM) was used with the utilization of SmartPLS 4. This modern statistical package is suitable for predictive as well as exploratory research and is widely utilized in social science and behavioral research (Richter et al., 2023).

Constructs and Indicators

The proposed research model in this study includes four independent constructs— Government awareness policies (GP), Teaching method and training (TM), Student performance (SP), and School infrastructure (SI) — and one dependent construct, Quality of Primary Education (QPE). Construct indicators were adopted and adapted from existing literature for theoretical foundation and construct validity (Dr. Ritika Singh, 2024). Each construct was assessed with indicators via a set of observed variables using a 5-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The constructs were designed to capture the different dimensions of educational policies and instructional practices that influence the quality of primary education. Below are the constructs with indicators (Richter et al., 2023).

In order to test the reliability and internal consistency of the questionnaire, a reliability analysis using Cronbach's alpha was also conducted. It is a measure that calculates the correlations between all pairs of items. Nunnally (1978) suggests that in the social science research environment a value of 0.7 or above is considered acceptable. Reliability analysis has been applied to the scale for all the constructs (i.e., policy, teaching strategy, infrastructure, and performance). The findings result in Table 3 suggested that all constructs exceeded the threshold level of Cronbach's alpha, indicating that the questionnaire items were homogenous and measurement errors are within acceptable limit to proceed with further analysis.

Table 1: Constructs and Corresponding Measurement Items for the Study on Primary Education Quality

Construct Code	Construct Name	Items Indicator	Items
GP	Government Awareness Policies	GP1	I already know a bit about federal primary education policies.
		GP2	The government has the right to intervene to enhance the quality of education.
TM	Teaching Methods & Training	TM1	The teaching methods in primary schools are good.
		TM2	The teachers in my area are well trained.
		TM3	Contemporary methods of instruction are successful in enhancing the learning of students.
SI	School Infrastructure	SI1	The school I know has enough rooms and resources.
		SI2	The teaching materials (books, tools, etc.) sufficient supply in the school.
		SI3	The condition of the school buildings affects student achievement to a considerable extent.
SP	Student Performance	SP1	Students here are doing well academically.
		SP2	Students do well in competitive examinations as per their capability.
QPE	Quality of Primary Education	QPE1	Students' academic performance is influenced by their social and economic background.
		QPE2	Large class sizes negatively affect the quality of primary education.
		QPE3	Lack of support from teachers, school staff, and parents negatively affects students' learning outcomes.

Data Collection and Analysis

Primary information was collected through online and offline surveys distributed to individuals who were actively involved in the education-related policies and instructional methods on the quality of primary education the responses of such individuals. A brief screening question was asked to ensure that only those individuals with proper exposure to education-related policies

and instructional methods on the quality of primary education the questionnaire.

306 valid responses were received, which fulfilled the recommended sample size criteria for PLS-SEM. According to (Cepeda-Carrión et al., 2022), with models containing fewer than five constructs and more than three indicators per construct in the use of PLS-SEM, a minimum sample size of 100–150 is adequate. Besides, five times as many measurement items are preferably used (Sarstedt et al., 2022), and as this research contains more than 13 items, 306 is statistically correct and can be used for proper analysis.

The data were analyzed using SmartPLS version 4, and it can be used to test both the measurement model (validity and reliability) and the structural model (testing of hypotheses and fit of the model). The approaches used in this study are PLS-Bootstrapping to provide a full understanding of the constructs and their relationships (Hair et al., 2019). These analyses allow researchers to test not just the statistical significance in the associations, but also the practical significance of influencer attributes in explaining consumer buying behavior.

Survey Result

Table 2: Demographic Characteristics of Respondents (N = 306)

Variable	Category	Frequency (N)	Percentage (%)
Age	18–25	14	4.6%
	26–35	82	26.8%
	36–45	191	62.4%
	Above 45	19	6.2%
Gender	Female	139	45.4%
	Male	167	54.6%
Location	Rural	152	49.7%
	Urban	154	50.3%
Role	Educational Administrator	24	7.8%
	Parent	190	62.1%
	Teacher	92	30.1%

The demographics of the sample can be found in Table 1 (N = 306). The majority of participants (62.4%) were in the age category of 36 to 45 years old, followed by 26.8% of participants between the ages of 26–35 years old. For gender, 54.6% were male and 45.4% were female, which represents a fairly even distribution in Bangladesh. As for where the participants lived, they lived in either the village (49.7%) or the city (50.3%). The respondent's residential status has been found equal for the city and rural area. Most of the participants were

parents (62.1%) and the other two groups were represented much less: teachers (30.1%) and educational management personnel (7.8%) of the group. The diverse backgrounds provide a large range of audience considering the perceptions about primary schooling.

Result Discussion

Figure 2: Path Diagram of the PLS-SEM Model

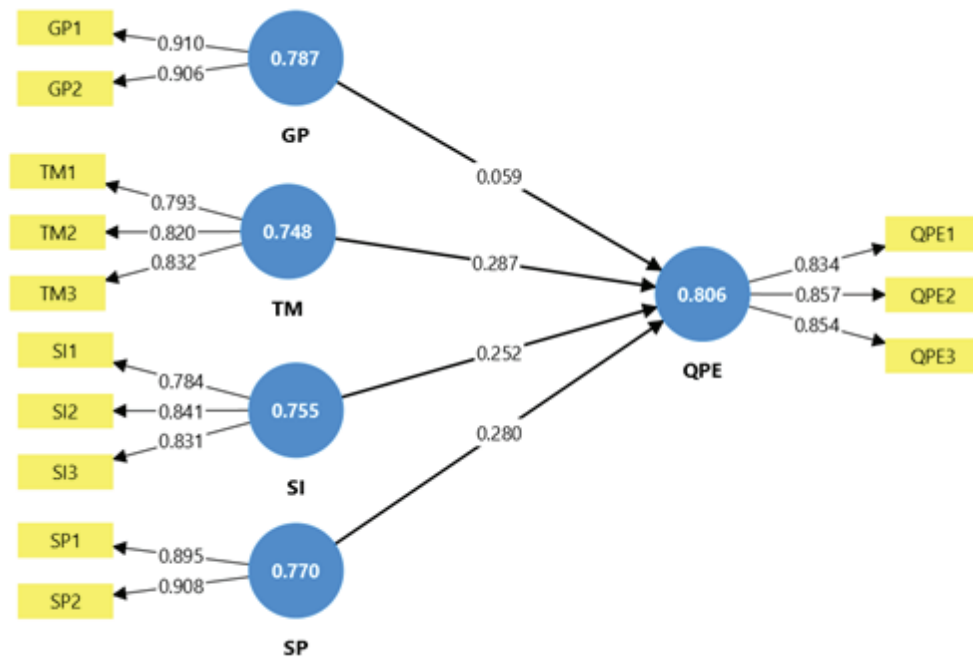


Table 3: Descriptive Statistics (construct reliability and validity)

Construct	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	AVE
GP	0.787	0.787	0.904	0.824
QPE	0.806	0.806	0.885	0.720
SI	0.755	0.761	0.859	0.671
SP	0.770	0.773	0.897	0.813
TM	0.748	0.751	0.856	0.665

The summary statistics table gives first insights into the data used for analysis, PLS-SEM. It includes Cronbach's alpha, as well as the composite reliability (rho_a and rho_c), and the

average variance extracted (AVE) of each construct: Government Policies (GP), Quality of Primary Education (QPE), School Infrastructure (SI), Student Performance (SP), and Teaching Methods and Training (TM). The Cronbach's alpha values fall between 0.748 (TM) and 0.806 (QPE), with all exceeding the minimum value of 0.7, thus suggesting a strong internal consistency. The values of composite reliability (ρ_c) range from 0.856 (TM) to 0.904 (GP), which are also higher than 0.7 of the cutoff point, supporting the construct reliability. AVE (ranging from 0.66 (TM) to 0.82 (GP)) is mainly > 0.5 , which indicates that convergent validity is acceptable, although it falls a little short of the ideal limit. Together, these measures form an integrating platform for the model of measurements.

Table 4: Measurement Model Assessment

	GP	QPE	SI	SP	TM
GP1	0.910				
GP2	0.906				
QPE1		0.834			
QPE2		0.857			
QPE3		0.854			
SI1			0.784		
SI2			0.841		
SI3			0.831		
SP1				0.895	
SP2				0.908	
TM1					0.793
TM2					0.820
TM3					0.832

The assessment of the measurement model is conducted through a table that evaluates the outer model, specifically by presenting factor loadings for the indicators of each construct to ensure both reliability and validity. The factor loadings for GP (0.910 for GP1, 0.906 for GP2), QPE (0.834 for QPE1, 0.857 for QPE2, 0.854 for QPE3), SI (0.784 for SI1, 0.841 for SI2, 0.831 for SI3), SP (0.895 for SP1, 0.908 for SP2), and TM (0.793 for TM1, 0.820 for TM2, 0.832 for TM3) exceed the threshold of 0.7, notwithstanding some minor variations, thereby indicating robust indicator reliability. The Average Variance Extracted (AVE) values, as presented in Table 3, in conjunction with these loadings, substantiate convergent validity. Discriminant validity is inferred as each indicator exhibits the highest loadings on its respective construct.

Table 5: Structural Model Assessment

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Decision
GP -> QPE	0.059	0.059	0.057	1.033	0.301	Not supported
SI -> QPE	0.252	0.256	0.064	3.908	0.000	supported
SP -> QPE	0.280	0.276	0.074	3.798	0.000	supported
TM -> QPE	0.287	0.287	0.067	4.302	0.000	Supported

The table delineates the outcomes of the inner model, emphasizing the relationships among constructs and the model's explanatory capacity. The R-squared (0.583) and adjusted R-squared (0.578) values for the Quality of Primary Education indicate that approximately 58% of its variance is explained by the exogenous constructs, signifying a moderate to substantial effect. Path coefficients include $TM \rightarrow QPE$ (0.287), $SP \rightarrow QPE$ (0.280), $SI \rightarrow QPE$ (0.252), and $GP \rightarrow QPE$ (0.059), accompanied by standard deviations, t-statistics, and p-values derived from bootstrap sampling (5000 samples). The t-statistics (e.g., 4.302 for $TM \rightarrow QPE$) and p-values (e.g., 0.000 for TM, SP, SI) denote significant relationships, with the exception of $GP \rightarrow QPE$ ($t = 1.033$, $p = 0.301$), which is not statistically significant.

Teaching Methods and Training (TM), SP, and School Infrastructure (SI) have a positive and significant effect on QPE with the path coefficient of 0.287, 0.280, and 0.252 and p-value of 0.000, verifying the hypotheses H2, H3, and H4. Government Policies (GP) do not have any significant impact on QPE (path coefficient 0.059, $p = 0.301$); therefore, H1 is rejected. Robust constructs (Cronbach's Alpha 0.748–0.806, CR 0.856–0.904) and valid indicators (loadings mostly >0.70) affirm this conclusion. The results indicate that the improvement of teaching practices, student outcomes, and infrastructure is important if the quality of primary education is to be improved. However, the impact of policy needs to be explored further.

Findings of the Study

The demographic analysis found that most respondents were between the ages of 36 and 45 (62.4%), that the proportion of male and female was equal, and that the majority (62.1%) were parents. This composition supports a wide lens on quality in primary education; parents, teachers, and school leaders are all stakeholder groups with concrete experiences and expectations. Past studies suggested that the multiplicity of stakeholders creates a richer

description of educational outcomes, because groups tend to have different viewpoints (Al Zaman et al, 2024).

The measurement model had sufficient reliability and validity for all constructs because Cronbach's alpha greater than 0.70 and AVE greater than 0.50 signified high internal consistency and convergent validity. Factor loadings were above 0.70 resulting in establishing indicator reliability. The foregoing results are congruent with the methodical consideration of PLS-SEM in research about education (Hair et al., 2019), which considers establishing reliability of this original measurement for the constructs related to government policies, teaching practices, student performance, school infrastructure, and education quality.

The structural model results revealed a positive statistically significant impact of Teaching Methods and Training (TM), Student Performance (SP), and School Infrastructure (SI) on Quality of Primary Education (QPE). TM, ($\beta = 0.287$, $p < 0.001$), SP, ($\beta = 0.280$, $p < 0.001$), and SI, ($\beta = 0.252$, $p < 0.001$), were revealed as significant predictors of perceived quality. The findings corroborate the previous studies that indicated that teacher quality and teacher training improved education quality by way of new and interactive practices that, in turn, increased engagement and learning (Biswas & Ahsan, 2023). Similarly, student performance, was recognized and accepted by many to be an output of, and proxy of, education quality where improved learning outcomes suggests institutional effectiveness (Al Zaman et al. 2024). School infrastructure is also important in this regard, as it provides the enabling environment - if the school infrastructure is lacking, the effectiveness of teaching and learning is hindered (Tarricone et al. 2021).

On the other hand, GP had no significant direct effect on QPE ($\beta = 0.059$, $p = 0.301$). Although it may appear paradoxical, it is consistent with previous literature which highlights the gap between policy and its outcomes. In Bangladesh, successive education sector programs have, for example, expanded access but the effect on quality has been modest in the face of resource constraints, bureaucratic inefficiencies and poor policy enforcement (Al-Masum, 2025). This thus implies that while policies act as the general guidelines on paper, they have to be coherently merged with infrastructure development, teacher training, and classroom practice for real effectiveness.

The model accounted for 58% of the variance in QPE, which is considered to have moderate to large effect sizes. This suggests that teaching practices, facilities, and student outcomes are more significant factors in shaping perceptions of quality than policy statements. The results of this study are consistent with the principles of Systems Theory that focus on the interconnected nature of various parts within the educational system. The positive correlations found among education-related policies, pedagogies, facilities, and student outcomes show that no element is an island. Changes in one arena, for example, infrastructure or teacher training, are most potent when accompanied by consistent policies and congruent classroom work. These results support the Systems Theory view that systemic consistency for rather than multiple isolated

reforms is crucial in predicting sustained quality improvement in education. As a result, there's a clear need to enhance the quality of education, focusing on teacher professional development, facilities, and student learning. Additionally, government policy should shift from merely increasing access to prioritizing the quality of what is offered, as this approach is more likely to improve the key aspects of educational quality. Quality of primary education is the basis for global inclusion. The findings contribute to the global issues of quality in inclusion and, therefore, Sustainable Development Goal number 4.

Conclusion

This study tries to explore the relationship between educational policies and the characteristics and standard of primary education in Bangladesh: The Case. It uses PLS-SEM. Results indicate that Teaching Method and Training (TM), Student Performance (SP), and School Infrastructure (SI) have positive and significant effects on the Quality of Primary Education (QPE). Path coefficients are 0.287, 0.280, and 0.252, respectively. The corresponding P-values in order are 0.000, which results in hypotheses H2, H3, and H4 being accepted. These are the quality of pedagogy, quality of positive student outcomes, and quality of infrastructure. It can be concluded that Government Policy Awareness (GP) has no substantial impact ($b=0.059$, $p=0.301$) and does not validate H1. This indicates a plausible difference between the presence of well-defined policies and the actual policies that are put to practice. Then, that makes it a priority to focus on the policy and its practice.

The R^2 regarding the prediction accuracy of the model, was: $R^2 = 0.583$; adjusted $R^2 = 0.578$ and it indicates that the model explained around fifty eight percent of the variance (58%). Second, the two reliability statistics (Cronbach's Alpha) were between 0.748 to 0.806. Composite Reliability were between 0.856 and 0.904, indicating the four constructs (mainly with composite reliability > 0.70) are supported by acceptable evidence of validity. These inventions serve as a testimony to the reliability of the measured loads and the validity of this evidence.

These findings have significant implications for educational informal sector in Bangladesh and raise an alarm to take concentrated initiatives. Despite the fact that teaching practices and training effort got high scores in this study it appears that another route for greater impact of classroom functioning would be to have better quality of local professional development to support teachers around their need and context. Similarly, there is again, a focus upon quality of the learning environment and efforts to mitigate the learning gap associated with school infrastructure, which prioritizes addressing the quality gap within schools utilizing aspects of school environment greater than just the quality of teaching, for example overcrowded classes, level of facilities etc. in addressing the quality gap for teachers' learners, especially in rural situations with multiple deprivation. The low effect of the findings about government policy was evidenced in the study may afford opportunities for rethinking the design and delivery of

government policy including socially derived policies, such as integrating practice-based from the communities served, into the educational system design to afford contextual relevance, may also address systemic efficacy. Which bristles against the wider literature where there is evidence on infrastructure and instructional problems isn't in the literature as a habitual" barrier (Chowdhury & Sarkar R., 2018), and for sure requires a systemic change to education.

This study will add value worldwide about how we can promote fair and high-quality education, aligning perfectly with the United Nations' Sustainable Development Goal 4. The feedback we've gathered emphasizes the urgent need for focused efforts on teacher development, student support, and improving school infrastructure. Additionally, this research calls on policymakers to tackle the current gaps in awareness and resources, advocating for a comprehensive approach that is both responsive and inclusive.

Recommendations and Future Research

In Bangladesh, key stakeholders need to prioritize the development of teacher training programs that incorporate relevant and innovative teaching methods in local training sessions and primary education. This focus is crucial for maximizing their impact. To ensure the quality of education, investing in the construction and improvement of schools is vital, especially given the challenges of overcrowded classrooms and insufficient learning materials. There should be a stronger emphasis on providing support that fosters educational success. At the same time, policymakers need to critically evaluate their Government Awareness Programs to ensure they are more practical, relevant to community needs, and effectively aligned with the goals of the current study.

More research and understanding into how training impacts teacher effectiveness in classrooms, especially for students in rural areas. One interesting angle to explore could be the role of technology, like ICT, and how we can improve the quality of teaching. Additionally, it would be beneficial to look into policy reforms and see how they align with the local sociocultural context. Furthermore, researching teachers' mental health in under-resourced environments could provide insights into how we can sustain educational progress and address the gaps highlighted in this survey.

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