Factors Determining Performance of Institutional Schools in Chitwan, Nepal

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Abstract

Improvement of quality of education is a challenging task; however, it is not impossible. Measuring the performance of schools is not straightforward. In general, number of students passed in the examination in terms of percentage is considered as performance of the schools. Knowing the factors to determine the performance of schools provides some ideas on how to improve the quality of education. The paper, therefore, seeks to show factors that affect performance of the institutional school.T he data were collected using structured questionnaires and interview from 90 respondents of Chitwan district, Nepal. The performance of the schools is measured in terms of per cent of students passed in school leaving certificate examination. Improvement in library and laboratory facilities, parents-teacher interactions, drinking water and toilet facilities compared to previous level, and academic quality perceived by teachers determine the performance of the school. Some levels of improvement in playground and sports materials have power to improve the performance of the schools.

1. INTRODUCTION

Education cultivates knowledge and skills that focuses on economic activities and influences economic development of a country in many ways on the basis of changing economic and social conditions. Education contributes growth through its direct benefits to the individual and positive externality to the society (Dahal, 2013). Education has a central role in the success of individuals and nations. Individuals derive knowledge and skills through education which is known as human capital.

Those schools, which are owned, financed, managed and operated by private individuals, are known as institutional schools. Institutional schools do not get grants in aid and financial support from government. The existence of these schools can be found as early as the Education Act of 1971. However, much of the expansion of these schools has taken place since1980s, particularly during the period when the

government tried to impose a moratorium on the opening of nongovernment aided schools (NPC, 1997).

The present study attempts to examine and explore the factor contributing performance of the institutional schools in Chitwan. Academic performance was characterized by the overall performance in each year which culminates in a Grade Point Average (GPA). The GPA score would take into account students' performance in tests, course work and examinations (Jayanthi, et.al, 2014). In this study the performance is measured by the number of students graduating from the school. For a high school, the percentage of student passing SLC exam is considered as school performance whereas the pass percentage of students in district level exam of class eight and five is considered for the performance of the middle schools. Some basic empirical evidence deems to bear this contention out: Institutional private school students routinely perform at a school level on standardized tests and are more likely to graduate from high school and attend college than their public-school counterparts (Figlio & Stone, 2000).

Children in private school have higher attendance rates and superior test score performance. Private school teachers are significantly younger and more likely to be from the same area as their counterparts in the public schools (Muralidharan, & Kremer, 2006). It is obvious that institutional schools play vital role to educate the nation. The development is synonymous of the ability of a nation to produce quality and quantity of human capital. No doubt private sector schools contribute a lot to produce able human resources.

2. LITERATURE REVIEW

Literature review helps the researchers' thorough understanding of study and brings insight into the research problem relating to the present study. It begins before research problems till the finalization of report.

Save the Children (2002) studied the roles of private education in Nepal and Pakistan. The report concluded that education is a basic human right. The provision of education is understood as a State responsibility rather than one of private institutions. South Asian countries are obliged to provide quality education for each and every child because of the fact that the countries have ratified the Convention of the Rights of the Child. They reinforced that very there are few children benefited from the quality education provided in the private educational institutions of Nepal and Pakistan. A far greater number are attending institutional schools that, while increasing their chance of passing a national examination, are not providing a quality education as understood from a child rights perspective. A significant number of families are therefore paying for private education delivery which is offering an extremely low standard of education.

Moreover, rights based education should be a framework for all educational institutions for both either private or public. In response to the low-quality education offered in many private education institutions, government need to be supported in defining mechanisms for the monitoring of schools. There is an increasing disparity between families able to afford quality institutional schools and those unable to afford the costs of lower quality public schooling; the quality of education is at risk of becoming a function of the ability to pay. To meet the educational rights of children, it is utmost import ant to upgrade the quality of education in State schools. It is important for States to take initiatives determining the quality of state education, to demonstrate a strengthened financial commitment to the public education sector and to ensure that financial incentives for private education, not to the detriment of quality state education.

 Finally, the report recommended that it is essential to establish an appropriate regulatory environment for the provision of education in private and public schools. There is responsibility for both the private education sector and the State/government to work together to ensure that education establishments are meeting State standards, and this within a child rights framework. To create an appropriate regulatory environment for the provision of education services, civil society, NGOs/INGOs and the State should work together.

Bohlmark and Lindahl(2008) concluded the general achievement effects of choice and competition between public and institutional schools in Sweden. For this purpose, the researchers have used administrative data on compulsory school graduates in 1988-2003. The findings are impact of a 10-percentage point increase in the private school share on average 9th-grade GPA is just below one percentile rank point. Nevertheless, it is very stable across specifications and it does not seem to be driven by either differential grade-setting standards or different pre-reform or concurrent trends in unobservable variables across municipalities. The researcher find a positive impact on the fraction of students who chooses an academic high school track and found very little support for that the positive 9th-grade effect also leads to better performance in high school for the same individuals (who enter HS). Moreover, there is no evidence that an increase in private schooling at the compulsory level has an effect on subsequent university attainment or years of schooling. Thus, they concluded that the positive first-order effect on 9th grade performance vanishes over time. It does not seem to be large enough to lead to lasting positive effects. One potential reason for why we find such a small impact is that the entry of new institutional schools not has been followed by the closing down of public schools. Hence, it might be that increasing shares of school budgets have been devoted to maintain operating public schools of poor quality.

Thapa (2013) tried to examine comparative S.L.C. result during 1990-2009. It concluded that private school students performed better than their public-school counterparts after controlling for student, family, school and teacher characteristic to the above two issues for the case of Nepal. Thapa analyzed and interpreted the study with logistic statistical model. The study adopted the propensity score matching technique to account for the selection bias problem. The second part of this dissertation attempted to explore the impact of private school competition on public school performance using the number of institutional schools in the neighborhood as a continuous measure of competition. A binary measure of competition was also used where school is defined to face competition if there is more than one private school in the vicinity of the sample public school. However, in this analysis, there existed an identification problem because private school enrollment was correlated with public school performance. To address this problem, the study used the existence of a motor able road within an hour's walking distance from the sample school as an instrument for number of institutional schools in the neighborhood.

Alsuiadi (2016) analyzed the reasons influencing selection decision making of parental choice of school. There are various studies, primarily conducted in the Western World, that have investigated the reasons why parents select a school, which they perceive best meets their children's needs and parental aspirations for their children. In order to contribute to the established knowledge it was essential to conduct an investigation into parents' reasons for their selection private or public school in the Kingdom of Saudi Arabia (KSA). The main finding of this article has been identified a factor highly regarded as influencing parental decision making: Academic Factor - divided into three identified elements - class size, quality of instruction and student/teacher relationship.

Green, Henseke and Vignoles(2017) analyzed Private schooling and labour market outcomes. This study shows the raw differences between private-school educated and state-school educated people in many but not all job-related outcomes later in life. Privately educated workers have jobs where they exercise significantly greater leadership and are more likely to participate in work organization matters; but equally their jobs require greater work intensity. These raw differences are at least partly explained by family background (which differs sharply between those from the private and state sectors); but after allowing for these there remains a 35% pay premium at age 42 for males and 21% for females.

Private schooling does generate differences in important facets of job quality, though much of the differences can be attributed to the fact that individuals who experience private schooling have higher levels of education.

3. RESEARCH METHODOLOGY

Research Design

Data for this study were collected from primary sources. Both quantitative and qualitative types of data were collected through administrating questionnaires from the representative of teachers, parents and students. Perception based data related to improvement of quality of education, physical infrastructure, playground, library among others were collected from students, parents and teachers. Some of the secondary data, such as number of students appeared in the school leaving certificate (SLC) examination, number of students passed in SLC, sources of income and expenditure categories of schools, were collected from the records. Ordinary least squared (OLS) method was applied to identify the factors that determine the performance of schools.

Sample size and data collection

The list of schools was collected from the district education office, Chitwan. There were 154 schools in the district, more than 10 per cent that was 18 schools were randomly selected from the list of the schools. The principal/vice-principal of the schools, class teachers, students, and parents were respondents for this study. The respondents were selected on the basis of "first come first interview". Two teachers from each school, 5 students of 10 class from each schools and 3 parents nearby each school were respondents for this study.

Primary data were collected through administrating the pre-designed and pre-tested questionnaires. Questionnaires cover general information of the respondents, interest and participation to improve the quality of academic environment, perception about improvement of physical facility, infrastructure, library and laboratory facilities, and playground, among others. Perceptions are measured by categorical choices and scoring method. Whether there was improvement or not in these facilities, was measured in terms of three categories: no improvement or neutral, agreed with the improvement of (quality) facilities, strongly agreed with the improvement of facilities. Perception based score (1 to 5: lower to higher) was used to measure the academic status. In addition to these data, number of teaching and non-teaching staff, number of students, sources of income and expenditure of the schools for more five years among others were collected from the schools.

Model Specification and Regression Analysis

Dependent variable is the performance of the schools in terms of pass percentage in SCL examination. Higher percentage of passed in SLC shows higher performance.

Performance of the education is not determined only by availability of teachers, but also some other education environmental factors determine the performance of the education of the schools. Perceptions made by the teachers, students and parents about the facilities, infrastructure, academic environment, student motivation, among others are independent variables. Perceptions about the better improvements or quality improvements related to independent variables may have positive impacts on performance of the schools. It is assumed that all independent variables have positive sign. Ordinary least squared (OLS) method was applied to identify the determinants of the performance of the schools. OLS gives the best linear unbiased estimators of regression parameters such as constant and β coefficients. Autocorrelation and multicollinearity may not be the major problems in cross sectional data. Moreover, multicollinearity can be diagnosed through estimating the correlation between the explanatory variables. Heteroskedaticity problem is more likely to take place in cross sectional datathan time series data. Robust standard technique is applied in this model while obtaining the results of regression.

4. EMPIRICAL RESULTS

Annual Average Income of Sample School

Most of the institutional schools are profit motives. There are various income heading of institutional schools. Some of the heading gives more income and some give very less. Monthly tuition fee is one of the major sources of income of institutional schools. The table shows the various income heading and earnings.

Table 1: Average Annual Income of School

SN	Income Heading	Amount	Percent
1	Annual and Admission fees	3663405	18.64
2	Monthly Tuition Fee	12450600	63.30
3	Exam Fee	957750	4.87
4	Computer/Lab fee	1092800	5.56
5	Transportation Fee	1146200	5.83
6	Miscellaneous	355900	1.80
	Total	19666655	100

Source: Field Survey, 2017

Out of the total annual income of the institutional schools 63.30 percent is covered by monthly tuition fee followed by annual and admission fee which is 18.64 percent

of the total income. Computer/Lab fee5.56 and transportation fee covers 5.83percent. Exam fee covers 4.87 percent of total income. Miscellaneous covers very less which is only 1.80 percent of total income of the sample institutional schools. The payment made by the guardians as a tuition fee of their children plays significant role for the institutional schools.

Average Annual Expenditure of Schools

There are various headings of the expenditure for institutional school. The income of the school itself depends upon how they minimize their expenditure. Table 2 shows the average annual expenditure of sample schools on various headings.

Table2: Average Annual Expenditure of Schools

SN	Expenditure Heading	Amount	Percent
1	Salary and Allowances	10518000	58.55
2	Repair and Maintenance Expenditure	982300	5.46
3	Building and Land Rent	188200	1.04
4	Administrative Expenditure	2236350	12.44
5	Water, Electricity and Telephone	224750	1.25
6	Loan and Interest Payments	1898800	10.57
7	Exam Expenses	463450	2.57
8	Transportation Expenses	1099970	6.12
9	Miscellaneous	356540	2.00
	Total	17968360	100.00

Source: Field Survey, 2017

Summary Statistics as Perceived by the Respondents

Respondents were asked whether some facilities and school environment have improved or not. There were three categories: neutral (not improved or same status), agree with this improvement (or some level of improvement), and strongly agree with this improvement (or sufficiently improvement) given to students and parents to choose one of them. These categories are important to understand the activities conducted and efforts paid by the schools. The summary results related to these categorical variables are shown in Figure 1. The results of all categorical variables suggest that twenty-five or less than 25 percent respondents perceived sufficiently improvement in given facilities. Almost 50 percent or less than 50 percent of the respondents did not observe any improvement in the given facilities or activities in the schools (Figure 1).
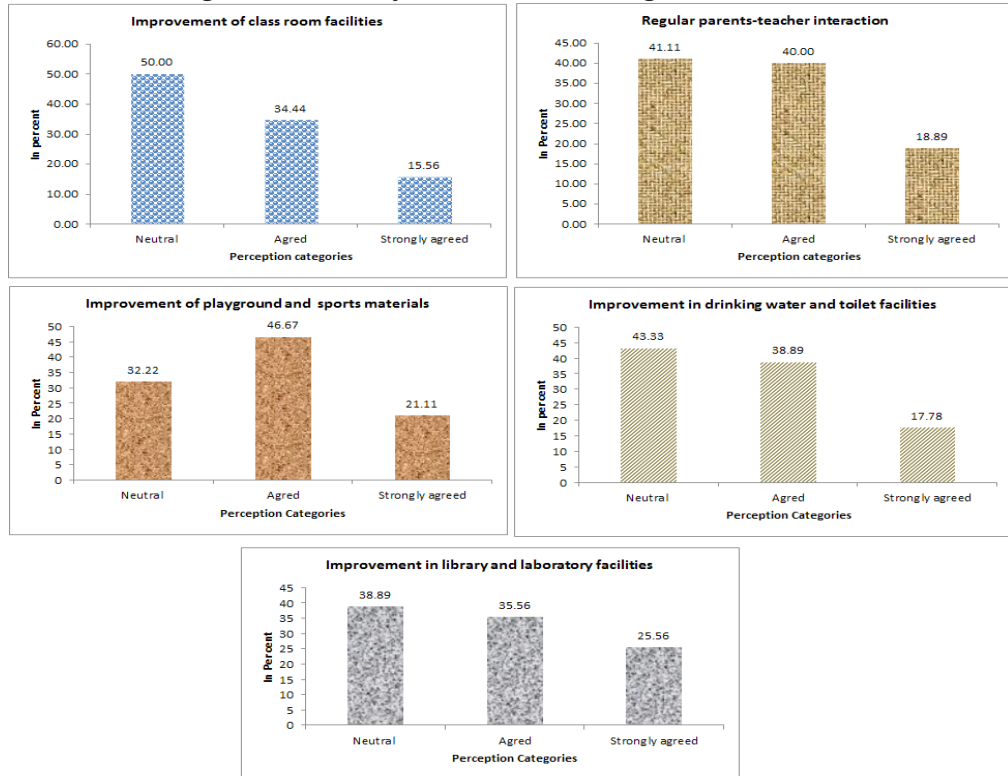
Figure 1: Summary Results of the Categorical Variables

Table 3 demonstrated the summary results of dependent and independent variables that are used in regression analysis.

Table 3: Summary Results of Dependent and Independent Variables

Variable	Obs.	Mean	Std. Dev.	Min	Max
Performance (% of SLC passed) (continuous variable)	90	95.4056	4.1871	79.70	100.00
Improvement of class room facilities (categorical variable)	90	0.6556	0.7368	0.00	2.00
Improvement of playground and sports materials (categorical variable)	90	0.7778	0.7462	0.00	2.00
Improvement in library and laboratory facilities (categorical variable)	90	0.8889	0.7258	0.00	2.00
Regular parents-teacher interaction (categorical variable)	90	0.8667	0.7961	0.00	2.00
Improvement in drinking water and toilet facilities (categorical variable)	90	0.7444	0.7429	0.00	2.00
Academic status scored by teachers (Continuous variable)	90	3.7872	0.2917	3.16	4.42
Academic status scored by patents (Continuous variable)	90	3.4721	0.3202	2.41	4.55

Mean value of performance is found almost 95 per cent with 4 standard deviations. There are five categorical variables: class room facilities, playground and sports materials, library and laboratory facilities, parents-teacher interaction and drinking water and toilet facilities that represent facilities and environment available in the schools and their quality or improvement status. Academic quality/status is scored by teachers (supply side) and patents (demand side). Average value (3.4721, with standard deviation: 0.32) scored by parents (3.7872 with standard deviation: 0.2917) is less than the average value scored by the teachers.

Regression Results

Table 4 provides goodness-of-fit statistics, regression coefficients, robust standard errors, t-statistics, p-values and confidence intervals. For the cross-sectional data, the standard approach is to produce robust standard errors that are valid even if regression model is heteroskedastic.

Table 4: Determinants of Performance of Schools

			Number of obs	=	90
	Linear regression		F(12, 77)	=	10.8
			Prob> F	=	0.0000
			R-squared	=	0.5565
			Root MSE	=	2.9978
Variables	Coef.	Robust Std. Err.	t	P>t	[95% Conf.	Interval]
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Improvement of class room facilities						
Agree	-0.6886	0.71802	-0.96	0.3410	-2.1184	0.7412
Strongly Agree	-0.4595	1.08827	-0.42	0.6740	-2.6265	1.7075
Improvement of playground and sports materials						
Agree	1.4142	0.48876	2.89	0.0050	0.4410	2.3875
Strongly Agree	0.9645	0.66297	1.45	0.1500	-0.3556	2.2846
Improvement in library and laboratory						
Agree	2.1950	0.79725	2.75	0.0070	0.6075	3.7825
Strongly Agree	3.0051	0.89511	3.36	0.0010	1.2227	4.7875
Regular parents-teacher interaction						
Agree	1.9437	0.67486	2.88	0.0050	0.5999	3.2875
Strongly Agree	1.8258	0.82749	2.21	0.0300	0.1781	3.4736
Improvement in drinking water and toilet facilities						
Agree	2.6993	0.97439	2.77	0.0070	0.7591	4.6396
Strongly Agree	2.3435	1.00834	2.32	0.0230	0.3356	4.3513
Academic status perceived by teachers	2.2034	1.19663	1.84	0.0690	-0.1794	4.5862
Academic status perceived by patents	1.9523	1.69157	1.15	0.2520	-1.4160	5.3207
Constant	75.5603	6.98803	10.81	0.0000	61.6454	89.4753

The regression model is statistically significant at below one % level of significance. At the same time, much of variation is unexplained with R2= 0.5565. By using a two-tailed test at level 10 per cent, library and laboratory, parents-teacher interaction, drinking water and toilet facilities and academic status perceived by teachers are statistically significant. In the categorical variable, neutral is the base category while estimating regression. It means that improvement in library and laboratory facilities compared to not improvement level (neutral) determine the performance of schools. Similarly, parents-teacher interaction, drinking water and toilet facilities and academic status perceived by teachers are major determinants of performance of the schools. Similarly, results suggest that some level of improvement (agree) in playground and sports materials compared to no improvement determine the performance of the education; however, more improvement in playground and sports materials may not improve the performance of the schools. Unexpected sign is found in the case of improvement of class room facilities; however, the results are not statistically significant. In the case of academic status perceived by patents, an expected sign is found; however, it is not statistically significant.

5. CONCLUSIONS

The performance of the schools is measured in terms of per cent of students passed in SLC examination. Improvement in library and laboratory facilities, parents-teacher interactions, drinking water and toilet facilities compared to previous level, and academic quality perceived by teachers determine the performance of the school. Some levels of improvement in playground and sports materials have power to improve the performance of the schools.

As suggested by the regression results, policy makers should focus to improve library and laboratory facilities, parents-teacher interactions, and drinking water and toilet facilities to increase the percentage of SLC (now secondary education examination: SEE) passed.

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