

**The Other Side of the Coin: Overcoming the Detrimental  
Effects of Small Classes in Management Education**

**John A. Parnell**

William Henry Belk Distinguished Professor of Management  
School of Business  
University of North Carolina at Pembroke  
PO Box 1510  
Pembroke, NC 28372 USA  
Phone: (910) 521-6465  
*John.Parnell@uncp.edu*

**William “Rick” Crandall**

School of Business  
University of North Carolina at Pembroke  
PO Box 1510  
Pembroke, NC 28372 USA  
Phone: (910) 521-5786  
*Rick.Crandall@uncp.edu*

**Sharon L. Bell**

School of Business  
University of North Carolina at Pembroke  
PO Box 1510  
Pembroke, NC 28372 USA  
Phone: (910) 521-6462  
*Sharon.Bell@uncp.edu*

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**Abstract**

A number of recent studies have examined the effect of large class sizes on student performance and teaching effectiveness. However, little attention has been given to challenges associated with small classes. This paper examines problems that are encountered when classes become too small. Suggestions for addressing these problems are presented.

The link between class size and student learning has been a topic of keen interest to educators, politicians, and the general public in recent years. Proponents of smaller classes have argued that learning is enhanced when fewer students are enrolled in a class. While results from empirical studies have been mixed, little attention has been given to the possibility that class sizes can be reduced to the point that effectiveness actually declines (Dommeyer, 1997; Scheck, Kiniki & Webster, 1994; Murdoch & Guy, 2002).

The presumed linear relationship between class size and effectiveness is illustrated in figure 1. In contrast, we propose an inverted-U shaped relationship, acknowledging the general tendency for effectiveness to decline when classes are too large *but also* proposing that effectiveness declines when classes are too small.

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Insert figure 1 about here  
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This paper addresses a number of practical considerations supporting the contention that classes that are *too small* can present as much of a problem as classes that are *too large*. This paper does not seek to suggest an optimal class size. Indeed, such a number would depend on a number of factors, including but not limited to field of study, level of the course, abilities and personalities of the students, and style of the instructor.

Following an overview of the literature, case studies of three classes with ten or fewer students are presented. Based on these cases, practical recommendations for overcoming problems associated with small class size are presented, followed by an outline of research opportunities.

## **Review of the Literature**

What exactly constitutes a “small” class is widely debated. Indeed, some studies have considered a small class to have as many as thirty students (Dommeyer, 1997). In this paper, however, a “small class” refers to one with fewer than ten students. In addition, class size is defined as the ratio of students to instructors (Glass & Smith, 1980). Hence, the reference to fewer than ten students assumes that there is only one instructor in the class.

There are also different definitions of “teaching effectiveness” and “instructor effectiveness” among studies considering class size effects (Baldwin, 1993; McConnell & Sosin, 1984; Hill, 1998). In this study, we link effectiveness to learning outcomes. In other words, instructional effectiveness increases when student learning increases.

The class size-performance nexus has received considerable attention in the literature over the past half century (McConnell & Sosin, 1984; Shane, 1961, Simmons, 1959). In general, studies examining the effect of class size on performance have pitted “large” classes against those of “moderate” size. Following this stream, a number of studies have demonstrated a negative association between class size and performance (Glass & Smith, 1980). In contrast, other studies found no consequential relationship (Byus, Hampton, & Pratt, 1995; Dommeyer, 1997; Hill, 1998; Laughlin, 1976; Siegel, 1959; Williams, Cook, Quinn, & Jensen, 1985). Differences have also been found across disciplines.

Some studies have also considered the role played by instructor effectiveness in mediating and moderating the relationship. Baldwin (1993), for example, found that any negative effect associated with substantial increases in size could be more than overcome if a highly effective instructor teaches the large class.

Effectiveness aside, research suggests that smaller classes are usually preferred by both instructors and students (Guseman, 1985; McKeachie, 1978; Smith & Glass, 1979). In one study, faculty reported that classes with fewer than thirty students are less stressful, easier to control, and allow for more individualized instruction. Students report that such classes reduce distractions, create less threatening environments, and result in more personal attention from the instructor (Dommeyer, 1997). However, research does not support the existence of these perceptions when class size falls below ten students.

Many faculty members fear that large classes will negatively affect student evaluations of their teaching (Marsh & Overall, 1979). However, this has not always been supported in the literature (Feldman, 1978, 1984). Nonetheless, it is difficult, if not impossible to remove political and personal preference biases from discussions on class size and teaching effectiveness.

Perhaps the greatest problem associated with the literature on class size involves the number of other factors that greatly influence its relationship with effectiveness. Although a number of published studies have addressed the class size-effectiveness relationship, generalizability is usually a key problem. Differences in disciplines, instructor ability and experience, student composition, and the use of various forms of multimedia also appear to play substantial roles (Karakaya, Ainscough, & Chopoorian, 2001).

Although small classes are relatively infrequent in management education, they occur enough to warrant further attention. Some institutions in particular are more likely than others to see small class enrollments in their programs. While many administrators simply cancel a course with small enrollments, such actions can be unpopular with students who need certain courses in order to graduate. The following accounts highlight three classes that were recently taught by the authors at their institution, a state supported university in the southeastern United States that

frequently offers small class sizes. Interestingly, small classes with personal attention represent a popular selling point for the university. However, as is illustrated, such small classes do carry with them certain unique problems.

### **Tales From the Classroom: Three Cases**

Each of the three co-authors of this paper recently taught a small section of a management course. Capsules of these experiences are summarized below and are used as a context and a springboard for developing suggestions for overcoming difficulties in the subsequent section.

#### ***Case #1: Nine Students in a Business Strategy Course***

One of the co-authors of this paper instructed a business strategy course with nine students in 2004. Business strategy is the capstone course required of all undergraduate business majors and is usually taken in the student's graduating term. The course is largely qualitative and analytical, with an emphasis on a team project. This class met one night a week.

The format for each class was divided into ~~three~~two parts. The first ~~third~~half of the class was devoted to a lecture presented by the instructor. The ~~next third of the class~~second half focused on a case discussion, assigned for reading the previous week. ~~The last third of the class centered around~~In addition, a seminar question assigned the previous week was discussed. The seminar question involved independent research by the student during the week and student followup participation was required the following class meeting.

One of the problems encountered with this smaller class concerned classroom logistics, and more specifically an unusual situation that influenced delivery of the course. As a result of a mold outbreak in one of the buildings on campus, a number of classes for this particular semester were assigned to other buildings. As a result, some "lecture" classes—including this particular

course—were held in computer labs. This setup proved less than ideal as students sat in long rows with computers often blocking the view of the student from the instructor. To compensate for this dilemma, the professor experimented with moving the class to a conference room when class discussions were being conducted. The lecture segment of the class however, was conducted in the computer lab. This arrangement proved more effective for discussions because of fewer distractions and more conducive seating arrangements. From this experience, the professor concluded that future small classes should consider meeting in conference rooms as opposed to a traditional classroom.

### ***Case #2: Five Students in a Business Strategy Course***

A different co-author of this paper instructed a business strategy course with five students and one with eight students in 2004. Although many of the assignments were similar to those elaborated in the aforementioned case, there were some differences.

Students in the course were required to subscribe to the *Wall Street Journal* and discuss articles of interest related to the course during the first 10-15 minutes of each class section. Students were not required to read specific articles, but were allowed to read and discuss the ones they believed to be most relevant to the course. The small class size placed pressure on all students to participate in this activity. Follow-up discussion on the articles was not common, however, as most or all of the other students typically did not read the particular article being presented.

During lectures, examples were frequently cited to support key concepts. Three students had significant part-time work experience in the fast-food and banking industries. As such, these industries were frequently referenced as examples. Without students with experience in other

industries, however, it was difficult to develop some of the examples that would have been used in a larger class.

Although a lecture-discussion approach was preferred, the small number of students limited questions and forced a style closer to that of a straight lecture. It is interesting to note that this counters conventional wisdom, whereby discussion is generally assumed to increase when class sizes are smaller. -is minimized.

### ***Case #3: Two Small Classes in Managerial Accounting***

A third co-author instructed two small classes in managerial accounting, one with six students and one with nine. Managerial accounting is a sophomore level course required for all business majors. The format of the course is lecture-discussion using exercises, problems, and cases. Homework was assigned every class period and was collected on random days for a grade. Solutions were discussed during the following class.

One problem encountered in this class was limited student participation. Lecturing and reviewing homework with this small number of students seemed unnatural to the instructor. More student discussion was expected. To encourage participation, the instructor required homework to be submitted in advance through e-mail. Student errors could be brought to the attention of the class without subjecting individual students to the embarrassment of providing “incorrect” solutions. Reviewing the homework in advance helped facilitate “artificial participation” and provided an opportunity for all students to contribute ideas and acceptable solutions to the discussion throughout the semester.

Another problem encountered was the absence of a critical mass of students for a structured group assembly-line simulation. The class was divided into teams to create assembly lines, each with a manager, timekeeper, quality control inspector and assembly line workers. A

debriefing followed with discussion among the participants. Due to the small size of these two classes, the assignment was modified in one section and not used in the other. The debriefing was not effective due to the limited number of students assuming each role. A second group project, that had proven successful in larger classes, was not used in these small classes.

### **Challenges and Recommendations**

From these three cases, several broad challenges associated with teaching small classes were noted. These are delineated below, along with recommendations for overcoming them.

*1. Lack of sufficient participation.* In all three cases additional student participation was desired. Simply stated, unless several highly participative students end up in a small class, this problem is very likely, regardless of the course. To overcome this shortcoming, ~~the instructor~~ ~~a~~ ~~faculty member~~ can assign a particular student (or students) to develop 3-5 questions from the readings prior to each lecture. Students can be selected on a rotational basis and ~~are~~ ~~be~~ required to ask their questions along the way as topics are introduced. Of course, this does not preclude others from adding questions and offering other comments as well.

It is also helpful to elicit participation early in the term on “lighter” or student-related topics to increase student comfort in participation. For example, students are generally interested in discussing their experiences with their university and their daily activities. Sharing perspectives on less controversial topics can serve as a foundation for future participation.

In addition, an instructor can take steps to foster class discussion before the class begins. In larger classes, discussion naturally evolves in an active learning environment. In smaller classes, however, instructors can take steps prior to the class session to ensure that participation occurs and is effective. For example, students can be required to distribute comments on a topic

electronically to the instructor and others in the course class before the class meets. This process increases student class-familiarity with a particular topic and can fuel quality discussion in class.

*2. Heightened pressure on quiet or less articulate students.* A student who prefers to offer only occasional comments is required to increase his or her participation, which can increase one's stress level. To some extent, this problem cannot be avoided. However, an instructor who makes a special effort to get to know students quickly and put them at ease can help them use the small class as a tool for becoming more expressive.

Even in a small class, an instructor can subdivide students into teams of two or three to discuss issues and/or solve problems. Students tend to participate effectively within small teams, an experience that can heighten participation when the teams share and discuss their findings.

Another option is to offer a simple "ice breaker" before the main part of the class gets underway. In an ice breaker, a simple question is asked to the participants, and each person delivers their response one at a time. The question asked can be varied, and usually does not pertain to the subject matter of the class. For example, one of the authors uses an ice breaker in which each student is asked what they ate for breakfast that morning. The advantage of an ice breaker is that it gets each student participating in the class. By participating once, early in the class session, some students are more likely to participate later in the session. The initial fear of speaking up has been de-sensitized to a degree, and speaking up later becomes easier. In addition, an ice breaker such as this one is fun because it reveals interesting insights about each student.

*3. Lack of feedback.* When a difficult concept is presented, students often hesitate to ask for clarification as needed. When there are only several students in a class, the odds that additional explanation will be sought may decline proportionately. Instructors can compensate

for this problem by selecting a student at random ~~from time to time~~ and asking him or her to summarize the material presented recently. Alternatively, students can be asked to write and submit a brief summary of the lecture near the end of each class session. This activity can result in poignant questions of clarification and can also provide an opportunity for the instructor to identify gaps in student learning that need to be addressed in the subsequent session.

4. *Lack of a suitable sample when measuring performance.* In a class of thirty students, for example, average mean-scores on examinations are meaningful forms of feedback for both the instructor and the students. Such scores may be skewed inf the size of the student sample (i.e., class size) is very small. In such instances, it is helpful to compare scores on assignments to those in previous or concurrent sections to build a larger population of students.

5. *Inappropriate learning environment.* Traditional classrooms with 30 to 40 desks are not conducive to a learning community consisting of fewer than ten students. Whenever possible, instructors should seek to relocate such classes to smaller classrooms, perhaps those with a “roundtable” setting. Laboratory settings such as those found in typical computer labs may not be appropriate. However, if it is possible to relocate the class to a conference room, discussion will be easier. In addition, the more professional environment may act as a motivator to some of the class members who dislike the aesthetics of the classroom. If appropriate relocation is not feasible, students can rearrange the desks in a small circle to facilitate greater interaction.

6. *Inability to implement class activities that require a critical mass of students.* Indeed, it is possible that certain learning activities simply cannot be implemented effectively in extremely small classes. Instructors should recognize, however, that small classes create opportunities to incorporate activities that would not be possible with larger classes. When there are only several students in a class, for example, it is more feasible easy-for an instructor to take students to the

library or on a field trip. In addition, small classes ~~also~~ provide instructors with a laboratory to test new teaching approaches on a ~~more limited scale~~ pilot basis. ~~Interestingly~~ Consequently, new approaches that prove to be successful can be refined and introduced in larger classes.

### **Prospects for Future Research**

This paper has identified key challenges that must be addressed when classes become too small. Suggestions for overcoming these challenges or at least reducing their effectimpact on effectiveness have also been offered. Although anecdotal evidence suggests that classes can become too small, ~~however~~, there is a dearth of empirical evidence to either support or refute this notion. As such, four avenues of empirical research may be useful.

First, studies comparing student performance in classes of various sizes, including those below ten students, are needed. When possible, it may be useful to compare classes of different sizes taught by the same instructor.

Second, in addition to performance, studies should consider student and instructor satisfaction associated with various class sizes. While it is not suggested that satisfied students always learn more or satisfied instructors necessarily teach more effectively, satisfaction influences a number of other relevant variables such as student enrollment and faculty turnover.

Third, this study considered the effect of class size on effectiveness in traditional classes, but did not address the relationship in on-line courses. It is likely that the relationship between class size and effectiveness is altogether different in the on-line environment.

Finally, given the influence of content on effectiveness, research should consider whether “optimal” class sizes differ significantly across disciplines. Specifically, investigations that demonstrate how the relationship between class size and learning effectiveness varies across disciplines would be helpful.



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Figure 1  
Proposed Linkages Between Class Size and Learning Outcomes

