BODE Jeroen

Class Size Reduction (CSR): preliminary results

Abstract

This research note is the outcome of a preliminary report presented for the Faculty and Development (FD)-workshop at the University of Tsukuba on 23 July, 2015. The theme addressed curriculum development. Through comparisons of different universities in Japan and the Netherlands the value of class size reduction (CSR) will be addressed. Two studies in the presentation were focused upon since they discuss CSR-research from two different perspectives but at the same time exhibit an interrelated connection clarifying the present state of CSR research.

Introduction

During the 2015 academic year one of the issues that came forth was the overpopulation of second year elective classes (e.g. academic presentation and academic writing) at the Centre for Education of Global Communication (CEGLOC) at the University of Tsukuba. Overpopulation here means a class size in which individual instruction and guidance during class time cannot be implemented by the teacher. The author presented this within the scope of practical difficulties in teaching these classes. Makeshift solutions were necessary to conclude these classes. Through actual case examples the theoretical basis of these studies are clarified and added to the discussion to see if there is warranty in suggesting second year class size reforms in the University of Tsukuba. In order to have a firm understanding of how different universities in Japan and the Netherlands deal with classroom student population problems I would like to supply first actual cases before dealing with the research situation in the following sections. For comparison I will introduce first other universities and how they handle class size reduction. The Dutch example is the only one that has class size reduction due to the small number of students enrolling for that program. While the other universities are controlling class size as a matter of academic policies.

Case study 1: Leiden University (Netherlands); Department of Japanese language and culture [renamed at present to Department of Japan Studies].

In this particular case the CSR seemed to be a result of how the situation was then (1989 - 1996). In the first year of the M.A. course on Japanese language and culture I attended there were lectures (content based subjects) on Japanese history, - literature, - art, modern Japanese grammar as well as seminars (language based subjects) on writing, conversation, classical Japanese to name a few. The lecture style classes were predominantly auditory and note-taking courses for all enrolled

students together (at that time 120 students). The seminar style courses were courses in smaller student units (maximum, around 20). Students were expected to prepare their homework tasks to be discussed and corrected in class. In other words these classes were student oriented work/task classes. A special feature of these classes to note was if students were not fully prepared they would receive one absence with consequences later for being allowed to take the final exam of that subject (5 or more absences meant disqualification). Furthermore, professors could also set requirements for prospective students (students could apply if they attended introductory courses with good results) in order to be allowed in these seminar courses. However, this should not be considered as a formal policy set by the university. The lecture style classes had not such a strict attendance policy. This case example came about because of a particular situation wherein the total number of students was small. From the initial 120 students in the first term (September 1989) gradually from year to year the number decreased because of the increase of the degree of difficulty of the course. The class size reduction was directly related to the academic situation and less a result of decided educational policy.

Case study 2: Meiji University (Japan); Department of Mathematical studies.

The course purpose was to develop further the oral English skills of students already acquired before entering Meiji University and to be confident in using English inside and outside the academic community of this university (based on the course description). For this predetermined course purpose to work it was a necessary class requirement to keep the number of students small. Furthermore the students of those classes ranged from low to intermediary language ability which would have hindered any progress if the groups were overpopulated.

Case study 3: Dokkyō University (Japan); Department of Economics.

In this university the course on academic reading and writing is for third year students. Through the set number of students for this class it will be possible to base the student writing completely on an individual basis. Through this the instructor can advise, recognize and deal with individual cases according to the student language abilities. Since the course is given completely in English (without Japanese as an instructional language) some students (with not a fully expected level for this class) would be at a disadvantage if the class would have been overpopulated.

Case study 4: University of Tsukuba (Japan); Center for Education of Global Communication (CEGLOC) [formerly: the Foreign Language Center]

Academic presentation classes and Academic writing classes are elective courses for second year students. Since these courses do not seem to have set a maximum on the student numbers the instructor has to decide whether to conduct the class in an individual student approach or, to put students in groups of four or five students and conducting regular classes with group presentations at the end of these presentation courses. While it is practically impossible in academic writing classes, to check and give feedback to multiple academic papers by individual students in a term, the decision to be taken is whether a group style writing would

suffice or instead individual reports on one compulsory academic article (decided by the instructor), and one elective academic article (chosen by the student and allowed by the instructor). In the worst case student wishes are placed secondary or even overlooked due to the educational setting. The G30 courses for foreign students I supervised until last year had a reduced number of students (around 20) wherein the course focused on student interaction and discussion format with a teaching content more accessible for students without the distraction noise in larger classes. The instructor was more approachable in this case also for students with individual questions.

Literature review: two intercorrelated studies

The two articles referred to in this research note have in common that they proceed looking at class size reduction through the comparison of achievement scores in comparison with a regular control group. The most recent article (Heejong, 2008) based its findings on a controlled setting: a single institution ("specializing in languages for special purposes to adults": p. 1091), a homogenous student group, and study duration of 64 weeks. Achievements were twice checked, namely, at a mid-point measure (speaking proficiency) and at end of course measure (two exams: the listening and reading DLPT-test, and the oral OPI proficiency test). In the mid-point score assessment the results of CSR classes were higher than the regular classes for the assessment criteria of "pronunciation" and "information accuracy" [and response] (p.1095). At the end of course listening, reading, speaking skills were advanced higher than those of the regular classes (p. 1101). These points are the results of connecting class size reduction with qualitative research; however, the author notes that pronunciation (with turn-taking frequency) and information accuracy were higher in CSR classes than regular classes through the times that students interacted with their teachers (17,33 versus 12,5). Fluency (L2 competence based) and form accuracy, the other two criteria for speaking proficiency, seemed CSR neutral without significant differences between these two types of classes. With these extensive results Heejong mentions with the benefits of reduced classes a higher L2 frequency is produced, also the one-to-one interaction between teacher and student increases.

The second article by Williams et al. (1985) presents CSR research from a slightly different perspective. Although both articles share the same research methods, Williams gives first a historical outline of the main studies on CSR until then. Different studies gave different answers to the CSR issue, ranging from pro-small, pro-large, mixed, no-difference, and meta-analysis [results of 77 separate studies] findings (pp. 308 -309). The study Williams et al undertakes are not restricted to merely language education, but encompasses other content studies as well. The class size refers to a number of 40 or more, while Heejong observed a smaller unit of 5-6 students for CSR classes reduced from the regular classes of 9-10 students. Interesting points from Williams et al. are that smaller classes can be characterized as being more student-oriented, friendlier in climate, as well as improving the teachers' morale (p. 310; in quoting Glass and Smith, 1979). But on the contrary, the findings in this article indicate that college student achievements are not affected by enlarging the classes from 30/40 students to several hundreds.

According to Williams this might be due to the use of smaller lab sections and a variety of media aides (p. 315). Williams et al. observes that besides student achievement there are other considerations to include, among others: classroom facilities, course budgets, students' demands and attitudes (p. 316).

The main articles in this research note are under consideration because they are related to higher university education. As stated above, the first article (Heeyong, 2008) is strongly focused on foreign language studies in an L2 setting, while the second article by Williams et al. is more concerned with CSR in other content based studies. The articles can be considered as introductory articles to be followed by in-depth research in other aspects of CSR. Besides the regular quantitative studies (statistical comparison of achievement scores), studies could be performed from various perspectives, such as: the effects of CSR on participants (teachers, students), including psychological research of the participants, medical research (neurological and cardiological) and see if there are observable differences in the results to validate the implication of CSR policies.

Result and Discussion

Observing the actual CSR situation in the classes the author is in charge of and what both articles are describing on the quantifiable validity in class size reduction there seems to be a certain basis to suggest for higher elective courses in this English section to implement a policy, of setting maximum enrollment size. Through Williams' article (Williams et al. 1985) it becomes clear that the CSR issue is not limited to merely language courses, but encompasses other university courses as well. Even if certain courses are without formal examinations to determine effectiveness, through empiric class experiments it could add justifications to recommend this to the upper academic echelons within the university structure. At which point budget could be set apart for medical research with measurable outcomes on the effects of CSR in the physical well-being of students and instructors. Thomas (2002, p. 4) describes the human body as a "text to be read". Concretely he states in further details what measurable factors with the body can be recorded:

> Over the course of [the 19th] century, the visual analysis of the heartbeat and the force and volume of the circulation of blood became the central tenets of pathogenic diagnosis, yielding a permanent "written" of otherwise undetectable information about the true condition of the body. (p. 28)

Instead of emphasizing educational effects as the main legitimization of a CSR policy, it is equally beneficial to consider physiological factors in this.

Conclusion

Through the studies in CSR research it becomes clear that there is no singular solution to deal with overpopulation in classes. It is essential to determine the educational goal (factual study versus skill-based education) before actually deciding on the actual class format. Comparing grading results between CSR

classes and regular classes is one indicator therein. Other valid research could be envisioned such as neurological or cardiological measurements in establishing a legitimate medical claim to the benefits of reduced classes. The practical implications of medical research could be: stress reduction in real class time, the effects of long term learning effect (optimum use of brain functions), or long term memory effect (the brain as a repository of facts). Although the achievement score has value in researching class size reduction, it is not the sole method, since scores are to some degree elusive since they are a record of a single moment in the education process, which could be divided into before, during and after stages. One of the interesting points to discover is if there is a relation to class size reduction and the educational returns in practical applications in post-academic situations.

Although there might be validity in establishing this type of class on a larger scale, on an administrative level one of the difficulties to overcome could be the budget limitations or insufficient funding to set up smaller classes. On the other hand, it would be interesting to see how education develops with the birthrate in a decreasing spiral and with perhaps smaller classes emerging due to this.

References

Bode, J. (2015, July). *English language education: the impact of class size on student learning*. Presentation for the FD-workshop on teaching methodology (didactics) in English fundamentals at the University of Tsukuba

Glass, G. V. & Smith, M. L. (1979). *Relationship of Class-size to Classroom Processes, Teacher Satisfaction and Pupil Affect: A Meta-analysis*. San Franscisco: Far West Laboratory for Educational Research and Development.

Heejong, Y. (*2008*). The Effect of Class Size Reduction on Foreign Language Learning: A Case Study1. *Language and Linguistics Compass 2/6 (2008): 1089–1108 http://onlinelibrary.wiley.com/doi/10.1111/j.1749818X.2008.00090.x/abstract*

Thomas, R.R. (2002). *Detective fiction and the rise of forensic science*. Cambridge (U.K.): Cambridge University press.

Williams, D. D. , Cook, P. E., Quinn, B. and Jensen, R. P. (1985). *UNIVERSITY CLASS SIZE: Is Smaller Better? Agathon press, Inc. http://link.springer.com/article/10.1007%2FBF00973793*