

# Class Absenteeism and Exam Performance of GCBS Students

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## **Abstract**

*Literature on the importance of class attendance affirms the positive effect of attendance on student achievement. Royal University of Bhutan has therefore, developed attendance policies that mandate all students to attend at least 90% of the classes in each module. Consequence of the law, every semester many students are directly declared fail in the respective module(s) of attendance shortage which do not actually represent the real learning outcome of the students. Therefore, to evaluate the actual impact of attendance in terms of learning outcomes a correlation analysis is performed using Feb.-June 2015 semester data. Results indicate a statistically significant but weak positive correlation between lecture attendance and exam performance ( $r = 0.03$ ), suggesting the requirement to improve class deliveries and course designs. Students are also recommended to develop their personality towards class attendance and learning.*

**Key words:** Attendance, Exam Performance and Correlation

## **Introduction**

### **Class Absenteeism and Exam Performance**

Rampant class absenteeism is believed to jeopardize teaching and learning environment (Brauer, 1994) and thus, considered a major problem by teachers as well as school managements. Moreover, parents regard schools as safe palaces for their children. But these believes are not new to our generations. Over centuries, governments, politicians, educators and parents in their search for a magic solution to reform the education system recognized students' regular class attendance as the top priority (Edwards, 2002). Consequently, educational institutes around the world have framed policies mandating students to attend classes regularly or at least for a maximum number of classes in a semester/year. For instance, Texas A&M University in the US mandates all students to attend classes regularly and punctually without which they will be administratively dropped from the course. Even tougher with attendance are some schools with 'three strikes policy' where the student is out of school if absent thrice (for eg.

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Midland University in the US). Compulsory school attendance laws have been enacted to protect and provide education to all children (K. Alexander & M.D. Alexander, 1998).

Similarly, the Wheel of Academic Law (WAL) of the Royal University of Bhutan (RUB) states that a student must meet his/her teachers for a minimum hour during a semester for each academic credit award. The wheel stipulates all students to attend at least 90% of the classes delivered in a semester for each module and at least 80% in case of students who are allowed medical/official/extra ordinary leave (Royal Government of Bhutan [RGoB], 2015). In GCBS students are informed of the importance of attending classes. Similarly, they are repeatedly notified on the attendance requirement in each module from the start of the semester and reminded through word of mouth by the module tutors and the deans. They are even well informed of the consequences of not meeting the required minimum class attendance in each module. Yet, students skip classes quite often and some even goes to the extent of not meeting the set minimum requirement, who are then considered fail in the module(s).

Following the attendance rule of the university a group of students are considered fail every semester in GCBS. The college has documented high rates of class absenteeism in the past and in particular, attendance record of last semester reveals student non-attendance as high as 79.5% in one module. In the spring semester (February-June) 2015, students were restricted from writing the end semester exams for not meeting the 90% attendance requirement in around 7.28% of the exams. Moreover, and particularly important is the depleting graduates' performance while in college and when in the job market. Similar trend is expected in the coming semesters if the university policy remains same and the college do not work to prevent students from missing classes frequently. Therefore, the challenge to the college management and the faculty is to identify

and implement measures that will increase attendance. As Smith (1998) asserts it “the success of the school in carrying out its primary charge of educating and socializing students is contingent on students attending school regularly”.

Given this background, attendance rule becoming stricter and stricter on the one hand and increasing number of students declared fail for not able to comply with the policy on the other, it demands from us the answer to if students are required to attend all classes to learn. This dilemma is further questioned by a strand of literature that confirms insignificant effect of mandatory class attendance on students’ learning (Hyde & Flournoy, 1986; Park & Kerr, 1990; Aldosary, 1995; Caviglia-Harris, 2006; and Chen & Lin, 2008).

This study is noteworthy in the manner that if the relationship between attendance and exam performance is not significant restructuring the course itself is necessary because the course is likely not able to offer students with knowledge more valuable than what textbooks and other materials can impart. On the other hand, a positive significant relationship would mean that attendance is important to advance learning so, whatever the problem students should attend classes regularly.

### **Why class attendance is important?**

Every student is expected to attend all scheduled sessions and other forms of instruction as defined by the programme of study with exceptions only on grounds of sickness or other extenuating circumstances, which must be documented (RGoB, 2015). Even under such extenuating circumstances students can only miss up to 20% of the classes in each module. The maximum number of class attendance requirement for the credit award steams from the logic that no student can acquire skills and knowledge without attending class or without instructions from the teachers, and in case a student works hard, his/her own

learning cannot be as much as he/she can learn by attending classes and being guided by teacher(s). Alber Einstein said, “It is only the teachers that awaken the joy in creative expression and knowledge”.

Another reason for students’ necessity to attend class is that learning takes in a sequential format, and the sequence is in many of the cases maintained by module tutors. For instance, it would be meaningless for a student to learn how to apply a theory which has already been introduced and discussed in the previous class in his/her absence. Even the textbooks and references are written in a sequential learning format which necessitates students to learn step by step. Moreover, substantial amount of information regarding assignments, quizzes, presentations and other activities are announced in the class. Student absent during a class also misses class discussions and the actual demonstration of hands-on class activities. Attendance becomes even more important when the teaching learning pedagogy is increasingly focused towards student centeredness.

In the words of DoDEA (-) regular class attendance not only improves students’ exam performance but also develops interaction with peers and provides opportunities for important communication between teachers and students. Additionally, it is stated that regular class attendance have cumulative effect on establishing life-long positive traits, such as responsibility, determination, respect for rules that are critical for developing career readiness skills and success in life. Besides, as Weller (2000) states, “student absenteeism is a waste of educational resources, time and human potential”. Rampant student absences are also believed to affect teachers’ instruction and effectiveness, create class disruptions and disciplinary issues (U.S. Department of Justice, 2001).

The problem of student non-attendance even extends beyond the institute. It affects student themselves, their families, and the community around (DeKalb,

1999). Students, by being tardy to school or by not attending classes give up their opportunity for education. They also interfere with other students' opportunity to learn by being late, absent or disruptive (Flanagan & Murray, 2002). Students skip classes to engage in unpleasant activities either on campus or in some other places. GCBS have the experience of students caught abusing substances and drinking alcohol by skipping classes.

Specific to academic performance, research shows that students regardless of gender, socioeconomic status or ethnicity, academically loses out when they have poor attendance in class (Laws, 2013). In other words, Fleming & Zafirau (1982); Redick & Nicoll (1990); Muir (2009) and many others find students' academic performance to be better when higher number of class attended. Dekalb (1999) says the actual time spent by the student in the classroom directly correlates to his/her access to education.

### **Student Progress**

Education is provided either at free of cost or at concessional rates around the world. In Bhutan, policies are in place to increase child's access to education and every year significant amount of the national budget is allocated to provide education to its citizen<sup>3</sup>. Even more, there are laws that regard education as a right to every subject of the society. However, the education system has been on doubt of success because of the questions of depleting quality of education. Timely assessment of students and institutions play a vital role in the success of education system (Lalanchette, 2012). Without assessment of learning, one cannot truly understand whether students are meeting the learning goals and expectations of the course/program. There are many measurements of student learning and

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<sup>3</sup> National budget allocation for Fiscal Year 2015-2016 states Nu.9,312.354 million allocated for Education sector alone. This stands around more than 18% of the National Budget.

progress such as his/her ability to participate in class and group, interest in the course/programme, class tests, presentations, quizzes, case studies, portfolios, projects, seminar contributions, exams, and many others. Different teachers in different universities utilize mix of those methods to assess their students' progress. Academic achievement measurement through exam is the mostly used and widely accepted mode of reporting student progress. Examination according to the WAL refers to the end of module assessment associated with a programme of study. It can be in the form of written or oral examination and can also be in the form of assessment of laboratory exercises (WAL, 2015). Similar descriptions of the term were given by Wiktionary.org, UWO (University of Western Ontario).

Many considers exam as the best assessment mode in educational institutes. Gaeddu College also believes that through examination teachers can exactly evaluate how much the students have learned throughout the semester because of the exam's higher levels of objectivity and reliability. The higher value of dependability attached to exams is because it usually comprise different types and standards of question, central evaluation of the answer scripts by dividing questions among different tutors, the coding system of the answer papers that prevents favoritism and nepotism, and the overall coverage of the courses.

### **Literature Review**

Absenteeism from the university classes is not a new phenomenon and not a problem to single university or school. Education institutes around the world experience the same problem and academicians continuously search for reasons for high degree of class absenteeism and its impact on student learning. Romer (1993) studied absenteeism in the economics classes in three US universities and found huge number of students skipping classes, averaging roughly one third. Absenteeism tended to be higher in large courses, core courses and courses with less mathematical content. In a study conducted for large US universities

Devadoss and Foltz (1996) declared student attendance to improve with each year of study. Attendance was higher on Mondays, Wednesdays, and Fridays, and higher within prime time defined as between 10 am and 3 pm.

A study conducted on the importance of student attendance Muir (2009) finds that the students who attend more classes are likely to outperform in exams. Students who attend 95% of the classes are twice as likely to pass state language-arts tests as compared to students with attendance rates of 85%. Similarly, Colby (2005) finds two in three chances of failing and an even chance of failing if a student doesn't attend at least 70% and 80% of the teaching sessions respectively. Redick & Nicoll (1990) supports the result by stating that regular school attendants have higher grades in exam than those students with high absences. Specifically, Devadoss and Fortlz (1996) find the regular class visitors to achieve higher grade on average by 0.45 points than the ones who attended only half of the classes in US universities. Likewise, Teixeira (2013) finds absenteeism to considerably lower the final academic grades while examining if attendance policy was really required in the Elite Economics School in Portugal.

Using regression model to examine the relationship between the two variables Romer (1993) finds attendance to have positive effect on the performance measured through GPA. The actual impact of attendance might be overvalued or underestimated for the presence of other variables influencing the performance. However, even after controlling the effect of extraneous variables like intelligence and motivation, the effect of class attendance was found significant. Also, Latif and Miles (2013) finds significant positive impact of class attendance on final grade in a introductory statistics course after controlling for factors related to individual ability and effort. Adopting the same approach, Paul LeBlanc III (2005) finds attendance to have significant influences on test score averages for students across sections and institutions, and whether attendance policy was

present or not. In other words, the irregular class attendants are found to wrongly answer the exam questions by about 14% (Marburger, 2006).

Studies have also revealed the importance of regular class attendance specific to a wide range of subjects. For Mathematics and English subjects using a two-way analysis of covariance (ANCOVA) for third grade students in Title One Schools (Jones, 2006) finds statistically significant relationship between class attendance and students' achievement in tests in Mathematics but no significant relation was found for English subject. This relation for Mathematics was even true for business students attending first-year at the Faculty of Economics at University of Tirana (Godolja, 2014) and (Nelson, 2014) in Liberty University. Subject wise, higher degree of correlation is found especially for those that are more mathematical by nature. Further, the importance of attendance and thus, active participation in the course is realized in online undergraduate courses too. Rapposelli (2014) unveils students' attendance to positively impact their achievement with  $r^2 = 0.154$ .

There are studies that explored to even find the threshold effect for absences. In a paper by Durden and Ellis (1995) a few absences were not found to affect students' performance. However, if absence crosses beyond four classes students' learning is observed to be adversely affected. But student absenteeism doesn't only affect their academic achievements. Studies also believe rampant class absenteeism to impede the success of universities/schools. A study for Cleveland Public Schools in Ohio (USA) finds that over three-fourths of school failures were explained through class absences (Fleming & Zafirau, 1982).

Notwithstanding the optimistic view of class attendance, there are studies that find negligible impact of class absenteeism on student learning (Chen & Lin, 2008). Caviglia-Harris (2006) finds no significant impact of class attendance while

investigating the impact of a mandatory attendance policy and absentee rates on student grades in microeconomic principles, and thus suggesting doing away the mandatory attendance policy by Salisbury University. Also Aldosary (1995) reveals the correlation between the final score in exams and the attendance level for 152 College of Environment Design students to be not very significant. Similar results were obtained in Accounting classes in South Africa (Schmulian & Coetzee, 2011), in economics course by Park and Kerr (1990), and in Electrical System subject at Dublin Institute of Technology (O'Dwyer, 2011). A study as early as in 1980s even shows that mandatory class attendance have negative effect on student learning and grades (Hyde & Flournoy, 1986). The negative effect steams from the fact that when unmotivated/ uninterested students are forced to attend lectures besides not paying attention or participating in classes, they damage the whole learning environment (Brown & Hoag, 1995).

Whatever effect class attendance has on academic performance, most studies were based on sample consisting of less than 350 observations or for particular course(s). Our study includes all 1309 regular students who wrote exams in around 33 modules under two programmes, Bachelors of Commerce (B.Com) and Bachelor of Business Administration (BBA).

## **Methods**

Two sets of data pertaining to academic semester 'February-June 2015' were obtained; student absenteeism from the Academic Dean's office and the student academic achievement from the office of the Exam Controller of the college. A total of 1309 regular (excluding backlog) students were recorded for the semesters (in II, IV and VI) under 33 diverse modules. 485 second semester students were listed under seven common foundation modules. In the fourth and sixth semesters, 609 comprised students of B.Com programme and the rest 215

were enrolled under BBA programme. Additionally, tutors' class time tables and the programme booklets have been used to advance information for the study.

GCBS have a system where every module tutor maintains daily class attendance and submits to the Academic dean's office at the end of every month signed by respective students. Towards the end of the semester before exam the aggregate attendance in each module is declared and those securing attendance below 90% are directly declared fail in the module(s).

On the learning front students of each semester are offered around five distinct modules. The courses comprise lectures, presentations, discussions, and other methods of teaching and learning. All students are assessed and graded through numerous methods like assignments, projects, class participation, class tests, presentation, discussions, and exams. Exam forms the major assessment component in almost all the modules. As many asserts, exam is the best accurate assessment mode in educational institutes. Therefore, this paper uses exam marks as the measurement of student performance in the semester.

Using these sets of data, a correlation analysis is applied to examine if class absenteeism impact students' performance in exams. The same method has been used to evaluate the impact of school absences on students' learning as measured by their performance in exam (Gatherer & Manning, 1998) and by grade point average (GPA) in Economics in the University of Salisbury (Caviglia-Harris, 2006) among others. Similar method has been used by various authors while examining relation between two variables (Subramaniam, Hande and Komattil, 2013).

Correlation analysis helps explain relationship between two variables. In its analysis scatter plots, are usually used to present basic relationship that exists between the variables of interest. Moreover, to explain the direction and strength

of the relationship a statistical tool, correlation coefficient ‘ $r$ ’ is calculated. The correlation coefficient gives us information on how closely one variable is related to the other. Stronger is the relationship, closer is the value of ‘ $r$ ’ to 1. If the two variables move in the same direction, i.e. when one variable goes up the other variable also tend to go up, ‘ $r$ ’ is positive. Supplementing those results, coefficient of determination ( $r^2$ ) is calculated to show if a variance in one variable (exam marks) can be explained through the variation in the other variable (class attendance). Higher is the value of  $r^2$  greater is the possibility of explaining the change in other variable.

### **Research Findings, Discussions and Recommendations**

The following tables present the summary statistics of data used for the analysis.

	<b>Observation</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
<b>Students</b>	1309				
<b>Modules</b>	33				
<b>Marks</b>	5147	28.96	7.38	2	47.5
<b>Attendance</b>	5004	96.07	4.26	20.5	100

	<b>Category</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative</b>
<b>Marks out of 50</b>	<i>0 to 19.9</i>	417	8.1	8.1
	<i>20 to 50</i>	4731	91.9	100
	<i>1 to 89.9</i>	357	7.13	7.13
<b>Attendance (%)</b>	<i>90 to 94.9</i>	1180	23.58	30.72
	<i>95 to 100</i>	3467	69.28	100

*Note: Readers should be reminded that the number of class attendees and the number of examinees doesn't equal for various reasons. All exam marks have been converted out of 50 for convenience.*

The extent of student absenteeism is rampant in GCBS although not as high as in some universities/schools. The record of student absences in the academic semester 'Feb.-June 2015' ranged from 0 to 79.5 percent. Data reveals that 7.13% of the students missed the chance to write exam(s) during the semester having secured attendance of less than 90%. Further analysis of the data reveals around 31% to have attendance of less than 95%. Nonetheless, the average attendance (96%) of GCBS students stands comparatively sound. Moreover, around one-third (28%) of the students have 100 percent attendance in various modules offered in the semester of study.

Comparative analysis based on the year of study reveals that Common Foundation students have better class attendance record while 13% of B.Com students and 12% of BBA final year students have attendance of less than 90 percent. However, in interpreting this result one has to be cautious of the inclusion of student leaders in this group. Student leaders of various positions have been treated differently in terms of attendance, considering their contributions to the college and university in numerous ways.

On the academic achievement, students' performance in the final exam averaged around 58% and overall pass percentage is 91.9%. In eight percent of the examinations<sup>4</sup> students secured less than 40% (below 20 out of 50 marks) and thus failed. By programme of study, BBA (IV semester) students account for highest (12.5%) failure followed by CF students with 10.5% failure rate. Appendix 1(d) graphically presents the exam performance of the students in the given semester. On account of gender, male student are the likely failures as well as class non-attendants.

On the main objective of the study, a weak positive correlation is revealed between attendance and final exam marks. Correlation coefficient of  $r = 0.03$  is obtained from Pearson's correlation coefficient<sup>5</sup>. The coefficient of determination ( $r^2 = 0.09\%$ ) explains that less than one percent of the variance in final exam marks is accounted for by the attendance factor. Analysis by programme, by semester and module-wise also shows similar results, a weak positive correlation between the two variables. In appendix 1(a, b & c) we present scatter plots for some modules.

These results suggest that lecture attendance is not necessary for students' performance. In other words, there are students who can perform better in exams by not attending classes or by preparing on their own. The same has been discovered by Devasdos and Foltz (1996) and Chan, Shum and Wright (1997). From this perspective students should be allowed to make their own decisions as

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<sup>4</sup> Students failed in 417 papers out of 5147 examinations written by 1309 students for 33 different modules.

<sup>5</sup> The strength of the correlation between two variables is interpreted in accordance to Cohen's (1988) exertion about the statistics. It says that if  $r$  is between 0.1 and 0.3 a small/weak correlation is explained. If  $(0.3 < r < 0.5)$  it is moderate correlation and if  $(r > 0.5)$  a large/strong correlation is said to exist.

to whether or not to attend classes. However, this is applicable if our intent of educating children is only to improve their performance in exams. Class attendance has something more to gain than to simply perform well in exam. Besides the exam performance, attendance for students is important for developing interaction with peers and teachers, effective utilization of the available educational resources and developing their life-long positive traits.

Alternative explanation of the result says that class deliveries are ineffective and the course designs are improper at GCBS. Ineffective and insufficient class deliveries lead to more absences and even if students make to class they do not learn as expected. Similarly, if the course is designed in such a way that students can learn on their own they are less likely to attend classes. Therefore, our policy should be shifted towards designing and delivering courses that are much beyond what are cheaply available in books and other learning materials. As Herrington (2006) puts, “the quality of learning experience has to change”. Also, a study of undergraduates at Massachusetts Institute of Technology unveils the quality and clarity of lectures, the professors’ use of relevant examples, and the teachers’ ability to engage and entertain students in the classes as the main factors that persuade students to attend class (Clay & Breslow, 2006). Devadoss and Foltz (1996) say that students are more likely to attend class if exams require critical thinking and classes are offered within the prime time (i.e. from 10 AM-3 PM). There are also suggestions to redesign courses and to make it more student-centered where students can use the current knowledge from class to construct new knowledge, leading to deeper learning.

Attendance policy was framed with the expectations that all students will attend and participate in lectures and class activities for better learning. However, another distinct critical understanding of the result explains that students are simply attending classes for obtaining attendance. This is a clear indication of

failure of the education policies, and suggests all educators to encourage and help develop students' personality.

Finally, it is noted that the results should be interpreted cautiously for the listed limitations. Firstly, since students (except student leaders of the semester) with attendance short of 90% were not allowed to write exams, exam performance data for this group were missing. Secondly, we are concerned that attendance in some modules is far from perfect. As a result direct inference drawn might be biased.

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## Appendix

*Appendix 1: Scatter plots showing the correlation between the variables of interest.*

