

**THE EFFECT OF CLASS SIZE AND OVER ON THE ACADEMIC
PERFORMANCE OF SECONDARY SCHOOL STUDENT**



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ABSTRACT

Similar to how the size of the class has dramatically increased, a balloon filled with air expands and finally explodes. Class size is a persistent problem in education, and it is rising in many districts. With a very visible 36, what was previously a typical classroom at age 29 is now overcrowded. Large classrooms may have a detrimental impact on students' academic performance, according to researchers and educators. This is made up of a decline in the academic performance of students in bigger classrooms and an improvement in the academic performance of students in smaller classes. The argument is that larger classrooms provide teachers less one-on-one time with each student, which results in less instruction time and poorer test scores. Additionally, it is implied that because there are more pupils in a larger class, disciplinary issues increase. Contrarily, in a smaller class, pupils are given more instructional time and are better able to concentrate on the material being taught rather than discipline or other problems going on in the room. According to research, student success is increased by reduced class sizes. Therefore, it is crucial to look at class size and how it influences learning.

Keyword: smaller classes, academic performance, larger classrooms,

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INTRODUCTION

The achievement of students is something that educators are constantly looking to improve. Among them include using tactics and learning about strategies. Numerous teaching strategies and approaches are among the other options. Administrators and politicians frequently put pressure on teachers to increase test performance. Most schools have incredibly high class sizes, which some people think is why test results are lower. However, if they shrank in size, kids could have chances to improve their academic performance.

LITERATURE REVIEW

This researcher is reviewing previous research that has been done that implicates that class size has an affect on student achievement. Numerous research pieces were examined. Throughout existing years various studies and methods have been used to investigate whether or not there is a true correlation between class size and academic achievement. After reviewing these various studies, this researcher has been able to use them as factors in discovering the extents of class size on academic achievement. These literature reviews have allowed this researcher to include numerous strategies into this case study. Also, the constructs examined in the study are based on the literature review.

The CSR Program Stecher (2001) investigates the CSR (class-size reduction) program that took place in California. The investigators performed a qualitative research study to discover if reduction in class sizes has a positive impact on student achievement. Ninety-eight percent of eligible school districts participated in the CSR program. It began with the reduction of the number of students in kindergarten through third grade classes. Classes that normally had about 30 students were reduced to a maximum of 20 students.

Meanwhile, the governor and the legislature spent an estimated \$1.5 billion on these class reductions. The students in these CSR programs were continually tested and their scores were compared to other classes that were not part of the CSR program. Students who were in the classroom of 20 students, total scores continued to improve. Stecher, 2001 states that “Third grade students enrolled in reduced classes performed better on the Standard Achievement Test (SAT-9) than did students in regular-size classrooms” (p 17). They argued that not only did students benefit academically from these reductions, but that the teachers were able to spend more time teaching students individually. They were able to devote more time to instructing small groups and to working with individual students on mathematics and language arts lessons than did teachers whose classes were not reduced in size. Murphy, 1998 states that “Students enjoyed significantly greater improvements in test scores in reading, language arts and math” . Also, they were able to pay more attention to poor readers than they had in the past and were able to focus on individual student skills. Results remained to progress even after the third year of implementing the CSR programs, that is those particular students scores continued to rise on state tests as they were followed from one grade to the

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next. Regardless of family income, fluency in English, or minority status, the students in the smaller classes achieved higher academic success than those in larger classrooms.

Hopkins, 1998 reveals that “Today, about a million of the state’s pupils are in classes of twenty students or fewer. Reports of participation reveal and early test results indicate that the program has had some success” . Based on this research, results illustrate that smaller class sizes did increase student achievement, based on higher scores on standardized tests.

Furthermore, that the CSR programs benefits both teachers and parents. Teachers have more instruction time with students individually and also more time to communicate with parents.

McCluskeys‘, 1978 reveals that the question of class size has produced various results regardless of the variables used in studies, including achievement, teacher behavior, instruction method, etc.). McCluskey explored the extent at which class size or mode of instruction affects student achievement or makes a difference in classroom process. During his deployment of a classroom observation instrument, he inspected class size and the educational process. In doing so, he used an alternate analysis technique to collect various data.

McCluskey, 1978 supports that “smaller class size is a means to the goal of improved classroom process”. However, with the same data, he also showed that mode of classroom instruction is the principal variable that affects the classroom process score. This research investigates the shift in findings made by the alternative analysis technique. McCluskey’s conclusions are that smaller class sizes do improve academic achievement.

Hopkins, 1998 claims that class size is an issue, although teaching techniques are significant as well. What is still undetermined, is how much teacher mode of instruction plays a part in this achievement increase. Murphy, 1998 “Reducing class size is a significant means of improving student achievement, but it is not the only piece”.

In the state of California, the CSR (class-size reduction) program has been introduced and has been part of their education process for almost ten years. CSR has generated many positive outcomes for the education system in California. Others, like Guillemette, 2005 feel that reducing class sizes is enormously expensive and should be investigated further, before any changes are to be made. Even though state test scores and academic achievement have continued to increase, the question is whether or not these positive results will be recognized and took into account in other school districts as well. Cromwell, 1998 states 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 Other issues at hand include physical space, finding qualified teachers and having a budget enabling districts to pay new teachers’ salaries. Although, smaller class sizes increase student achievement, schools must have the monetary supply to do so.

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Zurawsky, 2003 reminds researchers that the amount of reducing class sizes will depend on how much reduction is needed in the first place. Therefore, the cost may vary for different districts.

Mitchell, 1989 states that there are “Three factors—research motivation, the effects of confounding variables, and problems related to distinguishing between student achievement and other classroom process changes—are largely responsible for the divergent, sometimes conflicting views expressed in the literature. Throughout all the research that has been done on class size in previous and recent years, many different views have been brought about. Researchers have struggled with both pros and cons that stem from implementing smaller class sizes.

RESEARCH METHODOLOGY

The methodologies utilised in the research process are described and discussed in this chapter along with the qualitative and quantitative approach used to carry out this investigation. The creation of the research design is also covered in this chapter. The study design was sequential exploratory mixed techniques. The methods used to create and analyse the data are discussed.

DATA ANALYSIS

ANALYSIS OF THE RESPONSES FROM STUDENT QUESTIONNAIRES

The objective of this study's quantitative component was to investigate the relationship between student success and class size. Information about the sample in relation to the descriptive statistics and the findings of the connection in analysis are contained in this chapter. Questionnaires were distributed to the lecturer B students, who were required to complete them. Following analysis of the replies, the findings are given in the two separate groups. Group 1 consists of the smaller group, whereas Group 2 consists of the bigger group. Because Lecturer B's class would have the smallest size of any lecturer's courses, he was chosen for the position. As a result, this lower class size provided the ideal setting for the most accurate comparison of class sizes. The graphs and figures below illustrate the results.

4.3.1 Small group survey analysis

There were 31 pupils in the class. There are 54 enrolled students in the course. The instructor claims that it is usual for students to skip lectures for a variety of reasons, with scheduling conflicts for returning students ranking as the primary cause. The researcher concentrated on the questionnaire's questions and examined the students' answers to those questions. The replies' varied tendencies are given in tabular and graphical form.

Q.1. Are you happy with the size of your class?

Students' feelings regarding class size

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Answer	Actual	%
Yes	12	39
No	19	61

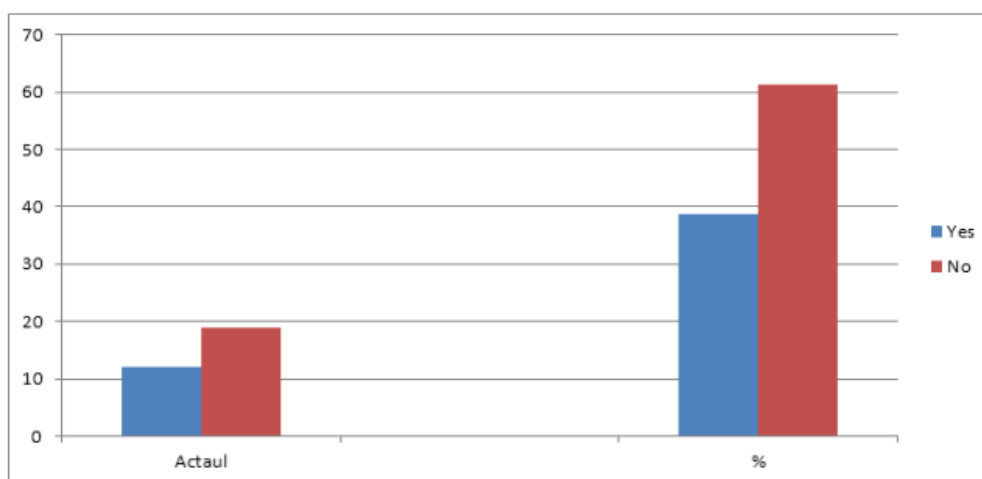


Figure 4. 1 Responses from Table 1a

In Fig.1a, the blue graph represents the actual number of students whose response was a “yes” on the left hand side, while that figure is indicated as a percentage on the right hand side. The same format is used for red, representing the number of students whose response was a “no”.

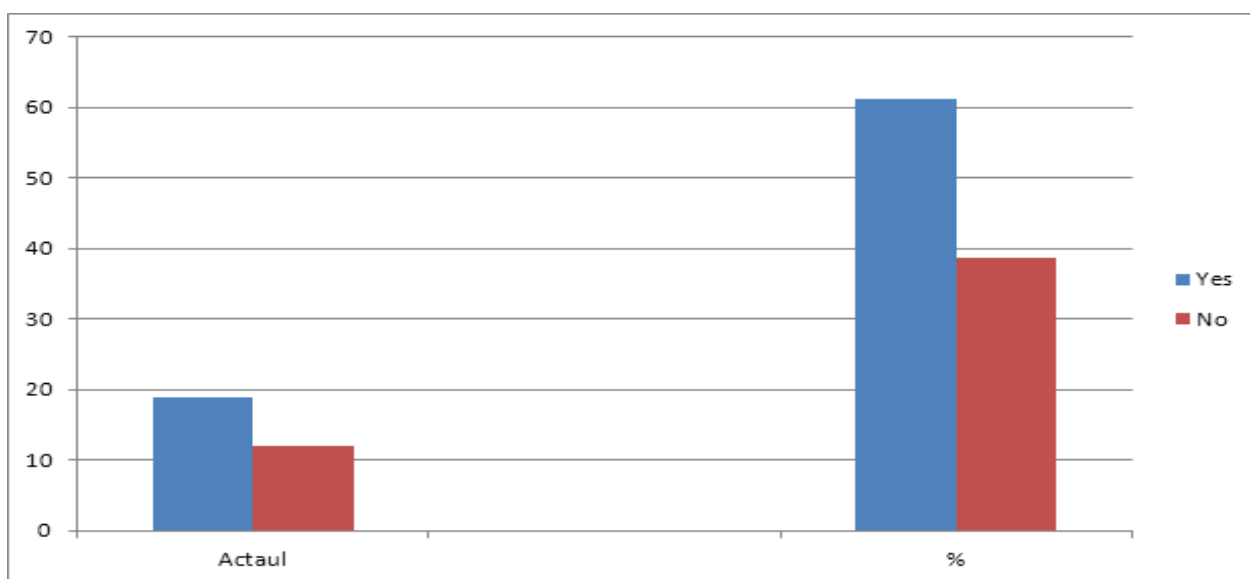
Q.2 . Do you think class size has any bearing on your performance?

Response to link between class size and performance

Answer	Actual responses	%
yes	19	61
no	12	39

The data collected from answers to question 4 are presented in tabular format in the graph below. It is clear that 61 percent of the class believed that student performance and accomplishment are significantly impacted by class size.

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Link between class size and performance

If yes, rank 5 reasons according to the strongest one.

The information below gives the general reasons given by those students who responded “yes” to question 4.

- The lecturer becomes overwhelmed resulting in lack of personal attention to students.
- Difficulty in keeping attentive because of noise, interruptions and general disruptiveness by unruly elements.
- Hearing the lecturer from the back is difficult thus raising issues with him/her is also difficult.
- When the class is big it gets stuffy and hot thus concentration is adversely affected.
- Sometimes information hand-outs are insufficient and students have to either share or simply just do without, space constraints also disrupt attention.

If no, rank 5 reasons according to the strongest reason

The following responses ranked top and were most frequently provided by the students.

- Students should exercise self-discipline and focus on studying.
- Self-reliance and individual performance does not depend on the presence or absence of others.

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- Sitting nearer to the front or closer to the lecturer will help.
 - Doing what is expected of you in class will positively affect your performance.
 - Students must pay more attention during lectures.

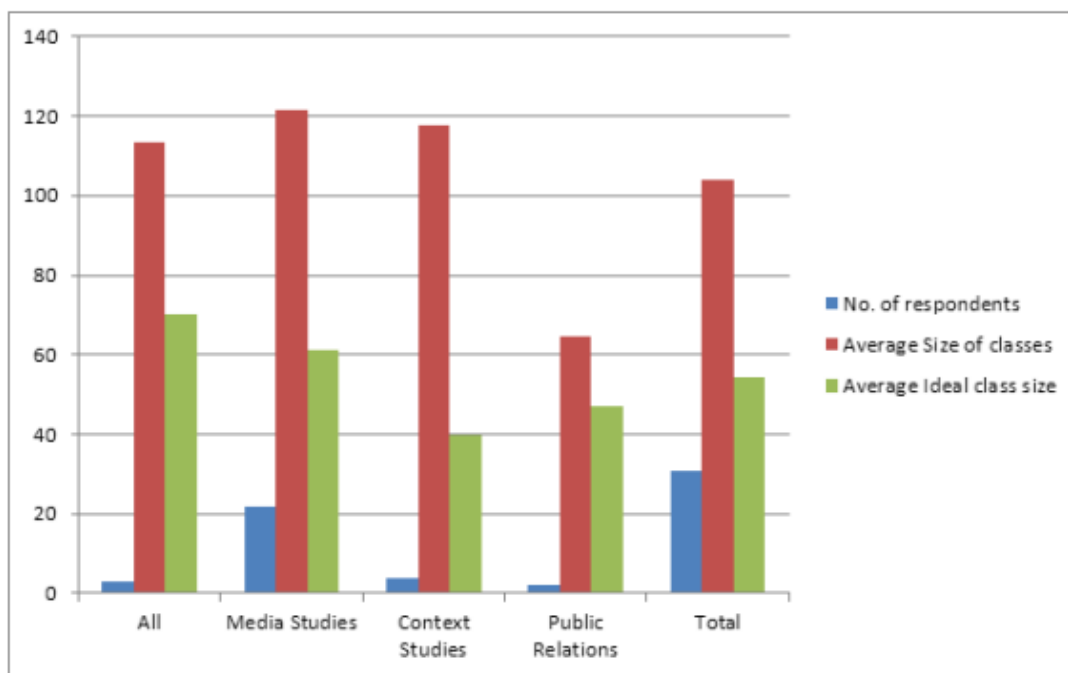
Q.3. In which other subject do you have the highest number of students per class?

Two respondents in this group chose "no," although they also checked the appropriate boxes for the "yes" respondents. It should be emphasized that these answers weren't sorted in any specific order, but rather according to how frequently they appeared. The table and graph below also provide responses to the next two queries.

Average versus ideal or preferred class size

Subjects Studied	No. of respondents	Average Size of classes	Average Ideal class size
All Stats	3	113.3	70
Media Studies	22	121.4	61
Context Studies	4	117.5	40
Public Relations	2	64.5	47
Total	31	104.2	54.5

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The responses provided in Table 3: Average vs. ideal classes

The highest figure given is 200 students in a class while the lowest is 50 students per class. There were 2 respondents who did not submit any responses to question 9.

Q.4. Why students do not like large class size:

Ranking according to the strongest reason on a scale of 1 to 10. Students provided responses which indicated to the following rankings:

- Difficulty understanding the concept in a sea of students.
- Unpleasant comments made by other learners.
- Poor sound levels.
- Less individual interaction with facilitator.
- Less time to cover tasks intensely.
- Difficulty of group task execution.
- Facilitator can't observe all students written tasks.
- Fewer revision/preparation exercise tasks are corrected before a test or assignment.
- Negative peer pressure due to feeling of oblivion.

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- Higher absenteeism rate due to feelings of oblivion.

Generally, the majority of students felt that understanding the concept was a challenge when there are more students in the class.

Large size versus least preference (Total sample = 31 students.)

	A	B	C	D	E	F	G	H	I	J
	10	9	6	8	7	1	2	3	2	5
	9	2	9	4	2	2	2	2	2	2
	10	8	7	8	1	7	8	1	1	2
	6	2	7	8	7	8	10	9	7	9
	9	7	8	7	7	9	8	8	4	2
	10	7	10	9	6	5	4	2	2	2
	8	6	7	7	6	5	8	8	5	4
	10	5	10	10	8	1	8	10	5	10
	6	10	10	10	9	8	10	10	5	5
Average	6.3	5.4	6.4	5.7	6.2	6.1	5.8	5.3	5.2	5.8
Median	8.0	6.5	7.0	6.0	6.0	7.0	6.0	5.0	5.0	6.0
Mode	10.0	1.0	10.0	10.0	6.0	10.0	8.0	1.0	5.0	10.0
Std Dev	3.8	3.4	2.9	3.2	2.8	3.1	3.4	3.5	2.9	3.4
Variance	14.2	11.8	8.6	10.4	8.0	9.9	11.4	12.1	8.7	11.6
Skews	-0.5	-0.1	-0.2	-0.1	-0.5	-0.3	-0.2	0.0	0.2	-0.2

The reasons why students detest bigger courses are represented by the letters A through J. The reasons are listed in ascending order, starting with the worst one. Most respondents rated the reasons A through J, with the exception of B and H, as strong reasons for not like large classrooms, according to the data's modal and median values.

Strongest reason for dislike of larger classes.

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Frequency									
A	B	C	D	E	F	G	H	I	J
6	6	1	4	3	3	4	6	4	4
1	3	2	2	1	1	4	3	3	4
1	1	3	2	1	4	1	2	0	0
0	0	3	4	2	0	1	1	4	2
1	1	2	0	1	4	2	2	5	3
2	2	1	2	6	1	2	0	2	1
1	5	4	3	4	3	1	2	3	2
3	2	3	4	1	2	5	5	2	3
3	3	2	1	5	4	2	2	0	2
9	4	6	5	3	5	5	4	4	6
27	27	27	27	27	27	7	27	27	27

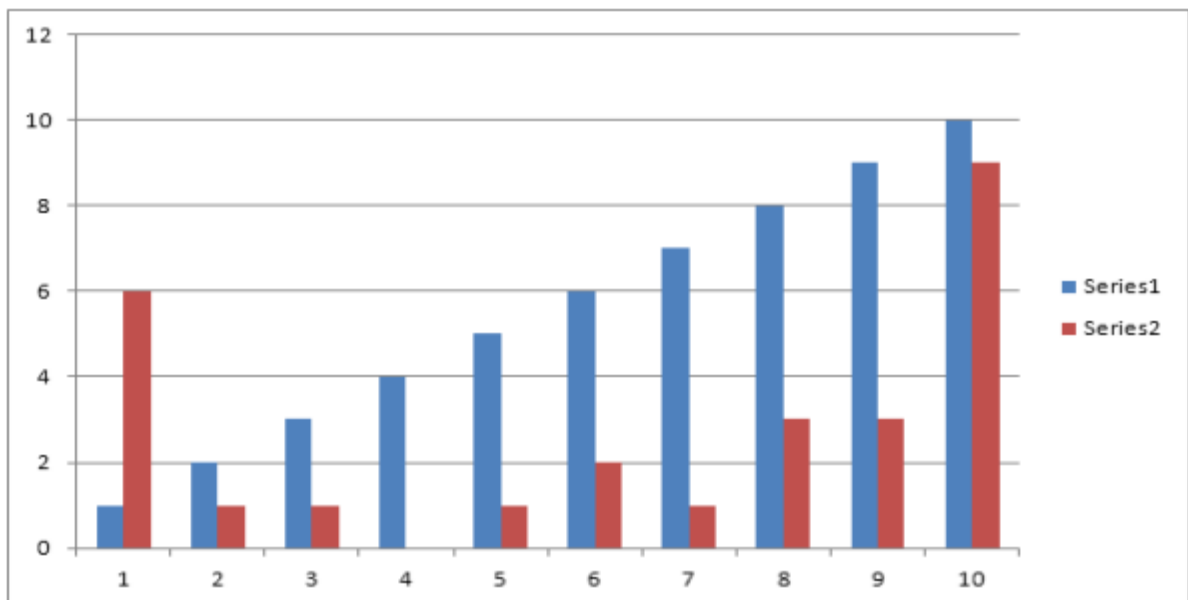
The ranking exercise, which was question 10 of the survey designed to reveal how frequently people chose their ranks based on the strongest reason why they disliked large classrooms, is shown in the table above.

Ranking or reasons A, J, B and H

A	Rank	J	Rank	B	Rank	H
6	1	4	1	6	1	6
1	2	4	2	3	2	3
1	3	0	3	1	3	2
0	4	2	4	0	4	1

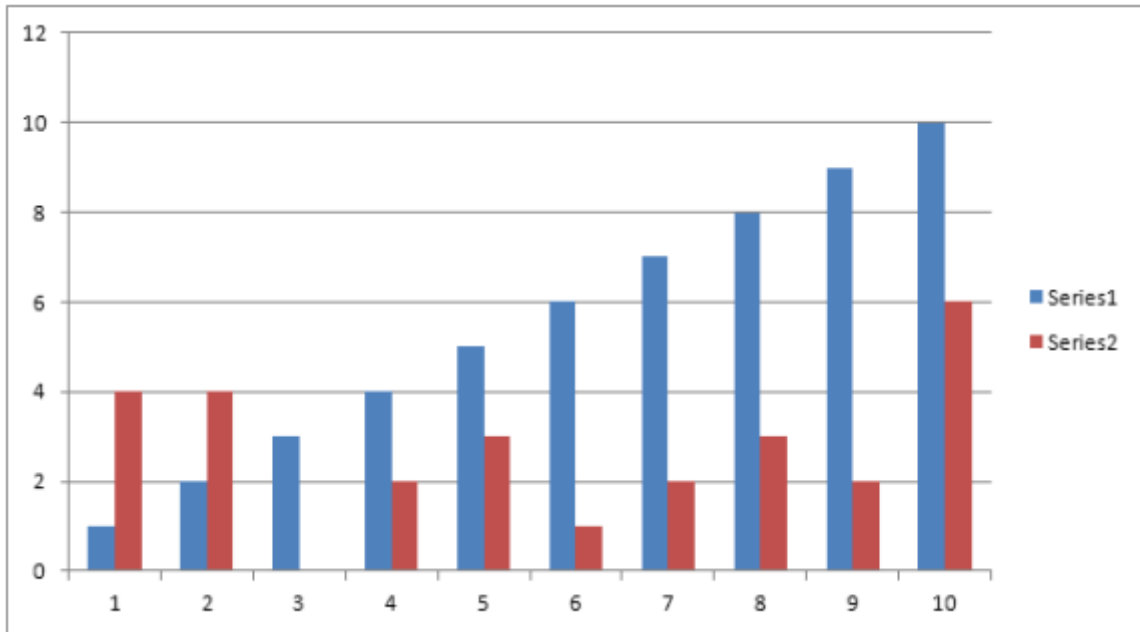
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1	5	3	5	1	5	2
2	6	1	6	2	6	0
1	7	2	7	5	7	2
3	8	3	8	2	8	5
3	9	2	9	3	9	2
9	10	6	10	4	10	4



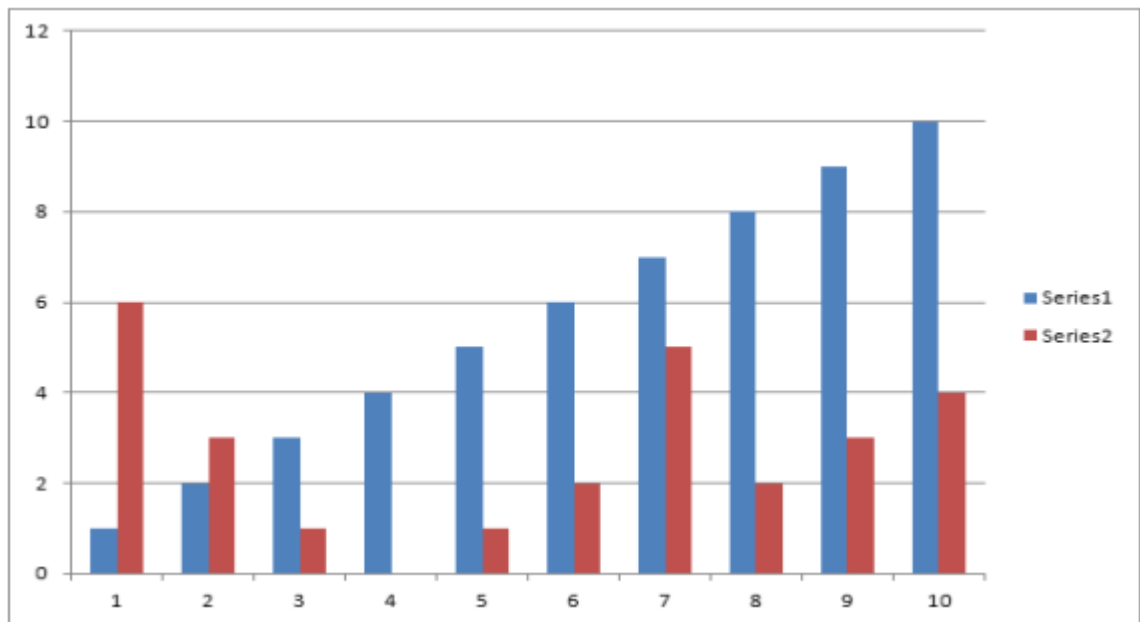
Structure of frequency of Ranking of Reason A

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Structure of frequency of Ranking of Reason J

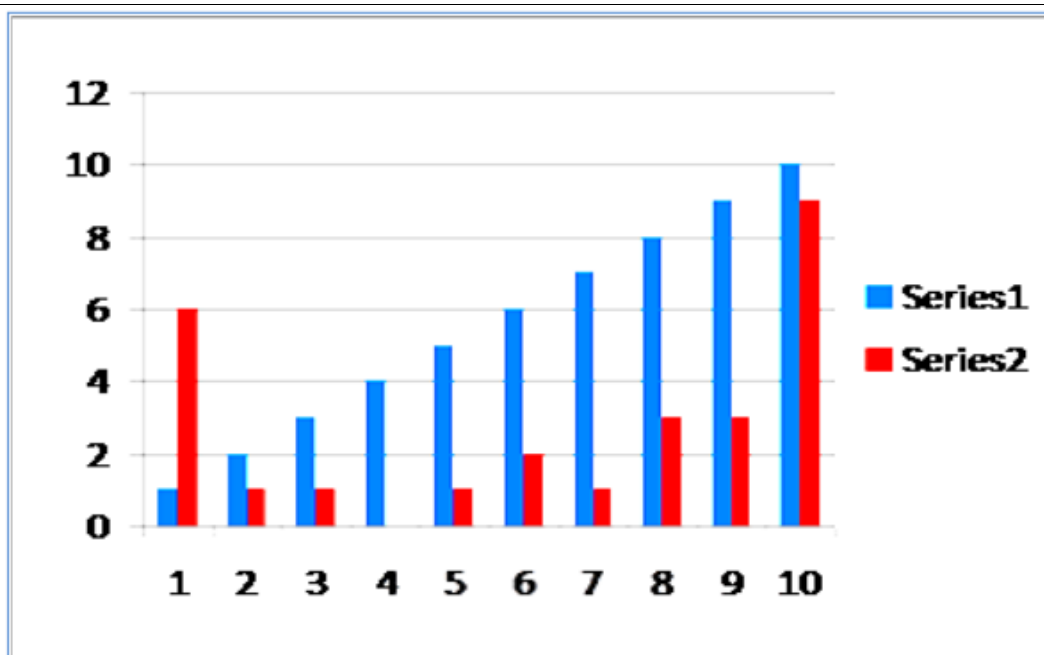
(NB. Series 1 = Ranking, Series 2 = Frequency)



Structure of frequency of Ranking of Reason B

(Series 1 = Ranking, Series 2 = Frequency)

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Structure of frequency of Ranking of Reason H

NB. Series 1 = Ranking, Series 2 = Frequency)

The majority of people chose their rankings based on the most compelling justification for why students detest huge classrooms. High noise levels were cited as the main concern by 33% of those who responded to the study. The findings appear to indicate that factors B, H, and I have little bearing on which factors influence respondents' opinions on class size. Additionally, it would seem that responses to reason H typically provide the strongest justifications for the opposition to big class sizes.

CONCLUSIONS

According to the findings of the empirical study, smaller classrooms are preferred by most students and lecturers over bigger ones. It was discovered that there was a positive correlation between student achievement and class size, which is in line with earlier studies (Glass & Smith, 1979). Most professors thought that smaller classes were associated with higher student success and better behaviour. A small class is defined as 13–17 students, while a typical class is defined as 22–25 students by the STAR project. The majority of students believed that a class size of 50 would result in successful communication, despite the fact that the bulk of the courses under review in this study have more than 100 pupils. Hanushek (1989) came to the conclusion that a reduction in class size alone did not improve student success. The average class size for the three professors who took part in the interviews was close to 80 students, which is much over the STAR project's definition of a typical class size.

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