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**CLASS SIZE REDUCTION IN THE SECOND LANGUAGE CLASSROOM**

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*In this study, class size reduction (CSR) was implemented in six sections of second semester, university level Spanish classes in which the enrollment cap was lowered from 27 to 20 students. The methodology for the study included a student opinion questionnaire, classroom observations, and student course grades. The study aimed at finding the effect of CSR on student participation, motivation, passing rates and dropout rates. Results showed that students in smaller classes have a higher number of As and Bs whereas students in larger classes have a higher number of Cs and Ds. Observations revealed that students in smaller classes participate twice as much as students in larger classes. Students' self-reported motivation was higher in classes where CSR was implemented.*

*Keywords: Class size reduction, foreign language teaching, motivation, dropout rates, student participation, Spanish, second language acquisition.*

*En este estudio la reducción del tamaño de la clase se implementó en seis secciones del segundo semestre universitario de clases de español en las cuales el número máximo de alumnos por clase se redujo de 27 a 20. La metodología empleada incluyó un cuestionario de opinión para los estudiantes, observaciones de las clases y las notas de los alumnos. Este estudio tenía como objetivo encontrar el efecto que la reducción del tamaño de la clase tiene en la participación, motivación, medias de aprobados y medias de alumnos que dejan la clase. Los resultados mostraron que los estudiantes en clases reducidas tienen un mayor número de notas altas (A y*

*B o sobresaliente y notable) mientras que los estudiantes en clases con mayor número tienen más notas medianas (C y D o bien y suficiente). Las observaciones revelaron que los estudiantes en clases reducidas participan el doble que los estudiantes en clases con mayor número de estudiantes. Los estudiantes también manifestaron mayor motivación en clases reducidas.*

*Palabras clave: reducción del tamaño de clase, enseñanza de lengua extranjera, motivación, español, adquisición de segundas lenguas.*

## **1. Introduction**

Class size reduction (CSR) has received much attention in the last two decades. Baker and Behrens alluded to the phenomenon of growing class sizes in higher education as early as 1971. The response to the growing class size phenomenon by some faculty such as Baker and Behrens (1971), McKinney and Graham-Buxton (1993), and MacGregor et al. (2000) has been to implement more activities such as group work, in order to increase student to student interaction and feedback. The alternative is to reduce the number of students in classes. Research conducted in primary schools where CSR was put into effect yields data that suggest teachers have higher morale, and students have higher achievement (Mueller, Chase, & Walden, 1988). In addition, it demonstrates increased opportunities for teachers to provide feedback to students, and more on-task behavior exhibited by students (Blatchford, 2003; Mueller Chase, & Walden., 1988). In second language (L2) classes in particular, the importance of meaningful interaction and the ability to provide feedback to students is paramount to learning a new language (Gass, 1997; Long, 1996).

LoCastro (2001) collected self-report data from teachers who claimed that the size of their classes influenced the type of activities they could develop and implement. Research in L2 acquisition shows the need for learners to communicate and negotiate meaning (Krashen, 1982; Long, 1996; Swain, 1985; Wong, 2005). In order to foster this practice among

learners, there needs to be an optimal number of students in the L2 classrooms that allows students to practice, communicate and negotiate meaning.

Class size in the United States is an educational policy that has been investigated in depth in the last decade (Betts & Shkolnik, 1999; Ehrenberg, Brewer, Gamoran, & Willms, 2001; Finn & Achilles, 1999; Mosteller, 1995). Reducing the size of classes has been proposed by governors, legislators, school superintendents, and parents. In many cases, classes at the elementary level have experienced the most CSR (NICHD Early Child Care Research Network, 2004) and much of the research in CSR has addressed the situation in K-12 schools (Mosteller, 1995; Mueller Chase, & Walden., 1988; NICHD Early Child Care Research Network, 2004). The results obtained from CSR studies are contradictory and diverse. Policy makers have one opinion, parents have their own, school superintendents voice their ideas on the issue, and instructors express theirs too. But what about the students? What do the students themselves think about class size and how they perceive it to affect their learning?

## **2. Literature Review**

Some of the most influential research on the effect of CSR has been provided by Hanushek (Hanushek, 1986, 1989, 1996a, 1996b, 1997). Hanushek has been cited as evidence to support the beneficial effect of CSR on student achievement (e.g., Krueger, 2003), as well as evidence of the neutral effect (e.g., Chubb & Moe, 1990; Finn & Petrilli, 1998). Most researchers' concern lies with the effect of CSR on student achievement. For example Rivkin, Hanushek and Kain (2005) utilized a data set from students in Texas that contained test scores from grades three through seven for three cohorts of students in the mid 1990s. The results from their statistical analyses suggest that there was a positive effect from CSR. In particular, they found that lowering class size had a positive effect on mathematics and

reading achievement, though the magnitude of the effect was small, especially after fifth grade.

Krueger and Whitmore (2000) investigated the effect of CSR on student test scores and on whether students took the ACT or SAT college entrance exam. The data were part of the project STAR whereby 11,600 students were randomly assigned to a small-class (13-17 students), regular-size class (22-25 students), or regular-size class with a teacher aide within 79 Tennessee public schools (Achilles, 1999; Finn & Achilles, 1999; Folger & Breda, 1989; Krueger, 1999; Word et al., 1990). They found that students who attended a small-class have a higher likelihood of taking the ACT or SAT college entrance exam, and have higher scores on the exam.

The effects of CSR have also been researched in countries other than the United States. The effect of CSR on achievement was investigated in Sweden by Lindahl (2005). He used a seasonal feature of the school systems in his study. In other words, he compared students in different semesters. Lindahl claimed that the “seasonal feature makes it possible to separate the effects of school and non-school factors on learning” (p. 376). Lindahl used Swedish data and found that smaller classes generated higher scores than larger classes. These results mirrored the ones obtained by Krueger and Whitmore (2000) in that CSR had a positive effect and resulted in higher scores.

In London, Blatchford, Bassett, Goldstein and Martin (2003) observed 10,000 children and followed their schooling from 4-7 years of age. Their study used multilevel statistical procedures to model effects of class size differences while controlling for sources of variation that might affect the relationship with academic achievement. Their results showed an effect of CSR on children’s academic attainment.

There are, nevertheless, studies whose results contradict the ones explained above (e.g., Dobbelsteen, Levin, & Oosterbeek, 2002; Hoxby, 2000; Wößmann, 2005). For example, Hoxby (2000) investigated the

population in 649 elementary schools. She used natural variation in the school-aged population to analyze the effect of class size on student achievement. She concluded in her study that reductions in class size had no effect on student achievement. In other words, results of studies on CSR are inconclusive. While the great focus has been on its effect on student achievement, CSR impacts other areas such as motivation, dropout rates, or participation.

The need for this study came about as instructors in the Spanish department continually faced challenges of teaching classes with more than 25 students. The Administration voiced support of change if there was evidence of impact. Given the current lack of consensus regarding the effects of CSR in college courses, and especially the lack of CSR research in foreign language courses, the current study was implemented.

This study focused on the opinions of students on the size of classes in second semester Spanish at a southeast university. The purpose of this research was twofold. First, we wanted to expand our knowledge on the effect of class size on scores, participation, motivation, dropout rate, and student perception. Second, we wanted to investigate what students think about CSR in Spanish classes at the university level. We therefore surveyed students to find out their opinion on the issue. The research question addressed was: what is the effect of CSR on students' participation, passing rates, motivation, and dropout rates?

### **3. Methodology**

#### *Participants*

Participants were students enrolled in one of 12 sections of SPA 102 second semester Spanish at a southeast university during the spring semester of 2005. In six of those classes the enrollment cap was lowered from the typical 27 to 20. The other six classes had 27 students each at the beginning

of the semester. The total number of students who participated in the study was 215.

#### *Procedure*

Data collection took place in the fall semester of 2004 and in the spring semester of 2005. The student questionnaire was first piloted with eight classes of students (n=134) enrolled in first semester Spanish, SPA 101. Questions were subsequently modified upon analysis of responses. The student questionnaire (Appendix A) was administered at the beginning of the spring of 2005 by the principal investigator to all the students in the 12 sections of SPA 102. Participation was voluntary. In this study, "Large" classes are defined as those classes having between 21 and 27 students and "Small" classes are defined as those being capped at 20. Students in this study were not informed if they were in the Large class or Small class.

All 12 classes were observed between March and April of 2005 by a graduate student. The number of times that students participated and asked questions was recorded by the observer. Participation was defined as voluntarily offering an answer to a question posed by the instructor, or getting involved in speaking in class by raising their hand. At the end of the spring semester, final grades were collected from all 12 sections. Dropout rates were collected from each instructor.

## **4. Results**

### *Student Questionnaire*

Descriptive statistics are presented for answers to all of the questions on the student questionnaire. A total of 214 cases were included, n=120 in the Large class and n=94 in the Small class.

When asked if they thought the number of students in their class was excessive, a higher percentage of students in the Large class perceived that this was the case. 22.5% in the Large class answered “Yes”, compared to 4.3% in the Small class (Table 1).

Table 1. *Question- Do you think the number of students in your class is excessive?*

Class	%Yes	%No	%Other
Large	22.5	76.7	0.8
Small	4.3	95.7	0

Students were asked if they would prefer to be in a class with more students or less students. A majority of students in both groups (75% in the Large class, 83% in the small class) would prefer a class with fewer students (Table 2).

Table 2. *Question- Would you prefer to be in a class with more students or less students?*

Class	%Less	%More	%Other
Large	75.0	15.8	9.2
Small	83.0	12.8	4.3

In terms of participation opportunities in class, 92.9% of students in the Small class said that they had enough opportunities to participate and practice their Spanish, compared to 78.3% in the Large class (Table 3).

Table 3. *Question-Do you think you have enough opportunities to participate and practice your Spanish?*

Class	% Yes	% No	% Other
Large	78.3	20.8	0.8
Small	92.9	5.3	1.1

However, in both groups, a majority of students answered that they would like to be in a smaller class where they had more opportunities to participate and practice their Spanish (Table 4). In the Large class, 68.3% answered Yes, and in the Small class 76.6% answered Yes.

Table 4. *Question-Would you like to be in a smaller class where you had more opportunities to participate and practice your Spanish?*

Class	% Yes	% No	% Other
Large	68.3	30.8	0.8
Small	76.6	22.3	1.1

In the Large class, 54.2% reported that having a large number of students would affect their ability to participate and practice Spanish in a negative way and 40.8% thought that having a large number would not affect their ability either way (Table 5). In the Small class, 72.3% thought that a large number of classmates would affect their ability to practice and participate in a negative way and 24.5% thought that having a large number of students would not affect their ability either way. In other words, student



in the Small class perceive a negative effect from a “Large” amount of students and students in the Large class perceive either a negative effect or no effect at all.

Table 5. *Question- Do you think a large number of students in your class affects your ability to participate and practice your Spanish negatively, positively, or neither?*

Class	%Positive	%Negative	%Neither
Large	5.0	54.2	40.8
Small	3.2	72.3	24.5

On an oppositely worded question, 76.6% in the Small class thought that having a small number of students would affect their ability to participate and practice their Spanish positively, versus 66.7% in the Large class (Table 6).

Table 6. *Question- Do you think a small number of students in your class affects your ability to participate and practice your Spanish negatively, positively, or neither?*

Class	%Positive	%Negative	%Neither
Large	66.7	5.0	28.3
Small	76.6	0	23.4

More specifically, students were also asked how 20 or more students in their class would affect their learning. In the Large class, 46.7% thought having 20 or more students would affect their learning positively and 47.5% thought it would not affect them negatively or positively (Table 7).

Table 7. *Question- Do you think having 20 or more students in your class affects your learning negatively, positively, or neither?*

Class	%Positive	%Negative	%Neither
Large	46.7	5.8	47.5
Small	62.8	5.3	31.9

In the Small class, 62.8% thought having 20 or more students would affect their learning positively, and 31.9% thought it would not affect them positively or negatively.

When asked how 20 or less students would affect their learning, there were similar patterns in the results. In the Large class, 63.3% thought 20 or less students would affect their learning positively, and 33.3% thought it would not affect their learning positively or negatively (Table 8). In the Small class, 70.2% thought it would affect their learning positively, and 22.3% thought it would not affect their learning positively or negatively.

Table 8. *Question- Do you think having 20 or less students in your class affect your learning negatively, positively, or neither?*

Class	%Positive	%Negative	%Neither
Large	63.3	3.3	33.3
Small	70.2	7.4	22.3

In terms of classroom management, a higher percentage of students in the Large classes compared to the Small classes said that either they or their instructor ran out of time (26.7%, 12.8% respectively). Results are shown in Table 9.

Table 9. *Question- Do you or your instructor run out of time?*

Class	%Yes	%No	%Other
Large	26.7	72.5	0.8
Small	12.8	86.2	1.1

Students in the Small classes feel more comfortable (93.6%) to ask questions in class (Table 10) than the students in Large classes (75.8%)

Table 10. *Question- Do you feel comfortable to ask questions in class?*

Class	% Yes	%No	%Other
Large	75.8	24.2	0
Small	93.6	6.4	0

A higher percentage of students in Small classes (93.6%) compared to the Large classes (77.5%) reported that they ask clarification questions when they did not understand something. Findings are shown in Table 11.

Table 11. *Question- Do you ask for clarification questions when you don't understand something?*

Class	% Yes	%No	%Other
Large	77.5	20.8	1.7
Small	93.6	5.3	1.1

Both groups seemed to enjoy learning equally as reported in Table 12. Similar percentages of students in the Small and Large classes enjoy learning Spanish, as seen in Table12.

Table 12. *Question- Do you enjoy learning Spanish?*

Class	% Yes	% No	% Other
Large	64.2	32.5	3.3
Small	68.1	28.7	3.2

A higher percentage of students in the Small classes (85.1%) reports being motivated to learn Spanish, whereas 71.7% report such motivation in the Large classes (Table 13).

Table 13. *Question- Are you a motivated student to learn Spanish?*

Class	% Yes	% No	% Other
Large	71.7	25.0	3.4
Small	85.1	14.9	0

### *Classroom Observation*

The analysis of the classroom observations revealed that students in the six Small classes participated an average of 105 ( $SD=85.5$ ) instances per class (from a total 630 for Small classes), or an average of 5 times per student versus students in the six Large classes who participated an average of 70.3 instances ( $SD =85.3$ ) per class (from a total of 422 for Large classes), or an average of 2.6 times per student. Students in the Small classes made up for 59.9% of the total participation (1052) observed among all 12 classes, and the Large classes accounted for 40.1%.

*Final Grades*

Overall, students in the Small class had a higher percentage of As and Bs than the students in the Large class (Table 14). Likewise, students in the Large class had a higher percentage of Cs, Ds, and Fs. Consequently, students in the Small class had a higher passing rate than students in the Large class. In the Small classes the average failing rate per class (earning an F) was 2.6% ( $SD=5.9$ ) versus 5.0% ( $SD=5.9$ ) in the Large classes.

Table 14. *Mean Percentage of Letter Grades*

Classrooms	%A	%B	%C	%D	%F
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Large n=6	22.4 (16.7)	31.0 (13.7)	29.3 (11.0)	11.8 (12.4)	5.0 (5.9)
Small n=6	27.5 (10.4)	45.9 (12.9)	18.2 (10.6)	5.6 (7.5)	2.6 (4.1)

*Dropout rates*

Large classes in this study experienced a slightly higher dropout rate than the Small classes during the semester. In total, 20 students dropped out of the Large classes, versus 14 students in the Small classes. In the Large classes, that translates to a Mean of 3.3 ( $SD=1.9$ ) students per each of the six classes. In the Small class, it is 2.3 ( $SD=1.9$ ) students per each of the six classes.

## **5. Discussion**

The research question posed at the beginning of the study was: what is the effect of CSR on students' participation, passing rates, motivation, and dropout rates?

The overall results reveal the positive effect of CSR on students' participation. Taking into account the fact that typical Small classes have 20 students and typical Large classes have 27 students, then students in Small classes participate twice as much as students in Large classes. Not only are students in Small classes at an advantage by simply having less classmates, but it also appears that the size of the class may be conducive to having students feel more at ease, perhaps be more interested in the subject, and participate more. The implications of this result on language learning are clear-cut. The more the learners are using the second language in a communicative and meaningful way, the more they are on the path towards acquisition (Gass, 1997; VanPatten, 1996). Participation and communication in a second language class have obvious benefits to the students in that usually the only opportunities for students to "negotiate meaning" and have "real" interaction is with their classmates. They obtain first hand input by speaking with their classmates and by listening to them, and they also benefit by having the opportunity to speak and produce "output" in the classroom environment.

Another research question investigated was the effect of CSR on students' passing rate. All students participating in this study took the same midterm exams and final exams. As mentioned in the results section, students in Small classes passed their classes with higher grades than students in Large classes. Although the majority of students in both groups passed their Spanish classes, the grades of the students in the Small classes seem to reflect better Spanish skills than the grades of the students in the Large classes.

With regard to student motivation, findings demonstrate that students in Small classes self-reported being more motivated than students in Large classes. According to Dörnyei (1996) motivation leads to low-anxiety levels and self-confidence, which are key elements in successfully learning a second language. It could therefore be hypothesized that students in Small classes had higher passing scores due to their motivation to learn Spanish. It could be further hypothesized that motivation is also linked to a desire to remain in the class in which students were originally enrolled, thus connecting it to dropout rates.

Although the difference in dropout rates between Large and Small classes is not high, it is nevertheless existent in this study. One more student in each Large class dropped out of the Spanish class compared to students in the Small class. The consequences of dropout rates have a direct impact on the institution and the student. Students may choose to complete their language requirement at another institution or they may wait until they are about to graduate to finish these classes in the summer. Dropping out also leads to student frustration and blaming the department and the institution when their language requirement gets in the way of graduation. This in turn creates situations where students have completed the language requirement, but their ability to express themselves in the second language is limited.

As a result of these findings, the Administration has capped the number of students in all lower-level Spanish courses at 22.

## **6. Limitations**

First, since this study included a small sample of the student population, it was not possible to perform inferential statistical analyses and reach significance. A future study could include data from at least 10 sections of each CSR and non-CSR classes.



Secondly, classroom observations only took place once. For reliability purposes it would have been more adequate to observe the same classes twice or several times. Furthermore, observations should probably be done by two different observers, each one going to all the sections.

## **7. Conclusion**

Overall, the implementation of CSR in second language classes has a positive effect on student learning at the university level. As could be predicted students themselves preferred to be in classes with less students where their participation can increase. CSR also has repercussions on students' own perception of anxiety level. The lower the anxiety level, the more optimal the learning environment in a second language. Our results suggest that more research is warranted to discern what specific areas can benefit more.

Much research in the past has focused on CSR and student achievement only, and though these data are necessary, there are other aspects in second language learning in higher education that can play a crucial role. For example, further research should examine instructors' satisfaction and ability to provide thorough feedback, students' satisfaction, motivation, participation and dropout rates--which affect the ability to acquire the different competencies of second language learning.

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**Appendix A**

## Students' questionnaire

SPA 102 Section number \_\_\_\_\_

Please circle your answers for each question

1. Do you think the number of students in your class is excessive?  
Yes    No
2. Would you prefer to be in a class with more students or less students?  
More    Less
3. Do you think having 20 or more students in your class affects your learning negatively, positively, or neither?  
Negatively    Positively    Neither
4. Do you think having 20 or less students in your class affects your learning negatively, positively, or neither?  
Negatively    Positively    Neither
5. Do you think you have enough opportunities to participate and practice your Spanish?  
Yes    No
6. Would you like to be in a smaller class where you had more opportunities to participate and practice your Spanish?  
Yes    No
7. Do you think a large number of students in your class affects your ability to participate and practice your Spanish negatively, positively, or neither?

Negatively Positively Neither

8. Do you think a small number of students in your class affects your ability to participate and practice your Spanish negatively, positively, or neither? Negatively Positively Neither
9. Please write any comments or suggestions that you have with regard to the number of students in your classroom?
10. Do you or your instructor run out of time?  
Yes No
11. Do you feel comfortable to ask questions in class?  
Yes No
12. Do you ask for clarification questions when you don't understand something?  
Yes No
13. Are you a motivated student to learn Spanish?  
Yes No
14. Do you enjoy learning Spanish?  
Yes No
15. How often do you participate in class: always, often, sometimes, rarely, or never?  
Always Often Sometimes Rarely Never

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