Analysis of Class Attendance Policies and Grade-Related Contingencies in Graduate-Level Education Administration Courses

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Abstract: Professors of Educational Administration spend an inordinate amount of time tracking student attendance and calculating absences into final grades. A study of student attendance in one educational administration program at a medium-sized public institution of higher education in California concluded that: (1) negative and positive grade-related contingencies increased student attendance, (2) neutral (optional) attendance decreased student attendance, and (3) the imposition of grade-rated attendance contingencies did not significantly improve the academic achievement of students. The study included an analysis of student attendance during six semesters and an assessment of the perceptions of graduate students regarding instructor-imposed grade-related contingencies.

Introduction

Class attendance is a paradox. Intuition suggests that a student's

physical presence in a university classroom is paramount to the successful completion of a course and the granting of a coveted *A* grade. At best, the literature provides a limited assessment of class attendance vis-à-vis academic performance at the graduate level and a dearth of studies at the undergraduate level. Specific studies found mixed results when graduate professor-imposed motivators, or grade-related contingencies, were imposed on undergraduate students (Friedman, Rodriguez, & McComb, 2001; Rodgers, 2001; Wilder, Flood, & Stromsnes, 2002; Durden & Ellis, 1995; Hovell, Williams, & Semb, 1979). Unfortunately, these studies provide meager direction for graduate-level professors of educational administration. Their students are a self-selected group of highly motivated individuals, who have chosen to undertake a professional certification program with the goals of improving their professional status and becoming educational leaders. Needless to say, these *Type-A* personalities add a fascinating dimension to the notion of required class attendance.

Purpose

The purposes of this study were three-fold: (1) to provide the educational administration professorate with research-based strategies that may improve student attendance, (2) to determine if specific motivational strategies are effective in encouraging increased student attendance, and (3) to validate the notion that class attendance positively influences student performance in graduate education administration courses. The narrative will begin with a brief review of related literature regarding student attendance in undergraduate collegiate programs. Next, the research methodology is discussed, followed by a description of the data. The author collected quantifiable data in the form of actual student attendance rates over six semesters during the 2000-01, 2001-02, 2002-03, and 2003-04 academic years and qualitative data in the form of questionnaires were completed by students enrolled in nine distinct courses in the educational administration program during the fall 2003 semester. A sample of 310 graduate students was used to determine actual class attendance rates. A separate sample of 131 graduate students provided input regarding their perceptions and opinions of required class attendance and effective grade-related contingencies. A small number of students participated in both sample groups. However, this duplication was unintentional and occurred strictly by chance due to the timing of data collection.

Related Literature

Wilder, Flood, and Stromsnes (2001) found that grade-related contingencies were effective motivators to improve student attendance. The study was conducted in an undergraduate course in psychology and involved one positive motivator; extra credit. Students earned additional points by attending class and successfully completing a series of quizzes. The timing of the administration of these quizzes was random. Attendance improved significantly during the first six weeks of the semester and the students appeared to support the concept. Interestingly, attendance declined when the extra credit motivator was discontinued halfway through the semester, and improved again when the grade-related contingency was re-imposed during the final weeks of the semester. The researchers highly recommended the inclusion of positive, grade-related contingencies in order to maintain high overall attendance.

A comprehensive study of undergraduate class attendance analyzed specific variables commonly used to excuse student absences. Friedman, Rodriquez, and McComb (2001) discounted several commonly held myths, finding no statistically significant effects due to students' gender, age, employment, financial condition, or residence. They did find that attendance-checking policies, punitive grade-related contingencies, and class size significantly predisposed students to either attend or skip classes. Interestingly, the primary attendance motivators were internal; a sense of responsibility to be present and the students' own grade point averages. Secondarily, students who expected to participate in an active, engaging course attended classes more frequently. Clearly, students' low estimation of the quality of instruction and lack of respect for the professor negatively influenced their decision to attend class.

Another study compared and contrasted undergraduates' attendance at class meetings with and without frequent testing. Hovell, Williams, and Semb (1979) found that, in general, high attendance rates seemed to be a function of grade-related contingencies. However, these contingencies also appeared to lower student attendance at optional class meetings. Students selectively attended only those classes that directly influenced their final grades.

Regardless of the grade-related contingency selected by the instructor, does student attendance actually lead to positive academic achievement? Again, the findings described in the literature were inconclusive, at best. Apparently, there were positive outcomes due to student attendance, but the results were mixed (Durden & Ellis, 1995; Rodgers, 2001; Silvestri, 2003).

A positive correlation was found between attendance and perfor-

mance in an undergraduate economics course. Durden and Ellis (1995) confirmed that student attendance did result in higher academic achievement, however the effects were nonlinear. In other words, students appeared to suffer no academic loss for infrequent absences. Students did experience significantly poorer academic performance when their absenteeism became chronic.

Silvestri (2003) also concluded that excessive absences significantly weakened the academic performance of 277 pre-service teacher candidates. However, perfect or near perfect attendance did not appear to have a direct causal effect on final grades. Silvestri noted that students were able to maintain a higher level of academic achievement in spite of periodic absences.

Rodgers (2001) analyzed student attendance and academic achievement in undergraduate required economics courses while controlling for unobservable variables, such as student motivation and aptitude for the subject matter. The findings were small, but statistically significant. Rodgers noted that a student with an average attendance rate of 74% would score between 1.3 and 3.4 percentage points lower on quizzes and tests than an otherwise identical student with perfect attendance. Further, this difference resulted in a one-letter reduction in grade for some students.

Durden and Ellis (2003) analyzed data collected from a large sample (252 students) to determine whether or not internal student motivation directly influenced academic performance, regardless of instructor intervention or other environmental factors. The results strongly suggested that self-motivation was an independent variable that affected student performance and that motivation must be specifically controlled in an empirical study if reliable predictions were desired.

Professors of Educational Administration assume that students' physical presence in the classroom results in more powerful learning experience and, ultimately, stronger academic performance in the course. Assuming that the inclusion of grade-contingent motivators influence actual attendance, the author posited the following research questions:

> (1) Which specific instructor-imposed grade-related contingencies, either positive or punitive, actually increase student attendance in graduate-level courses of educational administration, if any?
>
> (2) Does the inclusion of these grade-related contingencies actually improve students' final grades in graduate-level courses in education administration?

Methodology

This study utilized both archival student attendance data and a questionnaire distributed to graduates students in nine distinct course sections during the fall 2003 semester in an education administration program in a medium-sized, comprehensive public institution of higher education in California.

Student attendance data for six semesters over a four-year period (2000-2001, 2001-2002 [fall semester only], 2002-2003, and 2003-2004 [fall semester only]) were compared and contrasted. The spring 2002 semester was omitted from the analysis due to insufficient data. The sample included 310 fully matriculated students enrolled in one or more courses taught by one instructor leading to a Preliminary Administrative Services Credential issued by the California Commission on Teacher Credentialing (CCTC). Ex post facto student attendance data were analyzed using descriptive statistics and frequency distributions.

Data also included student responses to motivational factors, which may or may not have influenced student attendance in graduate-level courses. Respondents were asked to rate each factor on a 4-point interval scale, indicating their perceived level of agreement regarding twenty (20) grade-related contingencies. An open-ended response section requested additional written information or comments from the respondents. The sample included 131 fully matriculated students enrolled in one or more classes taught by two full-time professors and five adjunct instructors during the fall 2003 semester.

Data related to motivational factors were analyzed using nonparametric inferential statistics to determine if sample distributions were consistent with theoretical values (Cronk, 1999). Initially, responses were analyzed utilizing the *Chi-Square Goodness of Fit* to determine if obtained responses differed significantly from an equal distribution of responses, thereby demonstrating a clear preference for a given contingency. Statistical significance was determined when the obtained value was equal to or greater than the critical value of 7.815 (a=.05, df=3). Finally, descriptive statistics, means and rank ordering, were utilized to illustrate the strongest grade-related contingencies identified by the respondents.

Findings

The data encompassed 12 distinct course sections conducted during six semesters. Average class size was 25.834 students and the total number of students in the sample was 310. The instructor of the courses utilized three different types of grade-related contingencies. Student

attendance data were disaggregated in order to analyze the effects of: (1) negative grade-related contingencies, (2) neutral grade-related contingencies, and (3) positive grade-related contingencies. Table 1 illustrates when each of the treatments occurred.

Student attendance was disaggregated by course section, semester, and treatment. The total number of student attendance days was calculated by multiplying the number of enrolled students by the total number of class meetings. The total number of student absences was then subtracted from the total number of possible student attendance days, and percentages were calculated for comparison purposes. Finally, the total number of students who achieved perfect attendance by course section was tallied and compared with students who missed one or more class meetings.

Table 1
Grade-Related Contingencies By Semester

Semester	# Subjects	Type	Description
# 1	50	Negative	Make-Up Work; Grade Penalty (>3 of 14 class sessions)
# 2	46	Negative	Make-Up Work;Grade Penalty (>3 of 14 class sessions)
# 3	51	Negative	Make-Up Work;Grade Penalty (>3 of 14 class sessions)
# 4	67	Neutral	No Effect on Final Grade; Attendance Optional
# 5	54	Positive	Bonus Credit for Perfect Attendance; Verbal Praise
# 6	42	Positive	Bonus Credit for Perfect Attendance; Verbal Praise

Negative grade-related contingencies were applied during the first three semesters of this study. Make-up work was assigned for each absence and final grades were reduced for missing more than 3 of 14 class meetings (see Table 2).

Table 2
Negative Grade-related Contingencies for Semesters 1, 2, and 3

	Course Sections	Course Sections	Total and Mean %
Semester 1			
Number of Students	29	21	50
Attendance Rate	97.08%	95.15%	96.28%
Perfect Attendance	68.97%	47.62%	60.00%
Semester 2			
Number of Students	34	12	46
Attendance Rate	96.15%	95.51%	95.99%
Perfect Attendance	55.88%	58.33%	56.52%
Semester 3			
Number of Students	29	22	51
Attendance Rate	97.11%	94.05%	95.80%
Perfect Attendance	62.06%	31.82%	49.02%

Neutral grade-related contingencies were applied during the fourth semester of this study. During this treatment period, the instructor offered no external incentives to attend class. Attendance was optional and final grades were unaffected by attendance (See Table 3).

Table 3
Neutral Grade-related Contingencies

	Course Section 1	Course Section 2	Total and Mean %
Semester 4			
Number of Students	31	36	67
Attendance Rate	94.03%	92.08%	92.98%
Perfect Attendance	48.39%	33.34%	40.30%

Finally, positive grade-related contingencies were applied during the fifth and sixth semesters of treatment. The instructor offered each student bonus credit for perfect attendance and verbally praised the group's on-going attendance pattern at the beginning of each class session (see Table 4).

Table 4
Positive Grade-related Contingencies for Semesters 5 and 6

	Course Section 1	Course Section 2	Total and Mean %
Semester 5			
Number of Students	25	29	54
Attendance Rate	95.47%	96.82%	96.18%
Perfect Attendance	68.00%	75.86%	72.22%
Semester 6			
Number of Students	21	21	42
Attendance Rate	95.60%	97.62%	96.60%
Perfect Attendance	66.67%	71.42%	69.04%

Data from all three-treatment periods were combined and calculated to further assess the effects of negative, neutral, and positive grade-related contingencies on actual student attendance. The total attendance rates of all students and students who achieved *perfect attendance* are illustrated in Table 5.

Table 5
Comparison of Grade-related Contingencies (Total Sample)

	Negative	Neutral	Positive
Students (*n*=310)	147	67	96
Attendance Rates of All Students	96.02%	92.89%	96.38%
Percentage of Students with Perfect Attendance	55.11%	40.30%	70.83%

Variation in sample sizes makes comparison less reliable. However, the three samples were still robust enough to infer viable trends. For example, the total attendance rate decreased noticeably during the period of neutral treatment. There was an insignificant difference in student attendance rates during the negative and positive treatment periods. Curiously, the nature of the grade-related contingency did not appear to be important, as long as some type of contingency was imposed. Surprisingly, grade-related contingencies had the greatest effect on students who achieved perfect attendance. This group responded remarkably to positive contingencies, specifically bonus credit for perfect attendance.

The second research question asks if class attendance translates into academic success. Table 6 shows the sample as two groups, students with

perfect attendance, and students with one or more absences. The total number of grade points earned by each group was calculated using the traditional *A=4, B=3, C=2, D=1* formula. The grade-point average for each group was then determined. A *t-test for independent means* was used to statistically analyze the grade-point averages of these two groups. Students with perfect attendance performed somewhat better than students with one or more absences (.13 of one grade point), however, the difference was not statistically significant.

Table 6
Attendance and Earned Grade Point Average

	Total Number of Students	Total Grade Points Earned	Actual Grade Point Average
Students with Perfect Attendance	175	664.25	3.80
Students with Absences	132	484.50	3.67

The second part of this study analyzed the input of fully matriculated graduate students currently enrolled in nine distinct course sections of the administrative credential program during the fall 2003 semester. The instructors of these courses distributed a questionnaire to students. Participation was encouraged, but was not tied to any course requirement. A sample of 131 students completed and submitted questionnaires.

The student participants were asked to rate twenty grade-related contingencies on a 4-point interval scale (4=Totally Agree, 3=Somewhat Agree, 2=Somewhat Disagree, 1=Totally Disagree, N=No Opinion). The mean responses were then rank-ordered in descending order from the highest level to the lowest level of agreement (see Table 7).

Finally, respondents reacted to a single question regarding their personal belief regarding the importance of class attendance on their final grade. Again, a 4-point interval scale was used. The responses indicated that students perceived class attendance was directly related to academic success (M=3.569).

Table 7
Student Perception of Grade-Related Contingencies (*n*=131)

Grade Related Contingencies	Rank	Mean
Quality of instructor	1	3.758*
Personal/professional ethics	2	3.589*
Specific course activities	3	3.469*
Instructor expectations (written)	4	3.423*
Love of learning	5	3.417*
Instructor expectations (verbal)	6	3.409*
Course content	7	3.389*
Increased final grade for regular attendance	8	3.277*
Professional interaction with colleagues (networking)	9	3.225*
Decreased final grade for irregular attendance	10	3.130*
Grade bonus for perfect attendance	11	3.114*
Tuition	12	2.975*
Required make-up work for absences	13	2.881*
Social interaction with colleagues	14	2.860*
Attendance tracking (written)	15	2.737*
Reason provided to instructor to excuse absence	16	2.547
Competition with extrinsic reward	17	2.445*
Competition with intrinsic reward	18	2.160*
Attendance tracking (verbal)	19	2.130*
Attendance has no effect on final grade	20	2.117*

* $p < .05$

Clearly, the overall quality of instruction (professor competence, pedagogy, and course content) was a significant motivational contingency. Respondents' personal ethics and enjoyment of the learning process were also important indicators of student motivation. Instructor-contrived grade-related contingencies appeared to be much less influential in encouraging class attendance. Curiously, neutral grade-related contingencies invoked respondents' disagreement, suggesting a lack of motivational effect, a fact that was confirmed when students' actual attendance rates were analyzed. Overall, respondents' clearly agreed with the notion that class attendance was important, particularly in a professional graduate program such as educational administration.

Finally, open-ended responses assisted in refining students' thoughts regarding the overall importance of grade-related contingencies. Regardless of grade-related contingencies, a deep personal desire to succeed, and a professional commitment to the program, were intrinsic factors most frequently mentioned by the respondents. Externally, the

quality of instructor and a genuine respect for the professor were dominant themes.

In sum, attendance rates and students' perceptions regarding grade-related contingencies illustrate an interesting point, regardless of the type of motivating grade-related contingency applied by the instructor, *doing nothing* appeared to be the least effective strategy in encouraging class attendance and was the least-favored method by graduate students (see Table 8).

Table 8
Comparison of Student Perceptions and Actual Class Attendance

	Negative Motivators	Neutral Motivators	Positive Motivators
Perception	M=2.853	M=2.328	M=2.749
Attendance	96.02%	92.98%	96.38%

Conclusions and Implications

These findings underscore the influence of grade-related contingencies on regular class attendance of graduate students in one educational administration preparation program in California. In sum, the findings indicated a notable difference between the imposition of grade-related contingences and the lack thereof, but found no discernable difference between negative and positive methods. Both strategies resulted in identical higher attendance rates, approximately 96 percent.

Most notable, however, was the marked decrease in attendance during the neutral period of treatment. When student attendance was optional and was not factored into students' final grades, actual attendance dropped by approximately four percentage points. This finding supports the outcomes described in the literature (Freidman, Rodriquez & McComb, 2001; Wilder, Flood & Stromsnes, 2001; Silvestri, 2003).

The most noteworthy increase in student attendance was in the percentage of students who had achieved perfect attendance during the treatment period. Obviously, bonus credit for perfect attendance was a powerful factor in inspiring more students to attend every class session.

Respondents clearly identified three factors which positively influenced improved class attendance: (1) quality of instruction, (2) personal ethics, and (3) course content. External contingencies were less important to the respondents, even though attendance data suggest otherwise. Clearly, optional attendance was not favored by the respondents and was

confirmed by a precipitous drop in attendance when neutral grade-related contingencies were applied. For professors of education administration, *something* appears to be better than *nothing*…or is it?

The grade-point averages of two disaggregated groups, students with perfect attendance and students with one or more absences, were also calculated and compared. Curiously, the grade-point averages of the two groups differed by only .13 of one grade point. Further analysis found the difference was not statistically significant. Nevertheless, this discrepancy could mean the difference between an *A* or a *B*, particularly if students are precariously close to the line of grading demarcation.

Regardless of the final grade, the author posits that students are provided with a richer, more dynamic educational experience when all members of the class are physically present. This increased number of opportunities to interact directly with colleagues and the instructor deepens and enhances the quality of professional dialogue and collaboration in the classroom.

Summary

Professors of Educational Administration would be wise to assess their attendance policies. First, required attendance does not appear to result in significant academic achievement, at least not in the world of graduate studies and credential preparation programs. Students are already highly motivated, driven individuals. They are eager to become the next generation of educational leaders. A strong work ethic, a familiarity with the subject matter, and a subtle fear that something might be missed, motivates and encourages even the most recalcitrant individuals. Are grade-related contingencies necessary to ensure a higher-level of commitment on the part of educational administration students? This author thinks not, but remains strongly committed to regular, face-to-face contact with students as a means of enhancing the academic and affective outcomes of all collegiate programs.

References

Cronk, B.C. (1999). *How to use SPSS*. Los Angeles: Pyrczak.

Durden, G.C., & Ellis, L.V. (1995). The effects of attendance on student learning in principles of economics [Electronic version]. *The American Economic Review, 85*(2), 346. Retrieved January 8, 2004, from http://www.questia.com

Durden, G.C., & Ellis, L.V. (2003). Is class attendance a proxy variable for student motivation in economics classes? An empirical analysis [Electronic version]. *The International Social Science Review, 78*(1-2), 42+. Retrieved

January 8, 2004, from http://www.questia.com

Friedman, P., Rodriquez, F., & McComb, J. (2001). Why students do and do not attend classes: Myths and realities [Electronic version]. *College Teaching, 49*(4), 124+. Retrieved January 8, 2004, from http://www.questia.com

Hovell, M.F., Williams, R.L., & Semb, G. (1979). Analysis of undergraduates' attendance at class meetings with and without grade-related contingencies: A contract effect [Electronic version]. *Journal of Educational Research, 73*(1), 53+. Retrieved January 8, 2004, from http://www.questia.com

Rodgers, J.R. (2001). A panel-data study of the effect of student attendance on university performance [Electronic version]. *The Australian Journal of Education, 45*(3), 284+. Retrieved January 8, 2004, from http://www.questia.com

Silvestri, L. (2003). The effect of attendance on undergraduate methods course grades [Electronic version]. *Education, 123*(3), 483+. Retrieved January 8, 2004, from http://www.questia.com

Wilder, D.A., Flood, W.A., & Stromsnes, W. (2001). The use of random extra credit quizzes to increase student attendance [Electronic version]. *Journal of Instructional Psychology, 28*(2), 117+. Retrieved January 8, 2004, from http://www.questia.com