

The Impact of Class Size on Quality Education: A Case Study at the Tertiary Level in Bangladesh

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Abstract: The small classes¹ at tertiary level enhance student-teachers' interaction and provide a richer learning environment. Teamwork, interaction with classmates, projects and analysis of case studies are the key learning tools in many tertiary level courses. The small and diverged classes allow personalized attention as students learn different theories as well as their applications on pragmatic decision making. Our study therefore, reveals the reality on the basis of existing literature and questionnaire survey that small class size has a significant impact on the quality of education by enriching the performance of the students.

Keywords: Class Sizes², Quality Education³, Small and Medium Class Sizes⁴, Large Class Sizes⁵, Tertiary Level.

1. Introduction

We all know that the development of our nation depends on the development of our educational sector. For this reason, we are trying to increase the quality of education at all levels. In this regard, private universities are now playing a vital role in providing higher education. University Grants Commission (UGC) has come up with many rules and regulations concerning the structural development, availability of facilities, maintenance of the academic body and many more issues to develop the educational quality of private universities. Everybody welcomes UGC's move and appreciates it. Different organizations are arranging different seminars as well as programs to develop the quality of education at tertiary level institutions. Even then these types of programs do not provide us with any satisfactory outcomes. Still, the students' performance is very poor. As a result, everyone agrees that we have to do something to render quality education to students at tertiary level. To improve the students' performance, class size is very important to teachers, guardians, policy makers, even to students. It has been found from the most recent NAE (National Assessment of Educational Progress) research in United States of America that, if the class size is 25 students or less, the performance raises from 53% to 75% (Maisel, 1997). Therefore, this research paper attempts to identify the problems in providing quality education in

¹ *Small classes consist of less than 25 students.*

² *Number of students in the class room*

³ *A balanced combination of qualified teachers, available class rooms, standard course curriculum, and logistics support both for teachers and students, extra curriculum activities, and so on.*

⁴ *Medium classes consist of 25 to 35 students.*

⁵ *Large classes consist of more than 35 students.*

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large classes and thus, suggests some guidelines to develop the necessary strategies to determine an ideal class size at tertiary level in Bangladesh.

2. Objective of the study

In recent years education analysts are busy to explore the new ideas to motivate the students in different ways. Our study attempts to emphasize the significance of the class sizes to improve the quality of education at tertiary level. The specific objectives of this study are:

- a. To portray the benefit of an ideal class size.
- b. To identify how a small class size can have a positive impact on both the teachers' and students' performance.
- c. To analyze the present condition we are facing at tertiary level institutions in Bangladesh.
- d. To suggest some recommendations.

3. Research Methodology

The research is exploratory in nature. We have used both primary and secondary sources of data. The sources of secondary data include relevant journals, newspapers and so on. For collecting primary data, the target population of this study is teachers at tertiary level institutions in Dhaka.

The non-probability sampling technique (convenience) is applied while selecting the respondents. We have selected only 31 university teachers as sample for data collection purpose for this study. A complete list of selected universities is given in the appendix.

In getting primary data, interview is conducted with a structured questionnaire during March 2007 to July 2007. The questionnaire comprises of two parts. The first part consists of two questions regarding the number of students in the class and the importance on this issue. The second part comprises of twelve questions where the last one is open ended and the rest of them are close ended. Before using the questionnaire, the questionnaire is pre-tested.

After collecting the data (primary data), they have been processed and tabulated using MS-Excel. Then, we summarized the data in the table by calculating the percentage point for each response in terms of total number of respondents. Final analysis is made based on these responses and relevant statistics.

4. Literature review

Researchers have used various techniques to study how class size affects the quality of education. They have looked at the relationship between class size and student achievement, and investigated different aspects related to class size and its possible influences on educational practice. We have reviewed the relevant previous researches and their findings that have been mentioned here.

Class size reduction changes numerous features of the classroom situation. There are fewer students to distract each other. Each student in a small size class gets more attention on an average from the teacher, and more time to speak while the others listen. Small class size also reduces the level of noise in a class. One theory offered to explain the positive effects of class size reduction on student achievement simply argues that in smaller classes each student receives a larger portion of the educational resources represented by the teacher's instructional time, and consequently, learns more (Mitchell, Douglas, Christi Carson, and Gary Badarak, 1989).

In smaller size classes, many researchers have discovered that each student has received more individual attention from the teacher and students have paid more attention to their work. They have found that the curriculum took greater depth and discipline; problems diminished (Costello, 1992).

Murphy (1998) also believes that reducing class size is a significant means of improving student achievement. Besides, students in small classes have significantly outperformed the other students in both math and reading, every year, at all grade levels, across all geographic areas. Hruz (2000) states that the class size reduction will reduce classroom problems, along with improving morale for both students and teachers, and increase focus and participation.

Concentrating on an evaluation of problem areas raises the danger that large classes may be perceived as limiting language learning environments, and that positive aspects get insufficient attention (Christensen, 1994). Language teachers sometimes avoid specific activities because they are difficult to implement in larger classes. These findings are based on language teachers' experiences. However, teachers of all subjects may experience most of these difficulties while they are working with a large number of students (Zhao, 2004).

According to Murphy (1998), these findings indicate that smaller class sizes do lead to substantially faster gains in reading. Zurawsky (2003) also agrees that reading achievement has increased with smaller class sizes, especially for those of a minority.

However, Cromwell (1998) has identified that the most clear-cut problem with reducing class size is the cost. Significantly more must be spent on added teachers and added space to limit class size. Costello (1992) also holds the opinion that if small class size does improve achievement, it should be considered no matter how costly it can be. All students have the right to have the best educational setting that can be provided. The continued search for providing the best educational environment is the responsibility of all. Therefore, teachers argue that smaller class sizes lead to effective teaching and improved learning.

This study specifically, considers the impact of class size on quality education. As a result, our study attempts to identify the problems in providing quality education in large classes and thus, suggests some guidelines to develop the necessary strategies to determine an ideal class size at tertiary level in Bangladesh.

5. Analysis and Findings

In our study, the tertiary teachers were asked to give their opinions, suggestions, and experiences that they have had during teaching in the large classes.

◆ Importance of Class Size

Here we found that 96.77% teachers responded 'yes' and 3.23% responded 'no'. The feedback we received from the teachers indicates that it is an important matter and has greater impact on teachers' and students' performance.

5.1 *The impact of class size on teachers' and students' performance*

Table 1: The impact of class size on teachers' and students' performance

Strongly agree	61.29%
Agree	35.48%
Disagree	3.23%
Strongly Disagree	0%

The table demonstrates that 61.29% of the teachers strongly agreed and 35.48% agreed that class size did have impact on the teachers' and students' performance. On the other hand, only 3.23% disagreed with this issue.

5.2 *Large Class sizes contribute negatively to teachers' achievement*

Table 2: Large Class sizes verses Teachers achievement

Strongly agree	41.94%
Agree	41.94%
Disagree	12.90%
Strongly Disagree	3.23%

It is mentionable that 41.94% of the teachers strongly agreed and 41.94% agreed that their achievement was disrupted because of large class size. Table also shows 12.90% disagreed that their achievement was affected because of large class size. Only 3.23% strongly disagreed that their achievement was decreased. They think that they can improve their teaching skill and enrich their knowledge with many ideas from many students.

5.3 *Large Class sizes contribute to a decrease in students' achievement*

Table 3: Large Class Size verses Students' achievement

Strongly agree	35.49%
Agree	58.06%
Disagree	6.45%
Strongly Disagree	0%

Here, 58.06% teachers agreed that large class size decreased students' achievement at class rooms. Yet, 35.49% teachers strongly agreed with this statement. But 6.45% opined that large class had no impact on students' achievement.

5.4 *Small and Medium class sizes enhance the student-faculty interaction*

Table 4: Small and Medium class sizes enhance student-faculty interaction

Strongly agree	54.84%
Agree	41.94%
Disagree	3.23%
Strongly Disagree	0%

Most of the teachers marked positively on this issue because they discovered that in smaller size classes, each student had received more individual attention from them and students had paid more attention to their work. As a result, we found that 54.84% of the teachers strongly agreed and 41.94% agreed that small and medium class sizes enhance the student-teacher interaction.

5.5 Small and Medium class sizes provide a richer learning environment

Table 5: Class size verses learning environment.

Strongly agree	61.29%
Agree	32.26%
Disagree	6.45%
Strongly Disagree	0%

Majority (61.29%) of the teachers strongly agreed and 32.26% agreed that small and medium class sizes did provide a richer learning environment. Only 6.45% teachers responded that small and medium class sizes did not provide a richer learning environment.

5.6 Teamwork, interaction with class mates, projects, and analysis of case studies are affected by class sizes

Table 6: Teamwork, projects, and projects' productivity verses Class Size

Strongly agree	35.48%
Agree	48.39%
Disagree	12.90%
Strongly Disagree	3.23%

Teamwork obviously is an important weapon at tertiary level education including projects, and case studies to develop students' efficiency. These activities help students to develop their analytical ability and make them competent for the future. The table shows that 35.48% of the teachers responded as 'strongly agree', whereas 48.39% agreed with this issue. Only 12.90% marked 'disagree' and 3.23% strongly disagreed.

5.7 Larger classes have more discipline problems

Table 7: Class size verses Discipline problem

Strongly agree	48.39%
Agree	29.03%
Disagree	22.58%
Strongly Disagree	0%

48.39% teachers strongly agreed and 29.03% agreed that teachers faced more difficulties in large classes to control discipline problems. Only 22.58% responded negatively.

5.8 *Smaller classes allow more time for teachers to spend on mathematics skills which can increase students' achievement*

Table 8: Class size verses time spend by teacher for the student

Strongly agree	45.16%
Agree	48.39%
Disagree	6.45%
Strongly Disagree	0%

The teachers of mathematics opined that more time was required to enhance students' achievement. Teachers having much experience with large class and less experience with small class expressed that class atmosphere in small class was pretty better, and students in small classes received more concentrated attention. They also expressed that they enjoyed more flexibility in imparting students, applying different techniques, dealing with each students etc. In this table, it is seen that 45.16% teachers strongly agreed, followed by 48.39% agreed that smaller class allowed them more time to spend on mathematics which actually improved students' achievement and performance.

5.9 *Language teachers have difficulties grading the large flow of students' work, including essays and papers*

Teachers who taught literature at tertiary level required more time to evaluate students' work such as essays and quiz papers. It took more time for the teachers to evaluate the language based subjects. The language teachers mentioned some difficulties that they had been facing while teaching in a large class such as failing to make the class communicative, give proper attention to each student, get responses from all the students etc. The study shows 29.03% of the teachers ticked 'strongly agree', while 64.52% ticked 'agree'. Only 3.23% disagreed and 3.23% strongly disagreed the issue. So, we found that maximum number of teachers considered that large class sizes had difficulties to evaluate class works including essays and examination papers.

Table 9: Class size verses evaluation of language students

Strongly agree	29.03%
Agree	64.52%
Disagree	3.23%
Strongly Disagree	3.23%

5.10. *Small class sizes can be an effective marketing tool to attract students*

Table 10: Class size verses students' attraction

Strongly agree	29.03%
Agree	54.84%
Disagree	16.13%
Strongly Disagree	0%

In response to this question 29.03% teachers responded as 'strongly agree'. Whereas 54.84% ticked 'agree' that small class size could be an effective marketing tool to attract the students for quality education at class room. Only 16.13% teachers opined negatively.

5.11 Class size reductions are costly and should not be a possibility

Table 11: Class size reductions are costly

Strongly agree	3.23%
Agree	12.90%
Disagree	58.06%
Strongly Disagree	25.81%

Class size reduction is definitely costly but not impossible in terms of quality education. Costello (1992) opines that if small class size does improve achievement, it should be considered no matter how costly it can be. All the students have the right to have the best educational setting that can be provided. It is mentioned that the tuition fee charged by the most of the private universities in our country is as costly as their provided class size which is currently on average 46 students par class. As a result, it is found that 25.81% teachers strongly disagreed, and 58.06% disagreed with this statement. Only 12.30% teachers agreed and 3.23% teachers strongly agreed.

5.12 Optimum Class Size

Table 12: Optimum Class Size

Preferred Class Size (number of student per Class)	Number of respondents (Teachers)	Percentage
25	12 out of 31	38.71%
30	6 out of 31	19.35%
35	11 out of 31	35.48%
40	2 out of 31	6.45%

The average class size in Hong Kong is 30.8 pupils while in Canada it is 9.3 and in both the United States of America and United Kingdom it is about 20 (Glassepal,1983). We didn't find any teacher preferring more than 40 students as an optimum number. 38.71% teachers suggested that 25 students would be the optimum number. Whereas, 19.35% teachers agreed that 30 students would be the optimum size. On the other hand, 35.48% teachers agreed that 35 numbers of students would be the optimum number for the ideal class and only 6.45% agreed that 40 students would be the optimum number for an ideal class size.

6. Recommendations: From the above findings and analysis we come up with some recommendations:

- To improve the level of quality education at tertiary level institutions, it is important to reduce class sizes. But before doing that we have to consider the proper allocation of resources, like qualified teachers, logistic facilities (for both teachers and students). In considering all the above issues, the tertiary level institutions have to come up with a better strategy to allocate their resources and ensure an optimum class size.

- For better education it is better to make the class size ideal which should be confined to 25-30 students, considering the existing facilities the institutions provide at tertiary level.
- Along with reducing the class size from existing size, if adequate facilities (like qualified teachers, logistic supports etc) are allocated to the classes, this will ensure the intended quality education at tertiary level in Bangladesh.

If the teachers infuse team work, projects, creative works, presentations, group debate and interactions among the students in an ideal class, it will definitely contribute to providing quality education.

7. Conclusion

Information received from the teachers helped us to determine the ideal class size that can help to improving the quality of education at tertiary level. The teachers usually taught on average 46 students at the private universities and 80 students at public universities. So, they faced difficulties in large classes. Our study shows how teachers' and students' achievement and performance failed to reach a standard level because of large number of students. Teachers marked that small and medium class sizes improve classroom situation and generate better learning environment. Study findings reveal that it is possible to reduce current class sizes because cost is an insignificant issue compared to quality of education (disagree 58.06% and strongly disagree 25.81%). Our assertion is justified on the basis of current tuition fees per credit charged by the private tertiary level institutions in Bangladesh.

8. References

1. Andrew Maisel.(1997), The impact of class size: Does it make a Different.
Retrieved from World Wide Web <http://www.superkids.com/aweb/pages/features/reading/readtest.shtml>.
2. Christensen, T. (1994). Large Classes and Their Influence on Language Teaching.
Journal of Hokusei Jr. Col., Vol.30, pp.121-129 (ERIC Document Reproduction Services No. ED400035).
3. Costello, P. (1992). The Effectiveness of Class Size on Reading Achievement (ERIC Document Reproduction Services No. ED400035).
4. Cromwell, S. (1998). *Are Smaller Class Sizes the Answer?* Retrieved September 25, 2006 from Education World.
5. Glass, G., Cahen,L.,Smith,M and Silby,N.,1982.School Class Size-Research and Policy .Begarly Hills: *SAGE Publications*.
6. Hruz, T. (2000). The Costs and Benefits of Smaller Classes in Wisconsin: A Further Evaluation of the SAGE Program (ERIC Document Reproduction Services No.ED448496).
7. Mitchell, Douglas, Christi Carson, and Gary Badarak (1989). How Changing Class Size Affects Classrooms and Students. Riverside, CA: *California Educational Research Cooperative, University of California*.
8. Murphy, D., Rosenberg, B. (1998). Recent Research Shows Major Benefits of Small Class Size, *American Federation of Teachers*, Vol. 3, pp.1-3.

9. Zhao, H., Grimshaw, T. (2004). Expatriate Teachers' Adjustment to Teaching Large EFL Classes in China, *TEFL Web Journal*, Vol.3.
10. Zurawsky, C. (2003). Class Size: Counting Students Can Count. *American Educational Research Association*, Vol.1, pp.1-4.

APPENDIX
Name of the Universities

Dhaka University
Jahangirnagar University
Daffodil International University
American International University Bangladesh
Prime University
East West University
Brac University
United International University
University of Development Alternative
Stamford University