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**The Impact of Class Size on the
Academic Achievements of Students**

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The Impact of Class Size on the Academic Achievements of Students

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Abstract

The origins of the debate over what constitutes optimum class size can be traced to Ancient Greece. The famous Socrates never specified an optimum number, but he kept his classes exclusive and manageable by limiting them to rich young men. Herodotus thought the right number was about 30, and that view survived until the last century (Tomlinson, 1998).

Class size has become a phenomenon often mentioned in the educational literature as an influence on pupil's feelings and achievement, on administration, and quality. Class size is almost an administrative decision over which teachers have little or no control. Most researchers start from the assumption that size of the class would prove a significant determinant of the degree of success of students.

The purpose of our research is to investigate the impact of class size on the academic achievement of students. It highlights findings that address the following questions:

1. How has class size been approached historically?
2. Are small classes beneficial for students in early grades at university?
3. Are small classes beneficial for impoverished students?
4. To what extent does teacher and student behavior impact class size effects?
5. What is a small class?

After the Kurdish uprising 1991 and after the invasion of Iraq by coalition forces 2003, the Kurdistan Regional Government established 11 universities and the percentage of students enrolled in the universities skyrocketed. From hence big class size is the biggest problem of the system of education in Iraqi Kurdistan, however, government invests millions of dollars in this field but it is still the crucial issue to be discussed by our academics and even people of streets. But this issue is not researched sufficiently. Therefore, we have conducted a survey questionnaire about the positive and negative outcomes of class sizes at the university level for instructors of English departments in the Iraqi Kurdistan universities.

Keywords: Class Size, Teachers beliefs, Student's Academic Achievement.

Introduction

Views and opinions associated with class size are neither new nor limited to educators of the present time. Scholarly literature on class size can be traced back to the fourth century B.C. through the writing of Herodotus, a Greek historian, who was reported to have spoken to classes of 30 or more students (Pasarella, 1977).

From the beginning of 20th century there has been a vigorous debate about class sizes in schools. One side the enthusiasts who feel very strongly that smaller classes lead to better teaching and more effective learning. Finn & Achilles (1999) have expressed this point very forcefully: ‘Class size reductions should not just be a cornerstone, but the foundation of educational policy’. On the other side of the debate are the skeptics who argue that the evidence for the efficacy of class size reductions is in doubt and that there are likely to be other more cost-effective strategies for improving educational standards.

Class size research prior to 1920 was primarily concerned with the effects of large class sizes on grade-to-grade promotion rates. After the 1920s, greater emphasis on class size research began to measure the relationship between class size and individual student achievement utilizing standardized achievement tests (Ernest, 2002). In 1925 Averill and Mueller observed that children’s reading skills in small classes of 12 increased over those in regular classes (Hollingsworth 1992). Their findings demonstrated that students in smaller classes achieved at a higher rate on their reading scores than students in large classes.

In 1934 Dawe reported that kindergarten class size was unimportant in children’s ability to retain stories, but he noted that children in small classes have greater opportunities to participate in discussion than do those in larger classes (Hollingsworth 1992). 1930s and 1940s was a period of much neglect in the area of class size research due to many researchers being involved in World War II.

After the war in the 1950s and 1960s the interest in class size began to increase again (Mitchell, 1990). With enrolment expanding, attention began to focus on the increase of class size and its effect on student achievement.

In 1954 Otto examined 50 small and 50 large elementary school classes and concluded that, though the class atmosphere was better in the small classes, no differences in pupil achievement could be found (Hollingsworth 1992).

In the mid-1960s class size suddenly emerged as an explosive education and public policy question with the publication of a study led by Coleman, *Equality of Educational Opportunity* (Coleman et al. 1989). What became known as “the Coleman Report” was the summary of a study that had tested about 600,000 students in some 3,000 schools. The report found that schools were not fundamentally important in determining student achievement and that primary influences on student performance were more attributed to families and student peer groups than class size.

This report garnered enormous public interest by concluding that the number of students in a class was irrelevant to student achievement because schools have little to no effect on their students compared to outside aspects.

Interest in the issue of class size continued to manifest itself during the late 1960s and 1970s with a number of studies that sought to demonstrate that small class sizes were effective for learning. In 1978, Hess divided the literature into three basic groups, research that focuses on student achievement (the largest part), research on institutional factors, and research on the financial implications of reducing class size. In 1986, Robinson and Wittebols attempted to summarize the contents of 100 studies by clustering them into “18 areas of concern”.

But in 1979 The Glass and Smith meta-analysis grouped the research on class size into four categories: the pre-experimental era (1895-1920); the primitive experimental era (1920-1940); the large-group technology era (1950-1970); and the individualization era (1970-present). The researchers indicated that at the beginning of each new stage the effects of class size on student’s achievement were examined from different perspectives. These differing perspectives were strongly connected with events in the last century, such as the rising birth rate of the postwar 1940s, the advent of teaching technologies in the 1960s, and the teacher labor movements and declining enrollments in the 1970s.

The above mentioned historical background is just an example of how scholarly the class size reduction paid attention by researchers and educators all over the world. Currently not only in the developed but even in the third world countries policymakers and related departments, organizations and governments try to focus on this phenomenon which has direct and indirect influences on the children and students.

Due to the fact that class size is a big issue in the educational institutions here in Iraqi Kurdistan, we conducted this study in order to investigate the beliefs of instructors at the university level about the consequences of large or small classes on the academic achievement of their students and their professional job which is teaching.

Importance of Teacher’s Beliefs

Many scholars believe that teachers play a crucial role in changing schools and classrooms, however, they are also viewed as major obstacles to change due to their traditional beliefs. It is believed that an individual’s decision throughout his/her life is strongly influenced by his/her beliefs. Educational researchers have advocated the need for closer examination and direct study of the relationship between teacher beliefs and educational practices. Up to date the relationship between teacher beliefs and practice is not well documented in education in Iraqi Kurdistan. This paper is expected to be one of the few studies about this issue.

What do teachers think about class sizes? Is it important to listen to teacher's beliefs? What are teacher's beliefs? Kagan (1992, p. 65) defines 'teachers' beliefs as 'tacit', often consciously held assumptions about students, classroom, and the academic materials to be taught'. According to her their beliefs do not change and they are stable which may be because they are 'personal constructs' as mentioned.

Scholars in the field of education badly believe that teachers' beliefs have a profound influence on the classroom practices. For the improvement of teachers' professional preparation and the successful implementation of new curricula an understanding of this relationship is crucial.

An important point of this evaluative-interpretative study is to investigate the relationship between the beliefs of teachers and their practices in the process of teaching the learners.

The teachers' beliefs exist on different levels from observation of their school teachers, classroom experiences, interaction with colleagues and with their own students and so on. There is a strong relationship between teacher's instructional decisions, their educational beliefs and their planning, and classroom practices. Teacher's beliefs can affect the materials, teaching methodology, and activities they choose for the classroom, classroom interaction patterns, their roles, their students, and the schools they work in.

It is found that language teachers' beliefs and understandings of teaching and learning play an important role in their classroom practices and in their professional growth.

It is assumed that teachers may make decisions about classroom instruction in light of theoretical beliefs they hold about teaching and learning. It is stated that teachers have assumptions about language and language learning, and that these provide the basis for a particular method to language instruction. For this reason, it is being argued that if theoretical orientation is a major determinant of how teachers act during language teaching, then they can affect classroom practice.

Johnson (1994, cited in Farrell, 1999, p. 2) affirms that teachers' beliefs share three assumptions. Firstly, they influence teacher's judgments. Secondly, teachers' beliefs play an important role in interpreting and implementing teaching knowledge in classroom practice. Thirdly, he believes that understanding teachers' beliefs is important as it may improve teaching methodology and teacher education.

Thus, before any schools or universities make decisions to implement the policy of teaching class sizes, it is worthwhile to listen to what the teachers believe concerning this approach.

Extensive research has not been conducted on teaching class sizes in Iraqi Kurdistan and not much has studied teachers' beliefs in this approach.

The study is conducted in order to collect data by questionnaire from 50 teachers in tertiary education from Kurdistan Regional Universities. The questions concerned in this study might encounter from teaching in large and small classes i.e. problems of classroom interaction, individual problems, quality of marking and control, and learning and teaching.

English teachers who teach in large classes have a wide range of difficulties while they are teaching. The problems can be with the controlling of the class or student assessment. The subjects reported positively that with the class size at an ideal level they could work more comfortably and easily. This indicates that teachers preferred to teach in a small class with an ideal size as they did not need to struggle and challenge the difficult circumstances of teaching in large classes.

To summarise, it can be seen that teachers believe that teaching in large classes is considerably difficult for them and they prefer to teach in a small or optimal class size aspects.

The Study

This paper provides the detailed information of the study on subjects, research instrument and data analysis.

Purpose of the Study

This study aims to investigate the impact of class size on the academic achievement of students in terms of perceptions, opinions and attitudes towards teaching English in different classes. The results obtained may provide the interesting ideas and useful information for any Kurdish universities which intend to implement this approach as the studied conducted in the Kurdish universities.

Sampling

The sample of this study consists of 50 lecturers from all the universities in Iraqi Kurdistan namely, Halabja University, Sulaimani University, Salahadin University, Duhok University, Kurdistan University of Hawler, Koye University, Soran University, Raparin University, Garmiyan University, Zakho University, University of Ishik, Polytechnic University, Hawler Medical University. The participants were all instructors of English language.

Their teaching experience ranged from one year to more than fifteen years, 27 participants with 1-5 years, 11 with 6-10 years, 7 with 11-15 years and 5 with 15 or more years of experience. The majority, 40 participants held master's degrees, 10 held doctorates. The survey was conducted in the spring of the 2012-2013 academic year in Iraqi Kurdistan.

Table 1. *Distribution of Instructors according to their Genders*

Gender	Frequency	%
Male	31	62
Female	19	38

As it is shown in the Table 1, the number of male instructors are more than their opposite gender partners.

Methodology

In order to access the opinions and perceptions of the teachers, the questionnaire was decided to use. 75 copies of the questionnaire were distributed to the English instructors from the departments in the universities mentioned above. Fifty completed questionnaires were returned.

The questionnaire is composed of open-ended, closed-ended questions and rating scales. In section I, closed-ended questions was used for the participant’s personal details, gender, teaching experience, education and where they currently worked. Section II, closed-ended questions, was about the participant’s knowledge of his/her university’s policy on class size.

The results were drawn from Section III which was about facts and opinions on the impact of Class Sizes on the Academic Achievement of Students and this section is the target of our study.

Data Collection and Analysis, Findings and Interpretations

Responses of the participants were analysed descriptively by calculating percentages and average scores, in order to determine what trends in the data suggested about the teachers’ attitudes and perceptions towards teaching and learning in their English classes, small or large.

Table 2

Q.1 Do you know whether your institution have an official policy on class sizes?	Yes		No	
	F.	%	F.	%
	12	24	38	76

Results obtained from question one show clearly that the majority of instructors were not aware of any policy in their institutions on teaching class sizes. 66% of the participant lecturers are not aware of their universities policy, while 24% reported that their universities have the policy of class size.

Table 3

Number of Students	20-24		25-29		30-40		41-49		50-60	
Q.2 What is your usual class size?	F.	%	F.	%	F.	%	F.	%	F.	%
		0	0	8	16	35	70	5	10	2

Table 4

Number of Students	<20		20-24		25-29		30>	
	F.	%	F.	%	F.	%	F.	%
Q.3 What is your ideal class size?	14	28	19	38	17	34	0	0

The data received from table 3 & 4 show that there is no correlation between the usual class size and the ideal class size of the teachers. What do these instructors prefer regarding their optimal class size is quite different from the ground of learning intuitions. 76% of the lecturers prefer to teach in a class which is not crowded by more than 29 students but the real data we have as a result of the usual class size where the teachers teach in is 16% which means the 84% of them are obliged to teach in an atmosphere out of their interest.

One of the important result achieved from this question is an agreement of English instructors about their ideal class sizes, however, they all do not have the same optimal class size number but 66% do lobby for a class which is between 20 to 24 or 100% of them want to have a class which is no more than 29. To answer a closed-ended question Q.4 ‘With an ideal number of students in your class, what would be the academic achievement for your students?’ The participants thought that teaching in small classes was easy in several aspects such as the relationships of teachers and students, monitoring, giving feedback and assessment. Teachers also suggested that teaching management can be well-planned and well-organised. Moreover, teaching in ideal classes is more suitable for teaching receptive skills such as reading and listening even though it is also appropriate for productive skills like speaking or writing which require more attention and interaction from teachers. If the universities cannot provide teaching in these ideal classes, they need to provide sessions where students can practice in small groups and consult with their teachers. With references to the results of this study, it is quite essential for the executive administrators to understand teachers' attitudes and their beliefs as well as the nature of language learning and teaching.

English instructors believe that teaching in the optimal class size makes easier for majority of them to engage in a variety of academic activities, to have meaningful interaction with peers and students, and to receive frequent and timely feedback, develop creative curricula and honour individual learning styles and accommodate individual student’s instructional needs; who guide students in their critical evaluation and use of various technologies; who engage regularly in professional development; and who communicate regularly with students and parents.

Therefore English instructors lobby the reduction of class size in order to achieve the above mentioned reasons, they also badly believe that in an optimal class students can be provided with many benefits: greater opportunities for participation, more individual attention, and improved instruction.

Q.5 Read the statements about Class Size Reduction as factors that influences the educational achievement of students at a point of time then put a tick in the box according to the rating scales below.

Strong agree = 5 Agree = 4 Uncertain = 3 Disagree = 2 strong disagree = 1

Table 5.

No	Statements	5		4		3		2		1	
		F.	%	F.	%	F.	%	F.	%	F.	%
1	Students receive more individual attention from teachers	30	60	12	24	6	12	2	4	0	0
2	It creates a more manageable workload	27	54	16	32	7	14	0	0	0	0
3	Fewer students in a class, the better they will learn	40	80	8	16	1	2	1	2	0	0
4	Fewer students in a class, the higher they will score on tests	33	66	13	26	3	6	0	0	1	2
5	It motivate students to learn	31	62	15	30	4	8	0	0	0	0
6	It provides physical condition of the class facilities	40	80	7	14	3	6	0	0	0	0

The response of the participants affirms that class size reduction would increase the academic achievement of students.

Teachers like class size reduction because it creates a more manageable workload. It is generally assumed the fewer students in a class, the better they will learn and the higher they will score on tests as one of the most common measures of student achievement.

The response of the above mentioned statements indicates that Class Size Reduction has a positive influence upon our student' academic achievement. 84% of the participants agree that in small classes students receive more individual attention from their teachers, 80% strongly agree that better learning takes place in a small classes as a result of this almost all of them agree that students may get higher marks in ideal classes compare to large one. As it is clear in our university system, the classes are stuffed with high number of students, this leads to uncomfortable atmosphere to our students but the opposite of this is strongly agreed by the participants of our study as 90% strongly agree that better physical condition can be provided in small classes.

Q.6 How do you find the following statements if you have to teach in large classes? Put a tick in the box according to the rating scales below.

Very difficult = 5 Difficult = 4 Neither difficult nor easy = 3 Easy = 2 Very easy = 1

Table 6

No	What a lecturer has to do	5	4	3	2	1
1	Selecting instructional techniques of teaching	0	34	9	7	0
2	Reviewing lessons	0	45	4	1	0
3	Preparing handouts and other materials	0	47	3	0	0
4	Determining methods of evaluating student outcome	0	33	16	1	0
5	Being able to see the whole class	0	21	23	4	2
6	Using the right level of voice	2	35	12	1	0
7	Having students work in groups in class	21	27	2	0	0
8	Being able to give support and advice to individual students at the same time	23	24	3	0	0
9	Giving equal share of class activities	35	14	1	0	0
10	Marking exams	41	9	0	0	0
11	More discussion	3	45	2	0	0
12	More writing	2	46	1	1	0
13	Small groups work	0	47	2	1	0
14	Creating a good relationship between the teacher and the students	12	28	5	3	2
15	Knowing the students individually	34	10	6	0	0
16	Better attention from students to the lesson	2	37	8	2	1
17	Developing receptive skills, i.e. listening and reading	12	35	3	0	0
18	Developing productive skills, i.e. writing and speaking	13	33	4	0	0

Q.7 How do you find the following statements if you have to teach in small classes? Put a tick in the box according to the rating scales below.

Very easy = 5 easy = 4 Neither easy nor difficult = 3 difficult = 2
 Very difficult = 1

Table 7

No.	What a lecturer has to do	5	4	3	2	1
1	Selecting instructional techniques of teaching	0	31	13	6	0
2	Reviewing lessons	0	42	5	3	0
3	Preparing handouts and other materials	35	13	2	0	0
4	Determining methods of evaluating student outcome	23	17	10	0	0
5	Being able to see the whole class	36	14	0	0	0
6	Using the right level of voice	25	23	2	0	0
7	Having students work in groups in class	17	29	4	0	0
8	Being able to give support and advice to individual students at the same time	3	39	6	1	1
9	Giving equal share of class activities	30	17	1	1	1
10	Marking exams	45	5	0	0	0
11	More discussion	23	21	6	0	0
12	More Writing	20	24	4	1	1
13	Small groups work	21	23	4	2	0
14	Creating a good relationship between the teacher and the students	13	33	3	1	0
15	Knowing the students individually	0	43	4	2	1
16	Better attention from students to the lesson	21	20	7	2	0
17	Developing receptive skills, i.e. listening and reading	3	37	8	1	1
18	Developing productive skills, i.e. writing and speaking	13	33	4	0	0

The data of Table 6 and 7 show that class size verses student achievement dramatically. Teachers ticked what is difficult in large classes can be very easy in small classes. The one who is badly influenced according to the opinion of the teachers is the student. Lecturers affirm that selecting instructional techniques, reviewing lessons are very difficult, 94% of them say that it is difficult to prepare handouts and other materials to students. They also agree that it is again difficult to give advice and support to individual students. Instructors of English language admit that developing both receptive and productive skills of language are very difficult in large classes.

But the results of table 7 show that there is a consensus between educational researchers that there are many reasons why smaller classes might contribute to higher achievement, including better teacher contact and more personal relationships between teachers and students. However, because classroom instruction is the most powerful aspect of schooling for achievement, the effects of class size on achievement are most likely to occur if class size is linked to instruction (Barr & Dreeben, 1983). This linkage could be manifested in two ways.

First, teachers may teach differently in smaller classes. If changes were beneficial for students for example more frequent assessments, more writing, more discussion, more help for individual students, etc., it would rise student's

achievement. The direct cause of this achievement increase would be instructional improvements, and class size would be the indirect cause.

Second, lecturers affirm that certain practices may work better in smaller classes. For example, students may pay better attention when there are fewer students in the room. Similarly, they who use small group work may find their instruction is more effective in smaller classes, because fewer students remain unsurprised while the small group meets with the lecturers. English instructors believe that student's achievement would rise in smaller classes because the same instruction would be more effective. According to this study, class size and instructional practices would interact to affect student achievement.

Finally, some teachers, regardless of grade level, favor instructional approaches that emphasize problem solving, discussion, extensive writing, and small groups without prescribed activities, and students who encounter such instruction may obtain higher test scores if their classes are smaller, since this approach to teaching seems likely to be more effective in smaller classes.

Conclusion

Our study shows that the impact of class size on the academic achievement of students is one of the important variables in the field of education that is thought to influence student learning and is subject to be studied.

Results gained from the study suggest that while small classes will not make a bad lecturer a good one, they can allow them to be more effective; conversely, large classes inevitably present all lecturers with difficulties and the need for compromises. English instructors affirm that smaller class sizes may offer more opportunities for them to teach better, or they can create facilitating conditions for them to teach and students to learn.

Our study suggests that class size affects the types of activities that the lecturers offer students. For example a study on overcrowding found that large classes limited the amount of time teachers could spend teaching anything beyond what was minimally required.

The study indicates that class size reduction will be a controversial issue for policymakers and educators. English instructors lobby smaller class sizes because it appears to promote higher level of engagement and instructional individualization of them with their students.

The reduction of class size should not be randomly but lecturers must be certified and must demonstrate competence before they are brought on board to reduce class size.

If class size is one of the factors that affects teacher's moral and student academic achievement then educators and policy makers should look at other alternatives for increasing student achievement.

The results of our study help us to draw the following conclusions are drawn:

1. Class size impact on the academic achievement of the students is a serious problem in the Higher Educational Institutions and should be highly considered by the Ministry of Higher Education and Scientific Research and its policy makers.
2. Teachers' beliefs and preferences are neglected due to large class sizes.
3. Teaching in smaller class helps lecturers to know the individual need of students, to spend more time with them, and reports less discipline problems.
4. The evidence suggests that average class sizes must be reduced to 20 to achieve significant improvement in test scores.
5. Student's higher gain is linked to class size reduction with some other factors.
6. Class Size Reduction does help to increase language achievement gains, especially for English Language Learners.
7. Reduction in class size is one of a number of policy options that can be pursued to improve student learning.
8. Our educational policy makers should formulate policies that will ensure that the number of students in a class should not exceed 30 students. Yet it has been estimated that this would cost up to billions of Iraqi dinars a year.

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