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Students' Perception on Infrastructure Facilities of Community and Institutional School of Nepal

Bijaya Nepal
Ph.D. Scholar, Mewar University, Rajasthan, India
Dr. Ramkrishna Maharjan
Professor, Tribhuvan University, Kathmandu, Nepal
Visiting Professor, Mewar University Rajasthan, India

Abstract:
This study was undertaken to examine the perceptions of on the condition of school's buildings, classrooms, toilets, and educational materials availability and condition. The school's facilities effect on the learning and achievement of students. The main objective of this study was to describe the students' perception on school's physical facilities of community and institutional schools of central development regions in Nepal. The data was collected from the respondents to know the measure of condition of school facilities and perception of students' psychological perspective. This study was conducted between January to July 2014, close ended questionnaire was designed to obtain descriptive results using cross tabulation and percentages to answer, and multi-stage sampling methods were applied. The sample size was taken proportionately from 3125 number of secondary and higher secondary school. The selected districts were Sindhupalchok, Kavre, Makwanpur, Kathmandu and Chitwan. From the universe, 32(1.02 percent) schools were taken by using proportionate stratified random sampling. A total of 128 students were selected from out of total 32 schools. The value of data Cronbach's Alpha is 0.84 within 17 variables. Analysis of data was done by using the SPSS version 20. Chi-square test was applied to analyze the data. There was significan association (p=.018) between the respondents about their perception of school design, and significant association between condition of classroom temperature and respondents about their perception at the p=.001 significant level, significant association between classroom area and respondents about their perception at the p=.000, and significant association between separate toilets for girls and boys and respondents about their perception at the =.114 has been found which means that the management , facilities and outcomes of most of the private schools are better than government schools.

Keywords: School infrastructure facility and students' perception

1. Introduction

The physical resources of a school are defined as learning spaces, materials and technology (OECD , 2013c, p. 5). School facilities are a significant part of the educational process where poor school serves with poor academic results with higher levels of repetition and drop-outs and with lower progression ratios to higher levels of the education system (Hunt, 2008, p. 42)**.** Poor facilities make it more difficult for teachers to deliver an adequate education to their students (Brendle-Corum, 2010, p. 56). School facilities are all the things that are needed for effective teaching learning process to take place. Facilities are divided into four parts: instructional, recreational, and residential and general-purposes types (Lawanson & Gede, 2011). Physical infrastructure includes land covered by school, compound, school building, classrooms, laboratories, library, furniture, toilet, drinking water, playground, educational aids, and modern educational material.(Government of Nepal, 2010). The term 'Physical Infrastructure' stands for the physical facilities provided by the school to enhance the quality of the students. Quality education is the fundamental need of the modern society (UNICEF, 2000, p. 02). Good architecture and educational design leads to good teaching and learning environment. Build environment directly affects teacher and students' behaviour, morale and outcomes (OECD , 2013b). Parents are ready to admit students to those schools where there are good facilities as well as good quality education. Because of the infrastructures available in the school, parents along with their children are ready to attend regular class with their interest (Petrosino, Morgan, & Fronius, 2012). Modern education in Nepal was recognized to have begun with the establishment of the first school in 1853 AD (Thapa A., 2011. Education system of Nepal was guided by Hindu culture. This system was changing to Gurukul seminary, where learned persons were called as Gurus, who used to be responsible for teaching and they used to decide themselves what to teach and how to teach (Deepak

Raj & Tapash, 2013). Modern school; private school and government add school came into existence with national policy when the needs of people could not be fulfilled by Gurukul education system.

According to the school's physical condition which is determined by 13 basic indicators, it is found that 75 percent of public schools fall into moderate and poor condition (Tribhuvan University, 2002, p. 47). They provide poor quality education to the learners due to miserable the infrastructural facilities provided to them (Timsina, 2008). Even though the modern era has come, a lot of schools are still being run in a conventional way. Only those text books and teaching aids which were made available by the central level are only being used. No referential books are made available to enhance their knowledge. Because of these all, teaching and learning are not being properly addressed to children. In order to make the students get apt knowledge, schools require being child-friendly providing them the books as per their choice (Government of Nepal, 2010, p. 7). Around 80 percent of public schools' and 20 percent of private schools' performance are still unsatisfactory (Thapa, 2011). It is because of poor school building, lack of classrooms and unavailability of the textbooks in time. Along with this, the lack of school in proper places makes the students stay passive. Along with these, physical factors too contribute for the poor performance of the community schools of Nepal (Deepak Raj & Tapash, 2013).

This study was undertaken to examine the differences between community and institutional school's infrastructure facilities by using students' perception about the facilities provided by the school. So, data were collected from the respondents to measure the condition of school facilities and perception of students' psychological perspective. On the basis of questionnaire survey conducted in June 2014, the situation of existing essential and basic school infrastructure facilities and educational materials availability and users practice. The main objective of this study is to compare between infrastructure and outcomes of students' perception and existing status of community and institutional school of Nepal. This study was limited on students' perception regarding existing essential and basic infrastructure facilities in secondary and higher secondary school and their outcome of central development region of Nepal.

1.1. Theoretical Perceptive
Edward Edgerton, J. McKechnie and S. McEwen (2010) found their empirical, researched in Scotland. They defined school environment by saying that it would seem both logical and essential to investigate whether there is any relationship between students' perceptions of their current school environment or not. School infrastructure variables can play important mediating role in the relationship between school environments and academic performance (as indicated in figure 1), which results good outcome in themselves. (Edward Edgerton, 2010, pp. 44-45).
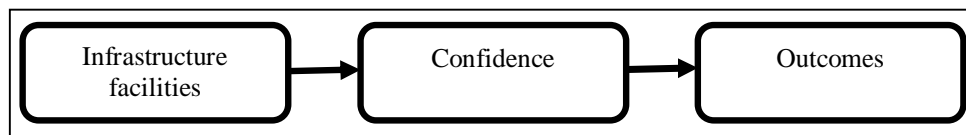

Figure 1: The role of School infrastructure facilities to improve students' confidence and their outcomes.

This paper is based on a research project currently in progress with a local authority in Scotland.

2. Methodology
Descriptive and analytical research design was used and cross-sectional data was collected to assess the comparison between infrastructure and outcomes of students' perception and existing status of community and institutional school. This study was related to Students' perception and outcome. So, only students were participated for the research.

The research was done on the basis of multi-stage sampling method. The targeted area of the study was Nepal, where the research was accomplished. In the first stage cluster, random sampling method was used, where the field i.e. Nepal was divided into five development regions. One of them was Central Development Region (CDR) was taken as a single cluster and again divided into four clusters (Mountain, Hill, Valley and Terai) on the basis of ecological belt. Furthermore, five districts were selected as a study area among nineteen cluster i.e. nineteen districts of four ecological belts.

In second stage the stratified random sampling method was used to select target respondents from both urban and rural areas': community and institutional in secondary and higher secondary schools' of five districts. So, the secondary and higher secondary schools were taken as universe. The sample size was taken as proportionately among number of 3125 (1893 Secondary and 1232 higher secondary schools) (Government of Nepal , 2012, p. 79). The selected selected districts were Sindhupalchok, Kavre, Makwanpur, Kathmandu and Chitawan and 32 (1.02 percent) schools were taken from total universe by using proportionate stratified random sampling.

In third stage, respondents were divided into equally four categories (boy, girl, secondary level, and higher secondary level) from grade 10 and grade 12 running from community and institutional school. Some of them i.e. 4 students were select from each school; as a whole 128 student were selected out of 32 schools.

The reliability and validity of the instrument was maintained by seeking opinion of the subject experts, pilot study, and Cronbach's Alpha test. The data collection tools were carried out through translation and back-translation of the language. The value of data Cronbach's Alpha is .84 within 17 indicators. Analysis of data was done by using the SPSS 20. Frequency table, cross tabulation, Chi-square test were applied to analyze the data.

3. Results and Discussions

In this study 128 Students were taken as participant for their perception about existing status of schools' facilities and outcome. Among them, the age group of respondents was: 14 years-14.1 percent, 15 years-21.1 percent, 16 years-8.6 percent, 17 years-28.1 percent, 18 years-21.9 percent, and 19 years-6.2 percent from Secondary and Higher Secondary level of community and institutional schools.

Respondents' views have been collected to analyze comparison between infrastructure and outcomes of students' perception and existing status of community and institutional School of Nepal which was on the basis of questionnaire survey conducted in june 2014 and discussed as follows:

		Types of School's		Total
		Community	Institutional	
Very Satisfactory	Count	37	52	89
	% within Built in well design	41.6	58.4	100.0
	% of Total	28.9	40.6	69.5
Satisfactory	Count	17	10	27
	% within Built in well design	63.0	37.0	100.0
	% of Total	13.3	7.8	21.1
Don't Know	Count	3	0	3
	% within Built in well design	100.0	0.0	100.0
	% of Total	2.3	0.0	2.3
Unsatisfactory	Count	7	2	9
	% within Built in well design	77.8	22.2	100.0
	% of Total	5.5	1.6	7.0
Total	Count	64	64	128
	% within Built in well design	50.0	50.0	100.0
	% of Total	50.0	50.0	100.0

Table 1: Students' perception and existing status of building design
Sources: Field survey, June 2014

Above table shows that a significant association (p=.018; it is less than .05, 2-sided) has been found between community and institutional. According to student's perception in above table, wide range of student's response was that the condition of school building very satisfactory in private-based schools. The norms of school building and classrooms are based on earthquake resistant, roof that prevents rain water and heat, walls plastered rooms with enough light, and one classroom for every 50 pupils (Government of Nepal, 2010, p. 18). But, in academic year-2011 A.D., 28,057 community schools were running where only 62.19 percent of buildings were in good condition and 7.01 percent of schools have owned their own buildings where 2.67 percent of school have poor-conditioned buildings (Government of Nepal, 2011, p. 99).

Each teacher had a classroom to teach the students which was a proper arrangement for the teacher. The school building was covered by tall and strong boundary wall or fencing (Ministry of Law and Justice India, 2009). Schools' classrooms should be wide enough so that there can be at least minimum standards for light, sound and ventilation, and number of schools and classroom meeting minimum standards (UNESCO-UIS, 2012, p. 71). A school must have been appropriate and adequate, sufficient and secure buildings, and classroom it must be minimum $1.0 \, m^2$ covered floor places per pupil at an adequate quality; internal temperature, ventilation, daylight, acoustics, waterproof and dust free environment (Rwanda Ministry of Education, 2009, pp. 4-7). It is not unusual to be 30 students in each class. In a crowded classroom, students cannot easily see due to the size of the class (J and W Van Vliet Wohlwill 1985), and over crowd and high gathering can lead to trim excess levels and control stimulation, excitement, tension and class room can loss desired privacy level (Barrett & Zhang, 2009, p. 18).

		Types of School's		Total
		Community	Institutional	
Very Satisfactory	Count	12	22	34
	% within building roof designed	35.3	64.7	100.0
	% of Total	9.4	17.2	26.6
Satisfactory	Count	19	31	50
	% within building roof designed	38.0	62.0	100.0
	% of Total	14.8	24.2	39.1
Don't Know	Count	6	2	8
	% within building roof designed	75.0	25.0	100.0
	% of Total	4.7	1.6	6.2
Unsatisfactory	Count	22	9	31
	% within building roof designed	71.0	29.0	100.0
	% of Total	17.2	7.0	24.2
Very Unsatisfactory	Count	5	0	5
	% within building roof designed	100.0	0.0	100.0
	% of Total	3.9	0.0	3.9
Total	Count	64	64	128
	% within building roof designed	50.0	50.0	100.0
	% of Total	50.0	50.0	100.0

Table 2: Students' perception and existing status of adjust temperature of the room in cool in summer and warm in winter
Source:-Field survey, 2015

The above given table shows that a signification association (p=.001; it is less than .05, 2-sided) has been found between community and institutional. On the other hand, building roof designed to adjust temperature of the room in cool in summer and warm in winter. Although the investment of government of Nepal has been found for public schools' infrastructure, the data show that private sector schools' student are Very Satisfactory by their school's infrastructure. The result of this research shows that the same physical condition is found about 75 percent of public schools fall into moderate and poor (Tribhuvan University, 2002, p. 47)

		Types of School's		Total
		Community	Institutional	
Very Satisfactory	Count	14	36	50
	% within wide class room.	28.0	72.0	100.0
	% of Total	10.9	28.1	39.1
Satisfactory	Count	28	24	52
	% within wide class room.	53.8	46.2	100.0
	% of Total	21.9	18.8	40.6
Don't Know	Count	3	0	3
	% within wide class room.	100.0	0.0	100.0
	% of Total	2.3	0.0	2.3
Unsatisfactory	Count	18	3	21
	% within wide class room.	85.7	14.3	100.0
	% of Total	14.1	2.3	16.4
Very Unsatisfactory	Count	1	1	2
	% within wide class room.	50.0	50.0	100.0
	% of Total	0.8	0.8	1.6
Total	Count	64	64	128
	% within wide class room.	50.0	50.0	100.0
	% of Total	50.0	50.0	100.0

Table 3: Students' perception and existing status of all types of educational activities due to wide class room
Sources: Field survey, Jun 2014

The given chart shows that a signification association (p=.000; it is less than .05, 2-sided) has been found between community and institutional schools. The teaching environment in school and classroom activities is considered to be primary factor for enhancing the effectiveness of teaching and learning aspect (Daggett, 2008, p. 3). In the same manner, the provision of teaching material also assists the teachers to make the students learn the specific objectives of the course book. Along with these teachers should make the materials available to the students to promote them to get the target. No provision of fee to use the teaching material should be there for the

students (Government of Nepal, 2010, p. 19). ICT facilities also include among others soft ware's (OECD , 2013c, p. 8). The application of the software requires that the school managers should be exposed to necessary in-service training to enable them make maximum use of the soft wares (Asiabaka, 2008, p. 04). Teaching learning equipment shall be provided to each class as required (Ministry of Law and Justice India, 2009, p. 13).

		Types of School's		Total
		Community	Institutional	
Very Satisfactory	Count	48	56	104
	% within separate toilets for boys and girls	46.2	53.8	100.0
	% of Total	37.5	43.8	81.2
Satisfactory	Count	4	4	8
	% within separate toilets for boys and girls	50.0	50.0	100.0
	% of Total	3.1	3.1	6.2
Unsatisfactory	Count	8	4	12
	% within separate toilets for boys and girls	66.7	33.3	100.0
	% of Total	6.2	3.1	9.4
Very Unsatisfactory	Count	4	0	4
	% within separate toilets for boys and girls	100.0	0.0	100.0
	% of Total	3.1	0.0	3.1
	Count	64	64	128
	% within separate toilets for boys and girls	50.0	50.0	100.0
	% of Total	50.0	50.0	100.0

Table 4: Students' perception and existing status of separate toilets for boys and girls
Sources: Field survey, Jun 2014

The result of this experiment shows that (p=.114; it is less than .05, 2-sided) has been found between community and institutional schools. School must arrange necessary provision of clean toilet and drainage (Khalil, Husin, Wahab, Kamal, & Mahat, 2011, p. 16). Toilet and Hygiene facilities must be separated for girls, boys and staff with disabled WC according to ratio (Rwanda Ministry of Education, 2009, p. 7). The educational act of India gives emphasis on that there should be separate toilets for both boys and girls (Ministry of Law and Justice India, 2009, p. 12). School must have necessary provision of clean toilet and drainage (Government of Nepal, 2010, p. 16). Number of schools with potable water supply, documented reduction in absenteeism due to illness and fatigue (UNESCO-UIS, 2012, p. 71).

Responses			Types of School		Total	Pearson Chi-Square Asymp. Sig. (2-sided)
			Community	Institutional		
Educational materials availability and use	No	Count	28	12	40	.002
		%	43.8	31.3	18.8	
	Yes	Count	36	52	88	
		%	56.3	68.8	81.3	
Play ground availability and use	No	Count	28	12	40	.002
		%	43.8	31.3	18.8	
	Yes	Count	36	52	88	
		%	56.3	68.8	81.3	
Computer lab availability and use	No	Count	28	32	60	.479
		%	43.8	46.9	50.0	
	Yes	Count	36	32	68	
		%	56.3	53.1	50.0	
Science lab availability and use	No	Count	36	32	68	.479
		%	56.3	53.1	50.0	
	Yes	Count	28	32	60	
		%	43.8	46.9	50.0	
Library availability and use	No	Count	24	32	56	.154
		%	37.5	43.8	50.0	
	Yes	Count	40	32	72	
		%	62.5	56.3	50.0	

Table 5: Students' Perception and Existing Status of Schools' facilities
Sources: Field survey, June 2014

Above table examines the relationship between students' evaluations of the physical environment (Educational materials and Play ground availability and use) of their school and their academic Confidence. Using the traditional significance level of p = 0.02, it was found that 40 students were say 'No' and 88 were say 'Yes' of these correlations were significant.

Students pass percent		Types of schools		Total	Cumulative Percent	Pearson Chi-Square
		Community	Institutional			
36 to 40%	Count	1	0	1	3.1	
	% of Total	3.1	0.0	3.1		
41 to 45%	Count	4	0	4	15.6	
	% of Total	12.5	0.0	12.5		
46 to 50%	Count	1	0	1	18.8	
	% of Total	3.1	0.0	3.1		
51 to 55%	Count	1	0	1	21.9	
	% of Total	3.1	0.0	3.1		
61 to 65%	Count	1	0	1	25.0	
	% of Total	3.1	0.0	3.1		
66 to 70%	Count	2	0	2	31.3	
	% of Total	6.2	0.0	6.2		
71 to 75%	Count	4	0	4	43.8	Asymp. Sig. (2-sided) .005
	% of Total	12.5	0.0	12.5		
76 to 80%	Count	1	1	2	50.0	
	% of Total	3.1	3.1	6.2		
81 to 85%	Count	0	2	2	56.3	
	% of Total	0.0	6.2	6.2		
86 to 90%	Count	1	5	6	75.0	
	% of Total	3.1	15.6	18.8		
91 to 95%	Count	0	3	3	84.4	
	% of Total	0.0	9.4	9.4		
96 to 100%	Count	0	5	5	100.0	
	% of Total	0.0	15.6	15.6		
Total	Count	16	16	32		
	% of Total	50.0	50.0	100.0		

Table 6: Student outcome (Total students pass percent in SLC Exam 2011/2012)
Sources: Field survey, June 2014

The given table shows that a significant association (p=.005; it is less than .05, 2-sided) has been found between community and institutional. According to student's outcomes in above table, wide range of students' from institutional school has got good result in comparison to the community based school. More than 95 percentage of community based school's students got success.
 The result of this research shows around 80 percent of public schools' and 20 percent of private schools' performances are still unsatisfactory (Thapa, 2011). Similarly it can be generalized to Nepal as a whole.

4. Conclusion
Following conclusion was sketched on the basic of above data:-
1. Most of the physical structure within the community and private level schools are better off than government level school; similarly participation physical status and educational level of the students are different in different levels of schools.
2. More than 10 per cent student's revealed that schools must have good provision and well furnished structures of sitting, studying and playing point of view.
3. This study shows the result that it supports the view of existing status of school infrastructure is linked to students' perceptions and feelings.
4. It is clear that the possible effect of the school infrastructure is greatest for students.
5. This suggests that we need to be aware that students perceptions of the school infrastructure as they progress through the school system placing different demands on or having varying expectations of their school.
6. School infrastructure facilities impact on academic confidence as these variables may indirectly affect academic outcome variables in themselves.
7. Further, the research could be identified how school physical environment affect students' learning environment through student achievement and outcome across different level of students.

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