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# **AN EMPIRICAL STUDY ON QUALITY OF EDUCATION: A CASE STUDY IN PRIMARY SCHOOLS IN WANGDUEPHODRANG DISTRICT, BHUTAN**

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**Abstract**— Since 1914 education in Bhutan has progressed by leaps and bounds, however, the quality of education system has always been a matter of inquiry and on frequent question. Hence, there have been numerous efforts to help improve the quality of education in the last decade. Also deriving inspiration from the His Majesty the King, Jigme Khesar Namgyel Wangchuck on the efforts to revamping education system in the country, the study was undertaken to understand the quality of education and educational services in the country through a case study in Wangduephodrang District.

The study is an empirical quantitative analysis. It used the SERVQUAL instrument. The data was collected through randomly distributed questionnaires through a convenience sampling method. Sample size of 334 was determined using an online survey monkey tool. The data was analysed using excel to obtain descriptive statistics and individual value data plot. Paired two sample t-test was also performed to compare means and to see the significant difference between expectation and perception of the services of each of the items and dimensions as a whole at hypothesized mean difference of zero, alpha value of 0.05.

The average gap score is at -0.4 which means that the expectations have not been met and quality of education services is unsatisfactory. Similarly, differences between the means of overall average and all the five dimensions are found to be statistically significant. Interesting to note that ASSURANCE and TANGIBILITY require immediate attention. Some of the key findings are lack of adequate teachers and staff, lack of educational and instructional materials, need to foster and widen student-teacher bonds and need to cultivate a sense of assurance. On the contrary, teachers/schools have been found to be very proactive in assisting students in need, provided right and error free services, high precedence of social bonding and communal harmony in the schools across the study area.

The study therefore, recommends relevant stakeholders to conceptualize strategies to strengthen intake/enrolment of teaching and non-teaching staff and enhance supply of educational and instruction materials to schools.

**Keywords**— Educational Service Quality, SERVQUAL, Wangduephodrang, Bhutan

## INTRODUCTION

*Education in Bhutan: From Monastery to Modern School*

Education in Bhutan as rightly phrased by Schuelka (2012) transitioned from a monastery to modern school. Just after seven years of reign Druk Gyalpo Ugyen Wangchuck the first King of Bhutan, introduced modern education in Bhutan in 1914 (Royal Education Council, 1996). Then literacy and numeracy, understanding written language was not an important skill to acquire. To an agrarian society like Bhutan, no wonder physical strength to work in the farm, know how to grow food and make a living was more important (Dorji, 2009 as cited in Schuelka, 2012). Having said that, few among many, were chosen to pursue Buddhist monastic education to learn numeracy, literacy and astrology (Phuntsho & Dhendup, 2020 as cited in Schuelka, 2012).

The first batches of forty-six Bhutanese children were sent to India and within the country. Simultaneously, Druk Gyalpo Ugyen Wangchuck built the first modern school in Haa. A year later a second school was opened in Bumthang for Crown Prince Jigme Wangchuck and some of his attendants. Similarly, especially during the reign of Druk Gyalpo Jigme Dorji Wangchuck and Jigme Singye Wangchuck an extra emphasis to modern education in the country was made (Royal Education Council, 1996).

The expansion and improvement of education facilities and services received the highest priority. Free education at all levels continued to be made available and the literacy rate rose. The Royal Government constructed additional community and primary schools in all parts of the country. In addition, vocational and technical institutes, a degree college and several monastic schools were established (Royal Education Council, 1996). Currently, as per National Statistics Bureau (National Statistics Bureau, 2020), there are 1928 schools, institutes & centers with 243,642 students, learners, trainees & novitiates in the country. Looking at the growth of school education, student enrolment alone has reached 212,845 in 2020 from 46 in 1914 and similarly, to 764 schools in 2020 from 2 in 1914 (National Statistics Bureau, 2020; Royal Education Council, 1996).



Today as Bhutan stands with commendable efforts made in the education system, it is in fact a timely moment to look back to the efforts to rethink education in the light of a modern digital space and its quality and relevance. His Majesty the Druk Gyalpo Jigme Khesar Namgyel Wangchuck during the auspicious occasion of the 113th National Day Address in Punakha Dzong on 17th December 2020, shared some concerns on rethinking education and granted a Kasho to the people of Bhutan to initiate a transformative reconceptualization of our education system. His Majesty's main concern and vision for the education system in Bhutan is a system where the children not only acquire a world-class education but also find globally competitive and gainful employment, providing them a meaning, satisfaction in their aspirations for better livelihoods. Therefore, in the light of the words of His Majesty's vision on the education system and its continued reforms, it is apparent that the role played by quality education is of paramount importance to the nation and its economic development. Also, the pace at which a country leverages modern technology will play an enormous role in shaping the nation. And given the few highlighted areas by His Majesty the rethinking efforts by the Government will be much easier. In addition, this study is an aspiration driven from His Majesty's National Address and is assumed to be timely and fit to add to the existing literature and help the Government and relevant stakeholders further get clarity on understanding the current status of quality of education: its opportunities and concerns through the lens of the learners, a case study in primary schools of Wangduephodrang District, Bhutan.

## LITERATURE

### *Quality of Education in Bhutan*

An extensive study on quality of education in Bhutan was carried out by a team of Bhutanese and Danish authors on a collaborative project in 2016. The study has considered an assessment of quality of education in the light of Gross National Happiness. In other words, the study was an elaborate perspective by different stakeholders such as students, teachers, principals, Government officials and parents (Utha, Giri, Gurung, Giri, Kjær-Rasmussen, Keller, Willert, & Keller, 2016). Some of its findings and discussions are topics relating to positive influence of infusion of Educating for GNH philosophy, working conditions to be one challenge to rendering quality services to the students (number of students, classroom and class size, availability of instructional materials and vast syllabus), poor/minimal understanding of formative assessment. Moreover, the Royal Education Council (Ning, Kam, Sundara, Chin, Hoe, & Thiruman, 2010) released a policy guideline on teacher quality enhancement and as per the study it was aimed at enhancing motivation and satisfaction of the teachers in the schools. The study as a part of recommendation released a teacher quality enhancement framework inclusive of the consideration and solutions to challenges attracting, recruiting, and retaining quality teachers. This on the other hand

can be attributed to the fact that the GROW component of the teachers is an indicator to quality of education in the country. The Centre for Educational Research and Development in 2008 discussed and published a number of studies some of which are discussed below. Sherab (2009), shared a concern that teacher dominated lessons prevailed in the classrooms. It was further discussed that there can be a strong implication on the declining quality in education. Lham (2009), noted that there is a positive impact on the student's learning process on leadership behaviour of a principal. In addition, Pedey (2009), discussed that community and social bonding had a positive impact on quality of education, the authors call for role of community in educating the children. Lhamo (2009), discussed the importance to understand self-esteem of the children. Some of the most repeating and constantly highlighted areas were school community friendship approaches to enhancing quality education, teacher and staff job satisfaction and performance appraisal systems of the teachers (Waiba, 2017; Tamang, 2009; Dorji, 2009). In a nutshell it can be concluded that there are issues pertaining to quality of education in the country and on different aspects, situations and perspectives. Hence, the study has been initiated to conduct an empirical study using a multi-dimensional approach to assessing the quality of education using the theoretical framework as discussed below.

### *The Model of Service Quality Concept*

SERVQUAL is a multi-dimensional research instrument, which is designed to assess expectations and perceptions of a service (Waiba & Chophel, 2019; Yousapronpaiboon, 2014). It is based on the expectancy-disconfirmation paradigm. In other words, it tries to validate if a particular consumers' expectation of the quality of service is confirmed or not by their real experience/perception of the service experience (Waiba & Chophel, 2019; Sabir, Javed, Ahmad, Noor, & Munir, 2014). SERVQUAL is a valid tool for evaluating service quality compared to other quality assessment methods as it has the possibility of adapting its various dimensions with service environments, characteristics and needs (Waiba & Chophel, 2019; Zafiroopoulos, 2006; Parasuraman, Zeithaml, & Berry, 1988).

The SERVQUAL model has been used in many retail and marketing studies and it has proved handy to assess quality of service in various aspects (Mattah, Kwarteng, & Mensah, 2018; Foster, 2013; Panteloukas, Asopo, & Buwag, 2012; Sultan & Wong, 2010). Also it has proven to be a good tool to study the quality of education and academic systems (Pradela, 2015; Yousapronpaiboon, 2014; Tam, 2001). It has also been used to study tourism and hospitality sectors (Stefano, Filho, Barichello, & Sohn, 2015; Díaz-Pérez, Morillo-Moreno, & Bethencourt-Cejas, 2011). Moreover, the tool has also been widely used in bank, retail sectors and online business management approaches (Hizam & Ahmed, 2019; Siu & Mou, 2005). Therefore, considering the wide range of applicability of the model and adaptability of its various dimensions with service environments (Foster, 2013; Sultan & Wong, 2010), the



study chose to carry out an empirical study based on the model and its dimensions.

Figure 1. Conceptual Framework for the Current Study (Parasuraman et al., 1988; Abdullah, Manaf, & Noor, 2007).

In this method, service quality is the gap between perceived service and expected service, which is why it is also known as the gap theory (Pradela, 2015). In other words, the gap is referred to the difference between desired/expected level of service and actual level of service (Foster, 2013).

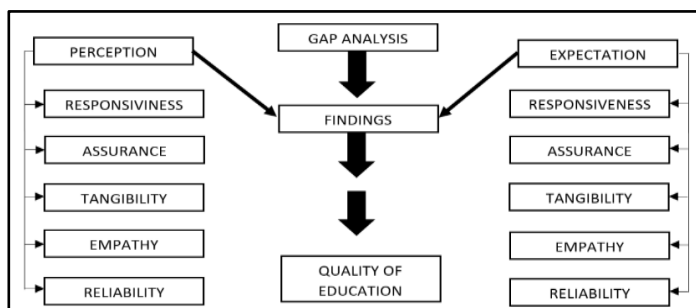
Gaps are important to be identified and it can help an individual or organization seek for a corrective action and process improvement. The means of identifying and correcting these gaps is called the gap analysis. In the gap analysis;

$$Q = P - E \text{ (Quality = Perceptions – Expectations)}$$

Where;

1. A positive gap score would mean that expectations have been met or exceeded and service quality is perceived to be satisfied.
2. A negative gap score would mean that expectations have not been met and quality is unsatisfactory (Waiba & Chopel, 2019; Parasuraman et al., 1988).

Thus, the model of service quality or the gap theory conceptualized the SERVQUAL model. Gap scores can be analysed for each individual statement and can be aggregated to give an overall gap score for each dimension (Waiba & Chopel, 2019).



#### Background and Other Related Theories & Models

The concern over management of quality in services and its importance has resulted in acceptance to service assessment worldwide today. In an organization's ever demanding and competitive backdrop service quality has been recognised as an important factor for its growth (Abdullah, 2006; Ajibisheh, Ajibisheh, & Nejad, 2007; Bahadori, Sadeghifar, Nejati, Hamouzadeh, & Hakimzadeh, 2011). Most of the past literature used the dimensional approach to assessment. Among these a number of models have evolved. To name few Grönroos model (Grönroos, 1982), Service Quality (SERVQUAL) (Parasuraman et al., 1988), Service Performance (SERVPERF)

(Cronin & Taylor, 1994), Higher Education Performance (HEdPERF) (Abdullah, 2006), Education Quality (EduQUAL) (Mahapatra & Khan, 2007), Service Quality Measurement in Higher Education Institutions (SQM-HEI) and Education Service (EDUSERVE) (Ramseook-Munhurrin, Naidoo, & Nundlall, 2010) are some as cited in Mattah et al. (2018) and Sultan & Wong (2010). These models have immensely contributed to the growth of literature and all of these models have attempted to add to the prevailing literature and find better scales for measurement and assessment of the service quality. Also, the models/scales have been framed in their respective service environments (Carman, 1990; Carrillat et al., 2007 as cited in Mattah et al., 2018). Among these scales, the SERVQUAL has been widely used and mostly criticized as well (Sultan & Wong, 2010). Despite limitations and criticisms (Sultan & Wong, 2010), the SERVQUAL instrument is the most widely used model for commercial and educational studies of service quality (Foster, 2013). It is a survey that has many advantages among which these are the few:

1. It is multiple dimensional approach and fits in different kind of service sectors,
2. It has proved to be valid for a number of service situations,
3. It has been demonstrated to be reliable, meaning that different readers interpret the questions similarly,
4. Easy data collection and questionnaire framing procedures,
5. It has a standardized analysis procedure to aid both interpretation and results.

#### OBJECTIVE

The objective of this research is to assess the quality of services by understanding the quality of educational services in the country with further evaluation of factors and dimensions associated through the SERVQUAL instrument and provide relevant feedback and recommendations. The following are the hypotheses made prior to the study.

*H<sub>0</sub>1: There is no statistically significant difference between perceived and expected overall service quality of educational services (RESPONSIVENESS, ASSURANCE, TANGIBILITY, EMPATHY, and RELIABILITY).*

*H<sub>1</sub>1: There is a statistically significant difference between perceived and expected overall service quality of educational services (RESPONSIVENESS, ASSURANCE, TANGIBILITY, EMPATHY, and RELIABILITY).*

#### METHODOLOGY

##### Questionnaire

The study is based on quantitative analysis, it assessed the quality of educational services in the country through a case study around February 2021. The sample were collected from primary students in the beginning of the academic year of the schools. The data was collected through randomly distributed



questionnaires in a convenience sampling method. Having said that, an independent survey enumerator was hired to assist and translate or explain the questions to the respondents on the field. The questionnaire was developed from the SERVQUAL model, in which there were three sections adopted with slight modification as per the given context from Waiba & Chopel (2019); Bahadori et al. (2011) as follows;  
 Section A: General Profile to collect demographic details of the respondents such as respondent code, gender, age; Section B: Expectation of Service (same 22 items in five-point likert-type scale of strongly agree, agree, neutral, disagree and strongly disagree were used); and Section C: Perception of Service (same 22 items in five-point likert-type scale of strongly agree, agree, neutral, disagree and strongly disagree were used). Link to the questionnaire: <https://forms.gle/A8hoMSN9qYqTkaHP9>.

*Study Population, Sampling, Data Analysis and Statistical Planning*

Sample size of 334 was determined using an online survey monkey tool taking the total number of enrolled primary students in Wangduephodrang District as the population size in the district at 2502, with marginal error at 5 percent and 95 percent confidence level.

The data for this study was analysed using excel (Microsoft professional plus 2013) data analysis. The SERVQUAL score was calculated between perceived service and expected service with respect to the following measures: responsiveness, assurance, tangibles, empathy and reliability. Each dimension gap score was obtained by calculating the difference (means of responses) between the perceived (P) and expected (E) service scores (SERVQUAL score = P-E). The data was also analysed through paired two sample t-test to compare means and see the significant difference between expectation and perception of the services of each dimension item of all the five dimensions at hypothesized mean difference of zero, alpha value of 0.05. Hence, if the p-value is less than the significance level, the difference between means is statistically significant.

General profile information was used to obtain basic data of the respondents and used as supportive figures in the discussion and finally SERVQUAL score was used for recommendation.

**RESULTS & DISCUSSION**

*Demographic profile*

The study noted that of the total 2,502 children in Wangduephodrang Dzongkhag as the sample population a total of 334 children were a part of this study from 23 schools in the Dzongkhag. Of these 54 percent were male and 46 percent were female respondents.

*Five-dimension Gap Analysis*

At a glance the study noted that there is a negative gap scores in all the dimensions, which in other words indicate that the services provided and the quality of education services is

unsatisfactory as per the literature (Waiba & Chopel, 2019; Parasuraman et al., 1988). It is interesting to note that the expected level of services is more than the perceived services among all the dimensions.

Table 1. Gap Scores Against Each Dimension

Items	Perception P	Expectation E	Gap G
Responsiveness	4.2	4.5	-0.3
Assurance	4.2	4.6	-0.4
Tangibility	4.1	4.5	-0.4
Empathy	4.2	4.5	-0.3
Reliability	4.2	4.5	-0.3
Average	4.2	4.5	-0.4

Table 2. t-test: Paired Two Sample for Means (Overall)

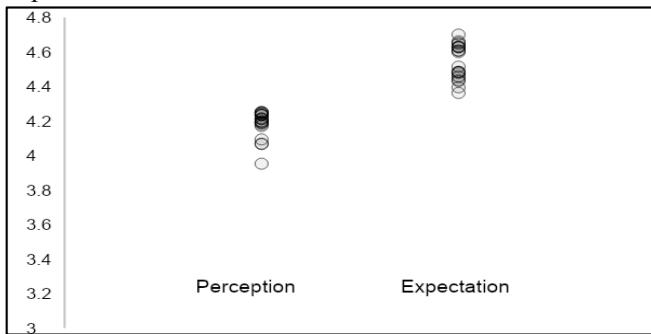
	P	E
Mean	4.192	4.548
Variance	0.003	0.001
Pearson Correlation	0.380	
P (T <= t) one-tail	0.000	
t Critical one-tail	2.132	

It is also noteworthy that dimensions such as ASSURANCE and TANGIBILITY are the key concerning factors to quality of services in the study area compared to others as per the results. Overall, the negative average gap score (-0.4) implies that expectations of the children has not been met by the current facilities and services of the schools in the study area (refer table 1). In addition, t-test result as presented in table 3 confirms that there is a statistically significant difference between the perceived and expected level of services. Hence, the study will have some scope to have recommendations; therefore, the authors have considered looking at specific survey items and dimensions to see if there are any unique and interesting findings noteworthy in the following paragraphs.

It can also be clearly understood from the individual value data plot graph (figure 2) for perception versus expectation dataset that expectation of education services for surpasses perception currently by the children in the study area. Slightly higher dot clusters in the figure depicts that there is notable difference in the means in the averages of perception and expectation of quality of education and educational services.



Figure 2. Individual Value Data Plot Graph for Perception vs. Expectation Dataset



**Dimension-wise and Item-wise Discussion**

As discussed earlier the authors have considered to look into individual items and dimensions for proper understanding of the service quality of the education in the study area. The five dimensions such as RESPONSIVENESS, ASSURANCE, TANGIBILITY, EMPATHY and RELIABILITY will be thoroughly discussed. Similarly, all the 22 individual items have also been reviewed as follows. The study also considered looking at the mean scores of the student perception and expectation to validate and confirm the null hypothesis. The null hypothesis was that there is no statistically significant difference between perceived and expected overall quality in education service and since the p-value is (two-tail) is 0.000 which is less than the significance level at 0.05, the null hypothesis is rejected. The difference between the two means is statistically significant, and therefore there is a statistically significant difference between perceived and expected education service quality. Moreover, paired two sample t-test was also done with all the five dimensions to see its statistical significance and to determine the highest and the lowest p-value and to determine the difference of means between expected and perceived education service quality.

Table 3. Gap Scores for the Items Related to the Dimension Responsiveness

Description	Gap G
Interest to support and solve problems	-0.4
Proactive role and willingness to help	-0.2
Providing required information	-0.5
Preparedness to respond to questions/doubts	-0.3
Average	-0.3

The dimension RESPONSIVENESS has scored a negative average gap score of -0.3, which implies that expectation of the children has not been met, hence, the services are unsatisfactory. In other words, the services such as school’s support and assistance system are weak. Also, the school’s lack of proactive role to assist and help children in need. Similarly,

school’s preparedness to respond to and attend to children needing help is also indicated to be weak.

One key take away or a matter of importance is that children has high expectations in how proactive and willing school is, and how well their concerns and issues are addressed. Supposedly it can also be understood that preparedness for urgent or unexpected circumstances has to be improved by the schools. Moreover, t-test results indicated that there is a statistically significant difference in the means of perceived and expected education services for the dimension RESPONSIVENESS. Providing right information in other words mean that schools could include wholesome and inclusive words of education and learning practices.

Table 4. Gap Scores for the Items Related to the Dimension Assurance

Description	Gap G
Making promises and keeping promises	-0.5
Providing services without errors and mistakes	-0.2
Confronting all learners equally	-0.4
Efficient and prompt works and services	-0.3
Average	-0.4

The dimension ASSURANCE has scored a negative average gap score of -0.4, which implies that expectation of the children has not been met, hence, the services are unsatisfactory. In other words, gaining trust and confidence of the children by the schools, error free services, equality and efficiency are some issues observed in the results.

Making promises and keeping promises is the main problem to be highlighted in the dimension given its highest negative score. Similarly, confronting all the learners equally also demands a certain attention in the dimension. Moreover, t-test results indicated that there is a statistically significant difference in the means of perceived and expected education services for the dimension ASSURANCE.

Table 5. Gap Scores for the Items Related to the Dimension Tangibility

Description	Gap G
Educational and instructional equipment	-0.5
Educational facilities for enhanced learning	-0.3
Adequacy of teachers and staff	-0.7
Adequacy of modern facilities and infrastructure	-0.4
Peaceful and green learning environment	-0.4
Average	-0.4



The dimension TANGIBILITY has also scored a negative average gap score of -0.4 similar to the above.

It indicates that expectation of the children has not been met; hence, the services are unsatisfactory. In other words, as discussed in the literature and as pointed in the literature lack of educational and instructional equipment has been a common problem in the study too. Similarly, adequate staffing, infrastructure and green learning environment are all concerns observed in the study.

One major observation and concern requiring attention in the dimension is the lack of adequate teachers and staff and lack of educational and instructional materials. Having said that, an increase in just the number of teachers may not help build on it, rather an increase in number of subject teachers would be more beneficial to the children. Promoting the subject teacher ratio would be more valuable than just the student-teacher ratio.

In addition, t-test results indicated that there is a statistically significant difference in the means of perceived and expected education services for the dimension TANGIBILITY.

Table 6. Gap Scores for the Items Related to the Dimension Empathy

Description	Gap G
Social bonding & communal harmony	-0.2
Counselling and care services	-0.4
Feedback and issue acceptance	-0.3
Access to equality and equity	-0.4
Giving constructive feedback and suggestion	-0.2
Average	-0.3

Similarly, the dimension EMPATHY has also scored a negative average gap score of -0.3, which implies that expectation of the children has not been met, hence, the services are unsatisfactory. In other words, the services such as the school's effort to enhance empathetic approach towards friendship and social bonding, counselling and care services, feedback system, equality and equity are few areas that were observed concerning in the study.

Interesting to note that due to increased efforts towards educating for GNH approaches and other holistic program developments, items related to social bonding and communal harmony has been lowly scored, although negative. On the other hand, high negative scores are for counselling and care services, equality and equity in schools also requires attention. Moreover, t-test results indicated that there is a statistically significant difference in the means of perceived and expected education services for the dimension EMPATHY.

Table 7. Gap Scores for the Items Related to the Dimension Reliability

Description	Gap G
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Safe and reliable lessons and services	-0.4
Competence and general knowledge of the staff	-0.3
Subject matter knowledge, skills and abilities of the staff	-0.4
Leadership quality of the principal/teacher	-0.2
Average	-0.3

No difference with the dimension RELIABILITY that has scored a negative average gap score of -0.3, which implies that expectation of the children has not been met; hence, the services are unsatisfactory. In other words, the services such as the school's effort to promote safety and reliable services, competence and knowledge of teachers, subject matter expertise and leadership skills of the head of school have all been scored negative. However safe and reliable lessons, subject matter expertise of the teachers have been high negative scores than any other items in the dimension, which perhaps might need attention.

Leadership role of the head of school has been lowly scored which indicates that it has been accepted to be fairly good by the children across all schools. Moreover, t-test results indicated that there is a statistically significant difference in the means of perceived and expected education services for the dimension RELIABILITY.

#### KEY FINDINGS

1. There is a statistical significant difference between the means of perception and expectation of quality educational services (overall averages & RATER), Lack of adequate teachers and staff (-0.7), and Lack of educational and instructional materials (-0.5), and
2. Teachers/school have been found to be very proactive in terms of assisting and helping the students in need, Schools/teachers is noted to have provided right and error free services to the children, there has been high precedence of social bonding and communal harmony as similarly noted by Pedey (2009), and Principal leadership to have been highly relevant and fairly well in the schools across the study area as noted by Lham (2009).

#### RECOMMENDATION

Two of the major recommendation of the study were a need to strengthen and increase enrolment of teachers/staff especially with the focus on subject teacher ration and to enhance supply of educational and instruction materials to schools for better productivity and understanding (theory and practice).

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