Relationship between the Number of Students in the School and the Academic Achievement in the Secondary Schools in Bhutan

Yeshi Nidup
Phuentsholing Higher Secondary School, Bhutan, *nidupy1982@gmail.com*

This study was done to find out the correlation between the number of students in the school and the academic achievement; and correlation between school location and academic achievement. For the quantitative analysis, the national result of 110 middle and higher secondary schools (class 10 and 12) from 2015 to 2019 was taken from Bhutan Council of School Examination and Assessment (BCSEA). For the qualitative analysis, feedback was collected from 25 teachers who had an experience of teaching in both rural and urban school. For quantitative, the correlation analysis, descriptive analysis and t-test was done; for qualitative, thematic analysis was done. The study found that there is negative correlation between the number of students and the school achievement. The correlation coefficient was -0.2, -0.3 and -0.4 for the year 2017, 2018 and 2019 respectively. However, it showed moderately negative correlation in all the years except for 2015 which was 0.02, a positive correlation. The comparison of academic achievement of rural and urban schools showed that rural schools have done slightly better than the urban schools in all the years. The average pass percent difference was 0.5, 0.3 and 3.6 in 2017, 2018 and 2019 but in 2015 urban school did better by 2.3 percent more than remote schools.

Keywords: academic, achievement, location, correlation, class size, facilities

INTRODUCTION

Since the introduction of modern education in Bhutan in early 1960s with few hundred students (MoE, 2014), the number of schools and number of children in the school expanded every year. The schools in Bhutan are spread all across the country; some are located in urban places and some in rural pockets of our country in a difficult terrain. Few schools are located at higher altitude above 3000m from the sea level which remains covered with snow for most of the months in a year. Location of schools has posed difficulty for school going children in multiple ways. Some children have to walk 2 to 3 hours daily to their school. In such cases, it becomes more difficult during monsoon season. Hence, learning becomes more challenging for these children and affects their performance. There are also some differences in the facilities provided in the school. It is comparatively better in the urban schools in terms of availability and accessibility of teaching and learning materials. This may lead to disparity in terms of delivering quality education to every child in the schools.

Adepoju and Oluchuwu (2011) argue that the distribution of secondary school in both urban and rural areas has serious implications on the academic performance of the students. Adepoju and Oluchuwu (2011) also established significant relationship between the location of schools and academic achievement of public examinations in Nigeria. The students' performance in urban school was found to be higher than the performance of students in rural schools. Nwogu (2010) posits that rural students exhibited more learning difficulties than the students from urban schools in the learning of mathematics and science. Likewise, Downey (1980) found the scores of rural students to be two points lesser than the scores of urban students in each categories of American College Testing (ACT) in

Kansas. The performance of Hawaii public schools, tested through an examination revealed sub-standard achievement especially by the rural schools (McCleery, 1979). Owoeye and Yara (2011) found a significant difference in the academic achievement of students in urban and rural areas in senior school certificate examinations in Ekiti state.

The class size is another factor that can influence the academic achievement of the schools. The Ministry of Education strives to maintain a class size of maximum of 24 for primary schools and 30 for secondary schools (Bhutan Education Blueprint 2014-2024). As of 2018, 82.5 % of primary schools and 53.8% of secondary schools achieved the class size mentioned. It is becoming more difficult in the urban areas due to increasing population of children going to the school.

In a study of impact on reducing class size in a Tennessee's Student Teacher Achievement Ratio (STAR) experiment, small classes have been found to have positive impacts not only on test scores but also on life outcomes in the years after the experiment ended (Schanzenbach, 2014). In a small class, there is higher level of student engagement, increased time on task, provide greater opportunity for high-quality teachers and student interactions, and more time to tailor their instruction to the students in the class. Lazear (2000) postulates that smaller classes have a smaller number of disruptions thereby engendering better student to teacher engagement and better student learning than the larger classes. Glass and Smith (1979) noted that many educationists believe that small class sizes engender better student achievement and that it helps students get sufficient feedback. Bruhwiler (2011) believes that students taught in smaller classes in their early elementary grades continue to have enhanced academic achievement even if they are in larger classes in upper or middle school. Molnar, Chase and Walden (2000) and Gentry (2002) reported that school class overcrowding (large class sizes) is one among the school factors that influence student's academic achievement.

The capacity to achieve when one is tested on what has been taught, related to curriculum content and the learners' intellect is known as academic performance (Otoo, 2007). According to Eboatu and Ehirim (2018) the educational outcome that indicates the accomplishment of specific goals in an instructional environment is defined as academic achievement. The achievement is known through students' scores and grades in test examinations or assignments. Further, Maguson (2007) also described academic achievement is generally measured by examination or continuous assessment but there is no perfect test prescribed for the measurement of an academic achievement.

There are several other factors that affect the academic performance of the school. But, the number of students in the school or school size and the location of schools are often looked into for the researchers to understand the relationship that exists between school size and academic performance, school location and academic performance. Mulrine (2002) mentioned that educational reform favored smaller schools. A meta-analysis of studies from the 1960s done by Greenwald, Hedges, and Laine (1996) found that the achievement in small schools was superior to that in large schools. Similarly, Lee and Smith (1997) found that larger schools had a negative influence on academic achievement. According to research done by Wending and Cohen (1981) at the elementary level, on third graders in New York schools found that increasing school size had a negative effect on academic achievement.

The class size is related to the academic performance of students. Babatunde and Olanrewaju (2014) mentioned that researchers and scholars agree that student's achievement decreases as class size increases. Similarly, Morrow (2007) noted that due to overcrowding in a classroom, it becomes complicated for teachers to manage each individual's in the class and also limits the use of various teaching and assessment methods.

Fowler and Walberg (1991) analyzed the findings of school size effects studies published between the 1960s and 1980s and reported: an increase in the size of the school is detrimental to test scores, and there is a negative relationship between math and verbal achievement test and school size. From this

analysis, the school size was found to be one of the most significant factors correlated with school outcomes.

Howley and Bickel (1999) gathered relevant schools and tested data in four states: Ohio, Georgia, Texas, and Montana, and found that school size had a large impact on academic achievement in Ohio, Georgia, and Texas at all grade levels. A recent meta-analysis done by Leithwood and Jantzi (2009) as cited in Hanover research (2015), observed the relationship between school size and various students and organizational outcomes through the review of 57 studies published after 1990. Most of the evidence included in the analysis favoured the smaller schools. This is supported by Goodlad (1984) who observed that most of the schools standing at the top performing groups were smaller than low performing schools.

It is known that the geographical location does not significantly predict outcomes in school performance of students in Australia (Considane & Zappala, 2002). On the contrary, Adepoju and Oluchuwu (2011) argue that the distribution of secondary school in both urban and rural areas has serious implications on the academic performance of the students. Adepoju and Oluchuwu (2011) also established significant relationship between the location of schools and academic achievement of public examinations in Nigeria. When ten secondary schools in Nigeria were randomly selected for the study (5 rural and 5 urban), the students' performance in urban school was found to be higher than the performance of students in rural schools (Adepoju & Oluchuwu, 2011).

Similarly, Nwogu (2010) posits that rural students exhibited more learning difficulties than the students from urban schools in the learning of mathematics and science. In an investigation done to understand the influence of school location on the performance of mathematics and basic science, students in urban schools performed better than the students from rural schools (Ahiaba & Igweonwu, 2003). Besides, the performance of rural schools was found to be better than those from urban schools in a study by (Alspaugh, 1992; Alspaugh & Harting, 1995; Haller, Monk & Tien, 1993) as cited in Bosede and Emiloju (2013). On the contrary, Downey (1980) found the scores of rural students to be two points lesser than the scores of urban students in each categories of American College Testing (ACT) in Kansas. The performance of Hawaii public schools, tested through an examination revealed sub-standard achievement especially by the rural schools (McCleery, 1979). Interestingly, Bosede (2010) posits that there is no difference in performance because of location.

Frederic (2011) mentioned that school location as one of the major factors that influence students' academic achievement in some subject areas. Owoeye and Yara (2011) found a significant difference in the academic achievement of students in urban and rural areas in senior school certificate examinations in Ekiti state. The researchers, therefore, concluded that students in urban areas had better academic achievement than their rural counterparts. Onuoha (2010) argued that there is no significant difference between students' academic achievement in rural and urban areas. Considine and Zappala (2002) found that geographical location does not significantly predict outcomes in school performance from the study of students in Australia. Pandey (2008) confirmed that academic achievement can be influenced by several factors and school location was one of the factors mentioned. However, all these findings contradict with those of Frederic (2011) and Owoeye and Yara (2011) who both reported that there was a significant difference between the academic achievement of rural and urban students in senior school certificate examinations.

Ntibi and Edoho (2017) mentioned that the findings of the effect of academic performance and school location are mixed; some studies showed positive influence, and some showed negative influence. Considering the school location and number of children in the school as two factors that have high potential to influence the academic achievement of the schools, this study will specifically see if these two factors have any significant impact on student's achievement in our country. Since Middle and Higher Secondary are the two key stages in our education system, the study is focused on these two

levels. Moreover, these two levels have a common examination conducted at the national level which gives us an authentic and unbiased data. This will enable us to make reliable conclusion and accurate judgment about the school performance pertaining to school location and the number of children in the school.

METHOD

For this research, mix method was applied. The quantitative method was used since large quantity of numerical data and computations were involved. The data was extracted from the school's national result for all the secondary schools in Bhutan for five years. The secondary data was used for quantitative analysis to establish the relationship between the school location and the academic achievement, and also the relationship between the class size and the academic achievement. For qualitative part, a feedback and views from the teachers were collected as it was necessary to validate and support the findings from quantitative analysis. A correlational analysis was done to test the relationship between school location and academic performance, and the relationship between the number of students and academic performance of the school.

A total of 110 Middle Secondary and Higher Secondary Schools were chosen as a sample of the study. The purposive sampling technique was done in order to conduct the focused study for the secondary schools. Moreover, the findings become more accurate and authentic when all the schools are included. The findings and conclusion drawn from the study reflects the whole set of school's secondary schools chosen from both remote and urban location, which gives confidence for the researchers and the readers. Besides, the identification of remote schools and urban schools are done based on the categorization done by the Ministry of Education, Royal Government of Bhutan.

For this research, secondary data was used for quantitative analysis which was taken from the website of Bhutan Council for School Examination and Assessment (BCSEA) under the Ministry of Education (Moe). The data is extracted from the Pupil Performance Report (PPR) 2015-2019 which is published by BCSEA annually. This is done because BCSEA is the only agency that is dealing with data related to examinations in Bhutan. Moreover, we get reliable information and data pertaining to school academic achievement. Qualitative analysis was done from the feedback and views gathered from the teachers through questionnaires using google form. For the feedback and views, 25 teachers who had the experience of teaching in both rural and urban school were chosen. This was to supplement the findings from the quantitative analysis and make the information cohesive.

FINDINGS

Quantitative Analysis

The correlation between the number of students in the school and overall pass percent for four years was calculated using Excel. This was done mainly to study the relationship between the two variables as mentioned. The correlation coefficient was found to be negative for all three years as shown in the table 1. Although, it is moderate, it clearly shows the negative correlation between the number of students in the school and the pass percentage. So, generally, the school with fewer students has a slightly higher pass percentage than the school with more students and vice-versa. It is also clearly shown by the graphs in Figure 1, Figure 2 and Figure 3 given below. For 2017, the correlation coefficient is very close to zero which shows that there is neither a positive nor negative correlation unlike 2018 and 2019. But for 2015, it shows slightly positive correlation.

Table 1
Correlation between the number of students in the school and overall pass percent

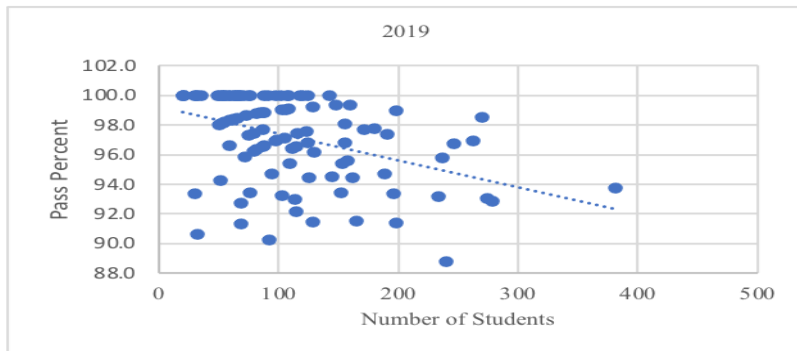| Year	Correlation coefficient
2019	-0.4
2018	-0.3
2017	-0.2
2015	0.02

Figure 1
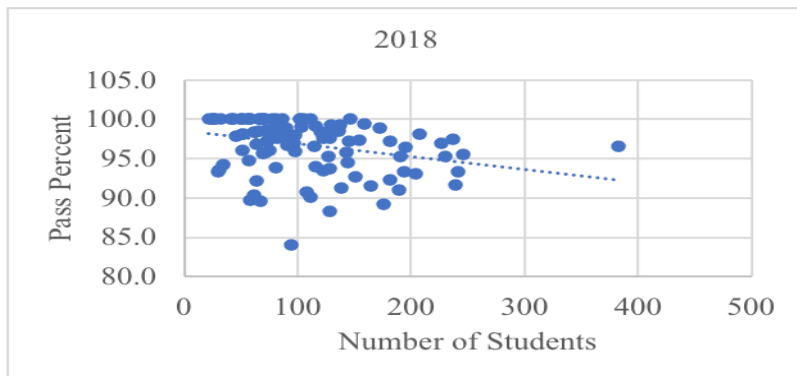Correlation between the number of students and pass percent for 2019

Figure 2
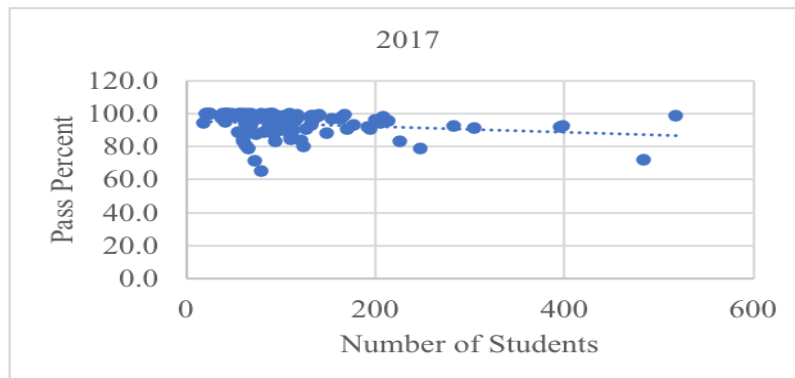Correlation between the number of students and pass percent for 2018

Figure 3
Correlation between the number of students and pass percent for 2017
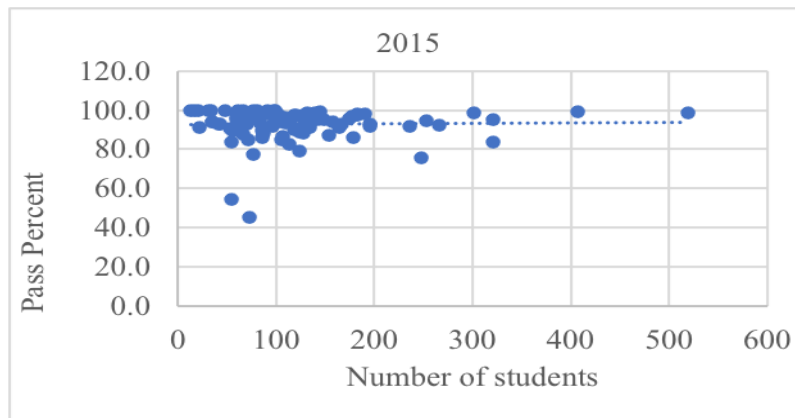

Figure 4
Correlation between the number of students and pass percent for 2015

The average pass percent with different number of students in the school were also calculated to further understand the relationship between student numbers and overall performance. Concurrent to the findings from the correlation analysis, the average pass percent decreased with the increase in the number of students in the school. The average pass percentage for the number of students between 0 to 100 was 98 percent, 97.2 percent, 94.6 percent and 91.2 percent; students between 101 to 200 was 96.7 percent, 96.5 percent, 93 percent and 93.1 percent; and students between 200 and above was 95.1 percent, 95.6 percent, 92.6 percent and 92.1 percent in 2019, 2018, 2017, and 2015, respectively. The details are as shown in Table 2 and Figure 4.

Table 2
Number of students and average pass percent, 2017-2019

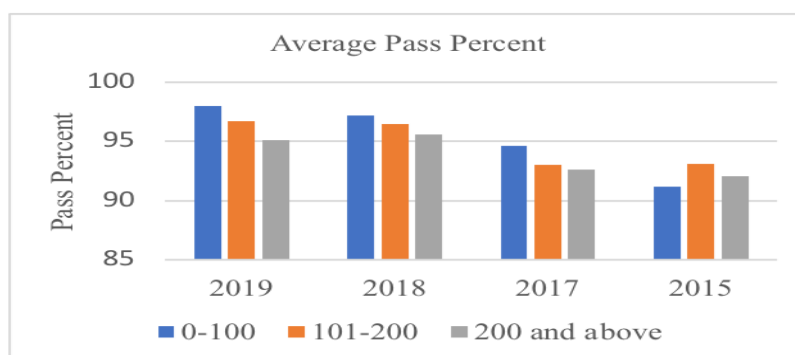| Number of Students	2019	2018	2017	2015
0-100	98	97.2	94.6	91.2
101-200	96.7	96.5	93	93.1
200 and above	95.1	95.6	92.6	92.1

Figure 4
Average Pass Percent and the number of students in the school

Pass percent of urban and remote schools were also compared to see if the results of two different locations of schools were different. This was done through t-test and the result for four years showed: 2019 p-value=.03, 2018 p-value=.06, 2017 p-value=.001 and 2015 p-value=0.28. This clearly showed that there was a statistically significant difference in the result in 2019 and 2017. On the other hand, the p-value of 2018 and 2015 showed that there was no significant difference in the result.

The comparison of Average Pass Percent (APP) in the urban and remote schools was done. In 2019, APP in urban schools was 97.1 and 97.6 in remote schools; in 2018, APP in urban schools was 96.7 and 97 in remote schools; in 2017, APP in urban schools was 92.2 and 95.8 in remote schools, and in 2015, APP in urban schools was 94.2 and 91.9 in remote schools . The difference in APP in urban and remote schools was 0.5, 0.3, 3.6 and -2.3 for 2019, 2018, 2017 and 2015, respectively.

Table 3
T-Test for Urban and Remote Schools Pass Percent

Year	P-Value
2019	0.3
2018	0.6
2017	0.001
2015	0.28

Table 4
Comparison of Average Pass Percent in Urban and Remote Schools

Location	2019	2018	2017	2015
Urban	97.1	96.7	92.2	94.2
Remote	97.6	97	95.8	91.9
Mean Difference	0.5	0.3	3.6	-2.3

Qualitative Analysis

a) Does location of school (urban and rural) affect the academic performance of the students? And How?

21 (84%) teachers responded that location of the school has an effect on academic performance of the students. As mentioned by the teacher respondents, urban schools get better facilities and more exposure than the rural students. Students in urban schools are getting more opportunities to engage in recreational activities which keep them physically healthy and mentally sound.

On the other hand, urban schools have more facilities available around which can be availed any time. The students in the urban schools are exposed to modern technologies which can also help them in learning. Parents are educated and children know their responsibilities. Students get guidance and coaching from their parents. Moreover, learning materials are available and affordable. On the contrary, one responded that the urban schools have large number of students and students are carefree. Due to social and family problems, parents are not able to give proper care and guidance to the child.

Respondents mentioned that there is shortage of teachers, less facilities, students come from poor socio-economic background and illiterate parents, and the learning is mostly through textbook with limited library books in remote schools. The rural students are less prone to substance abuse, peer pressure and not much of distractions like in the town. Students in remote school have good environment to study.

4 (16%) responded that school location has no effect on academic performance. One responded that it depends on individual student's characteristics and the kind of environment. Students in town schools are said to be engaged more in recreational activities than on to studies. But the students in the rural schools are said to busy with village chores and also with their studies.

b) If there are more than 30 students for secondary and more than 24 for primary level, how does this affect teaching and learning? Mention minimum of three reasons to justify.

25 (100%) of the respondents mentioned that classroom size has lots of impact on teaching and learning. When there are a greater number of students in the class, teachers say that there are multiple problems. The reasons stated by the teacher respondents are, the teachers are not able to give equal attention to all the students, carrying out continuous assessment and keeping daily record of students become difficult, difficult to manage the class, difficult for teachers to assess students work on time, not able to give timely feedback and guidance to all the students, and not able to fulfil individual needs and wants.

Moreover, it becomes difficult to maintain discipline inside the class, challenging to carryout classroom activities, restricts the free movement of both the teachers and students, teacher requires more time for correction, inadequate time for group presentation, less interactions between students and teachers, and also amongst the students.

Teachers have tough time to understand the child's abilities and kind of support required, poor classroom management due to overcrowding, opportunities for the students are limited in the class when there are more students and teachers are not able to spend quality time with every student.

The number of students in higher class is 30 and 24 in primary class as per the policy. However, the all the teacher respondent mentioned that the number of students in the class is still more owing to the challenges stated.

c) The classroom size is 30 students for secondary and 24 for primary level according to government policy. Do you think this is the right classroom size for both the levels? Why?

14 (56%) respondents are of the opinion that the current classroom size as per the policy is not the right size. The teachers feel that it should be reduced further and focus teaching learning through activities and experimentation. Some teachers even mentioned that the number of students in the class as stated in the policy is still large owing to the structure and availability of teachers. Some are of the opinion that for secondary level, number of students in a class should be reduced to 25 and 20 for primary level for better classroom environment, and for effective teaching and learning. A teacher respondent also mentioned that there is issue of oversized classroom. Another teacher respondent mentioned that one teacher has to deal with more than 100 students as they teach a minimum of three to four sections which makes teacher's work hectic and difficult for providing constructive feedback.

Another teacher respondent mentioned that it becomes difficult to apply transformative pedagogy and activity-based teaching when there are more students on the class.

The teacher respondents who disagreed to the current classroom size (30 students for secondary and 24 for primary level) mentioned a smaller number of students in both the class level will enable good classroom environment, teachers can give more attention to every individual student, teachers can carry out effective teaching, assessment can be done regularly with proper feedback, and provide necessary support and guidance.

However, 11 (44%) of the respondents agree that the present class size is convenient and right size. According to them, it is manageable, can give proper feedback and accurate class size. One teacher responded that the current class size for both the level is acceptable but a teacher would prefer to have less student for effective teaching and learning. One teacher respondent feels 30 students is quite manageable but 24 students in primary level is quite challenging as they require individual support and guidance.

d) Academic performance is better for student in remote or urban schools? What could be the factors contributing for this?

The teacher respondent mentioned that the difference in result between rural and urban school is because urban students get more exposure, more experienced teacher are in urban school, parents are literate and comparatively better facilities at urban school. Besides, there are readily available of ICT tools, school with required infrastructure to facilitate quality learning, teacher specialists for the subject recruited, whereas in remote mismatch of teacher and subject. A teacher also mentioned that urban students are better in the use of language.

Another teacher mentioned that urban schools have good infrastructure and enough facilities, enough teaching staff, available resources, lots of opportunities for students for exposure, and educated parents but it is just the opposite in the rural setting. Urban students are privileged with better Internet connectivity and technology to engage in self learning through research and exploration.

One teacher responded that if remote schools do better in academic, it could be because students get guided time to study for boarding school. Moreover, most of the children in rural schools are focused

in learning but in the town, children lose focus due to several distractions in and around. On the contrary, a teacher responded that reading habits of rural schools are poor. In remote school, most of the parents are illiterate and they are not able to guide and support in learning due to lack of education. The students have limited or no access to technology for learning. Their learning is within the classroom and the textbook.

e) Which school does better in academic learning, remote school or urban school? Give some reasons to support.

14 (56%) of the teachers' respondents mentioned that students in urban schools are doing better in academic learning. According to them students get ample of time to learn, get support from their parents, get additional resources to explore and learn. It is also because there are fewer number of illiterate parents in the town. Many educated parents in urban schools engage in teaching their children at home. According to the teacher respondents, there are more facilities in urban schools and students are exposed to better learning environment. The students in remote schools' only source of learning is textbook and their teachers in the classroom. They do not get adequate guidance and support from their parents who are mostly illiterate. There is not much of healthy environment to motivate them.

Interestingly, 6(24%) of the teachers' respondents said that students in remote schools perform better academically, physically, socially and emotionally. The reasons stated by the teachers are sstudents have opportunity to study more during study time allocated by the school, good management skills and proper school academic policies. One teacher also mentioned specifically that rural schools do better in some other subjects but not in English.

5(16%) of the teachers' respondents are of the view that location of school has nothing to do with the student's academic performance. This group of teachers feel that it purely depends on individual student's characteristics, culture of school academic, experience and expertise of the teachers. A teacher also mentioned that currently there is mixed evidences about the performance of the students in the remote and urban schools.

f) As a teacher, will you prefer to teach in remote or urban school? Why?

14 (56%) of the teachers' responded that they would prefer to teach in urban schools. The reasons stated are teachers get a chance to explore and learn new things, better facilities, teachers can enjoy the modern facilities, the students and parents are competitive and teachers also learn in the process, parents are mostly educated and help their children, parents and children are more concerned and come forward for learning where as it is not in remote environment. A teacher also mentioned that resources are easily available, students can even learn from their parents, and teachers don't have to work hard. It is also because teachers get support from parents, there are less teaching periods, good exposure for the teachers, medical facilities and conducive working conditions. One of the teachers mentioned that in urban school, teacher can keep themselves updated and teach better with all the latest information in hand.

However, there are still 5(20%) of the respondents who prefer to work in the remote schools. A teacher stated that it is the love for teaching and also feels that more effort can be given in teaching. The teacher is also of the opinion that in town, there is not much of effort from the student's side.

Another teacher mentioned that remote school is preferred because children are more obedient and responsible, they are disciplined and respectful and lesser number of students. One more teacher respondent indicated that serving remote school is good and preferred but the working conditions and other aspects needs to be looked into by the relevant stakeholders so that teachers in the remote schools will not be demotivated.

There are still 6 (24%) of the respondents who has no preference over the school location. One teacher mentioned that there is unique charm in both the places. Another teacher responded that being a teacher, they should be able to adjust in any kind of place.

A teacher said that both the location has its own advantages and disadvantages, and it could be fine for the teachers as their responsibility is to teach. In remote schools, students are less distracted by other activities and more focused. In urban schools' students have access to different sources of learning beside the textbooks. One teacher also mentioned that the location of the school did not matter much as it was the passion and responsibility to teach.

g) As a teacher, will you prefer to teach the class with more students or less students? Why?

23 (92%) of the teachers' responded that they would prefer to teach in the class having fewer number of students. This is because teachers feel that they can give more attention, proper guidance can be given to students, teachers can understand the student's strengths and weaknesses. Moreover, teachers feel that it is convenient for the teachers to do timely assessment with equal attention and care.

A teacher also mentioned that more contact teaching can be done in a small class and deliver quality education. Another teacher responded that if there is less students in the class, a teacher can provide one to one attention and teaching can be done as expected.

Interestingly, one teacher mentioned that if there are fewer students, assessments can be done fairly. Moreover, resources can be enough if there are fewer students. Moreover, a teacher mentioned if there are fewer children, their needs can be met. It is also stated that teachers can get ample of time to do the notebook correction, give feedback immediately, it is easier to manage the classroom behaviors, and more focus can be given for teaching and learning.

2(8%) of the respondents mentioned that they are not much concerned about the lesser or a greater number of students but then they would prefer to have suitable or moderate number of students in the class. They suggested the school management and policy makers to take this into consideration for future plans and implementation.

h) Any other views/opinion?

A teacher mentioned that all the schools, both remote and urban school have same qualified and trained teachers. The performance of the students in academics will depend on students and parents. Another teacher shared the opinion that reduced classroom size will lead to better learning. Besides, the performance of the school also depends on the number of good students in the school and their academic motivation which further depends of social support and family support (Hidajat, Hanurawan, Chusniyah & Rahmawati, 2020).

A teacher responded that the academic performance is not only affected by the location of the school but it is also affected by the type of the community in and around the school. Hidajat, Hanurawan, Chusniyah and Rahmawati (2020) mentioned about the greater impact of social support and academic motivation which comes from the families.

A teacher suggested the Ministry to look into teacher-students ratio for better academic standards and the teacher also hope that the policy makers will consider classroom size and the number of students in the class. The teacher also suggested that all the structures in and around the school to be investigated properly, to create conducive learning and working atmosphere for both the students and teachers. This is important because teachers work motivation plays a significant role in motivating the students learning (Amtu, Makulua, Matital & Pattiruhu, 2020).

CONCLUSION, DISCUSSION AND SUGGESTIONS

The correlation analysis between the number of students in the school and school performance clearly showed that schools with lesser number of students perform better than the schools with a greater number of students. However, there is no specific number of students mentioned in other studies and it is not done in this research too. But it is crucial for the schools to maintain appropriate number of students to have good performance of the school. There is no standard number of students specified for the schools in any of the research done in other countries. But knowing that there is a relationship between the number of students in the school and school performance, there is a need for the government and policy makers to come up with standard number of students in the school. Otherwise, there is a danger of creating disparity between the schools and students. The students studying in the school with lesser number of students will receive more benefit than other students who are in the school with large number of students. Therefore, it is imperative to have a standard size of the schools with the number of students specified.

The comparison of performance of the rural and urban schools clearly indicated that rural schools have done slightly better in 2017 to 2019. But what are the factors that contributed for these differences in the performance of rural and urban school is not known through this research. However, most of the schools in rural areas have lesser number of students than the schools in urban areas. Perhaps, one of the factors could be the number of students in the school that have influenced the performance of the school. Lesser the number of students in the school, better the performance of the school and vice-versa. On the other hand, there are several studies done in other countries which mentioned that urban schools are performing better than the rural schools in many aspects. The findings of the research done in Bhutan are different. But why is it that the students in rural schools in Bhutan are doing better than the urban school? Is it because of the smaller number of students in the rural school? These are the two questions that need to be looked into for better understanding of the correlation between the number of students in the schools and school performance, and the correlation between the school location and the school performance.

The correlation analysis for class 10 (Bhutan Certificate of Secondary Examination, BCSE) and 12 (Bhutan Higher Secondary Certificate Examination, BHSCE), board exam of Bhutan for the year 2015-2019 between the number of students in the school and school performance was found to be negatively correlated except for 2015 which was found to be slightly positive correlated. The correlation coefficient calculated was less than -0.4 for 2017 to 2019 and 0.02 for 2015. From this, the study concluded that higher number of students in the school negatively affects the student's academic achievement. This is in concurrent to the findings of similar study done by Greenwald, Hedges, and Laine (1996), Lee and Smith (1997), Wending and Cohen (1981), and Babatunde and Olanrewaju (2014). As the number of students increased, overall pass percent of the school decreased by some margin and vice-versa. To be precise, the average pass percent decreased for last three years with the increase in the number of students in the school. The average pass percent of the schools for three years from 2017 to 2019 was compared with different size of students and found that pass percent was higher for the schools with lesser number of students. This also proves that the number of students in the school has some influence on the school performance. The findings from qualitative analysis showed that 92% (23) of the teachers responded indicated their preference to teach in smaller class as they think it would be easier to teach, manage the class, teach effectively, do the corrections on time and give timely feedback, give individual attention and guidance to all the students.

However, the findings from this research do not ascertain that the correlation will be negative all the time. This is because Ntibi and Edoho (2017) clearly mentioned that the results are mixed; some studies showed positive relation and some studies showed negative relation. This is further supported by Onuoha (2010) who argued that there is no significant difference between student's academic

achievement in rural and urban areas. This could be possible because there are several factors that can affect the school performance which is not taken into account in this research.

The comparison of APP between urban and remote schools for the year 2019-2017 showed that the APP of remote school was higher than urban school but it was just the opposite for 2015. Although the difference in APP between urban and remote schools in 2018 and 2019 was 0.3 and 0.5, respectively. However, the difference was more in 2017 with 3.6 percent. In 2015, the difference was -2.3 which means APP of remote school was more than urban schools by 2.3. For three years, the APP of remote schools were found to be more than urban schools except for 2015. Therefore, the performance of remote schools is slightly better than the performance of the schools in urban schools. The findings from qualitative analysis showed that 24% (6) of the teacher respondents said that students in remote schools perform better academically, physically, socially and emotionally. Students have opportunity to study more during study time allocated by the school, good management skills and proper school academic policies were some of the reasons stated by the respondents. One teacher respondent specifically mentioned that rural schools do better in some other subjects but not in English.

This finding is different to the findings of Considane and Zappala (2002) who mentioned that geographical location does not significantly define the outcomes in school performance. Moreover, the findings contradict the findings of Adepoju and Oluchuwu (2011) and McCleery (1979) who mentioned that the students' in urban school performed better than the students in rural students. Even, Nwogu (2010) posits that rural students exhibited more learning difficulties than the students from urban schools in the learning of mathematics and science. Similarly, it contradicts the findings of Ahiaba and Igweonwu (2003) who found that urban schools performed better than the rural schools in mathematics and basic science, Owoeye and Yara (2011) found that urban schools had better academic achievement than their rural counterparts in senior certificate examinations in Ekiti state. In a study by Downey (1980), the scores of rural students were found to be few points lesser than the scores of urban students in an American College Testing (ACT) done in Kansas. The findings from this research suggest that there is a need of more research work to establish clear and specific evidence to compare the performance of urban and rural schools in Bhutan. This has to be done taking into consideration of other factors that can significantly affect the school performance.

The p-value calculated from the t-test done with the result of rural and urban schools showed that the difference in APP was significant for the year 2019, 2018 and 2015. The p-value was 0.3, 0.6 and 0.28 for 2018, 2019, and 2015, respectively. On the other hand, the p-value for 2017 was 0.001 which is less than p-value 0.05. This indicates that the difference in the result for the year was non-significant. To sum up, the differences in the result of rural and urban schools is not random as indicated by the statistical test.

The findings from this research showed that the performance of the students cannot be ascertained by the location of the schools. There were mixed findings from the both quantitative and qualitative analysis. However, it indicated that rural students perform slightly better in general than the urban schools. But there are a lot of things to look into specially the facilities, working environment, opportunities, resources for teaching and learning, number of teachers, and opportunities for teachers in remote schools. The literature review gives us mixed impression; some studies mentioned that rural schools are doing better than the urban schools, and some studies mentions just the opposite. Therefore, more literature review needed to be done to come to clear and common understanding.

At least, this research made clear that schools with lesser number of students performed better than the school with greater number of students. Similarly, the schools in rural schools performed better than the urban schools. Knowing this, the Ministry of Education and policy makers need to consider the findings of this research and make necessary decisions related to the number of students in the school and the locations of the school. 56% (14) teachers mentioned that the present class size, 30 students

for secondary and 24 for primary level is not the right classroom size. They are of the view that the number of students should be reduced further in order to deliver quality education. It is also imperative for the government to do extensive research on this issue and come with the policy with regard to number of students in the school and the school location. It is also recommended to do a comparative study between the performance of different class levels, class ten and twelve.

This research looked into two variables; school location and number of students in the school to study the correlation with the school performance. No other factors were taken into account for this purpose. Therefore, more research is needed to be done to understand the relationship explicitly. Moreover, the data used for this study was taken only for the last three years. This may not give enough evidence to prove that number of students in the school and school location influence the school performance. In the future studies, it would be better to include the data up to ten years or more to get good result.

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