RELATING COLLEGE COURSE GRADES TO ATTENDANCE

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ABSTRACT

This study compared the attendance records of students against their test score averages for students at four institutions across multiple sections of several different courses over a fourteen year period (N = 1617). Results indicated that attendance significantly influences test score averages for students across sections and institutions (R^2 = .181). Other results indicated that the same relationship holds when controlling for institutional, course subject, and whether an attendance policy was enforced. Implications for these findings in terms of approaches to attendance policy making are discussed.

I. INTRODUCTION

I have often stated in my classes my belief that attendance is related to grades, that students who attend classes do better. Still challenges from students regarding my attendance policies have continued. Students can and often do provide reasons for not attending class, including other responsibilities and priorities such as work or family obligations. They may choose not to attend class due to incompatible goals, motivations, or expectations that are becoming more a part of the culture of education (see Rochford, 2001). Yet, like other teachers, I continued to require attendance based on the belief that a relationship exists between attendance and grades. However, empirical evidence does not always support commonsense beliefs. Given student expectations, such evidence may be required to provide motivation for class attendance.

The purpose of this study was to determine whether there is a relationship between attendance and grades in the college communication classroom. Secondarily, this study was designed to investigate whether the existence of an enforced attendance policy influenced the relationship between attendance and test scores. To accomplish the goals of the study, I will analyze attendance records and assignment grades of students collected since 1989.

II. REVIEW OF LITERATURE

Several studies have investigated the relationship between attendance and grades. For example, Silvestri (2003) found a significant but weak negative correlation between the number of absences and course grades for students who missed three or fewer classes. However, for students who missed four or more classes, the author found a significant and strong negative correlation between the number of absences and course grades. Silvestri's study was conducted on pre-service teaching students in a teaching methods class. Van Blerkom (1992) found a moderate correlation between attendance and grades in undergraduate psychology courses. Hammen and Kelland (1994) found similar results in introductory human physiology. Brown, Graham, Money and Rakoczy (1999) also found similar results among nursing students. Findings of these studies are fairly consistent, regardless of the course subject or level of student.

Researchers have observed that immediacy and perceived teacher attentiveness serve as external motivators for class attendance. Brooks and Rebeta (1991) found that grades and attendance decreased the further from the front of the class male and female students sat. Furthermore, tactics performed by the teacher to increase attendance also serve as external motivators. Moore (2003) discovered that class attendance is influenced by whether students receive points for attending. The author found that even without the motivation of points for attending class, there is a strong positive correlation between attendance and grades. Similarly, Shimoff and Catrina (2001) found that students who signed in at each class meeting attended more classes and scored higher grades on quizzes. Levine (1992) discovered that there were significantly more absences when attendance was not required. Davenport (1990) found that attendance and grade point averages dropped when attendance was no longer required.

These findings suggest that there is a relationship between attendance and grades in classes throughout several disciplines, and that grades will be influenced by an enforced attendance policy. Therefore, the following hypotheses are proposed:

H_1 Students' test score averages will be significantly and negatively influenced by number of absences.

H_2 There is significant difference in the relationship between number of absences and test score average for students required to attend classes versus students not required to attend classes.

III. METHOD

The participants were 1,617 students at four different schools, in nine different communication subjects, in 64 distinct sections. Average class size was 25.34 students. The schools represented include a research extensive public university in the South, a midwestern research intensive school, a southwestern research intensive school, and a large metropolitan community college. Attendance data were collected for classes through either roll call or sign-in sheet. The average number of class days missed for the entire sample was 2.65. Records for all classes were kept in the form of computer spreadsheet datafiles. The participants included all students for which records were kept. The reliability of the test scores and test score averages was sufficiently high ($\alpha = .88$). The test score average for all students in the sample was 81.17. Therefore, these records provide data for testing the relationship between attendance and test scores.

IV. RESULTS

First, I tested the relationship between the number of absences and test score averages for 1,588 students for years 1989 through 2003. Data screening led to the elimination of 29 cases. Although the sample involved combined cohorts, both the attendance policies and testing procedures were consistent. Simple linear regression indicated that number of absences significantly influenced test score averages for all students, $r = -.425$, $R^2 = .181$, $F(1,1586) = 349.89$, $p < .001$.

Given the concern that the student bodies may have considerably different characteristics between institutions, I also tested for a relationship among students by institution. At each institution, Pearson tests revealed significant negative relationships between number of absences and test scores: a) southern research extensive university ($r = -.249$, $p < .01$, $n = 943$), b) midwestern research intensive university ($r = -.536$, $p < .01$, $n = 297$), and c) southwestern research intensive university ($r = -.377$, $p < .01$, $n = 358$). Results were insignificant for the fourth school, a southern community college ($n = 19$).

In order to test whether an enforced attendance policy influenced the results (see Levine 1992), I altered the policy for Spring 2003 classes from the attendance policy enforced previously at the southwestern university. Students were informed during Spring 2003 that attendance would be taken but that attendance would not be used for calculating a final grade, thus removing the punishment motivation. Students were informed that the purpose of the policy change was to determine if a relationship existed between attendance and grades.

Prior to Spring 2003 (at the southwestern university) and the change in policy, the relationship between attendance and grades was significant but relatively weak, $r = -.221$, $p < .01$, $n = 226$. The student absence mean for 2001-2002 was 1.16 ($SD = 1.34$). The test average for the same cohort over the same period of time was 74.93 ($SD = 7.87$). However, during Spring 2003, after the policy was changed, the outcome changed dramatically. The relationship between test score average and absenteeism increased ($r = -.470$, $p < .01$, $n = 118$). Student absence increased to a mean of 7.73 ($SD = 4.70$). In addition, the test average dropped to 72.24 ($SD = 10.48$). A comparison of test averages across years pre and post policy change revealed a significant difference between cohort averages, $t(342) = 2.67$, $p < .01$, $\omega^2 = .02$. A comparison of the correlation between number of absences and test averages for the students attending class with an enforced attendance policy and the correlation for students without enforced attendance revealed no significant difference between the two groups, $F(1, 341) = .05$, $p = .82$, $\eta^2 < .01$.

These analyses compared students in various courses where test averages could differ as a function of the material, level of course, and type of course. Indeed, ANOVA revealed that subject matter did influence test averages $F(3, 340) = 4.81$, $p < .01$, $\eta^2 = .04$. Therefore, analysis was conducted on a particular course that was taught both pre and post-policy change. Results show that when controlling for course differences, an even stronger relationship exists between absences and test averages, $r = -.581$, $p < .01$, $n = 91$. Within this course, the average number of class days missed by students was 4.78 ($SD = 4.50$). For the same cohort, the test score average was 71.77 ($SD = 9.75$).

A comparison of student cohorts pre and post-policy change also suggests a strong relationship between attendance and grades. For example, prior to Spring 2003 the correlation between number of absences and test scores was moderately negative, $r = -.417$, $p = .02$, $n = 31$. During Spring 2003 for the same course, however, the strength of the relationship increased, $r = -.530$, $p < .01$, $n = 60$. The mean for the number of absences in 2003 ($M = 6.67$, $SD = 4.43$) was significantly higher than in the prior period ($M = 1.13$, $SD = 1.12$), $t(89) = 6.82$, $p < .01$, $\omega^2 =$

.33. As well, the test score means also differed significantly between 2003 (M = 69.29, SD = 9.83) and the prior period (M = 76.58, SD = 7.70), $t(89) = 3.60$, $p < .01$, $\omega^2 = .11$. A comparison of correlation coefficients for pre-and post policy change for the same course revealed no significant difference between student cohorts, $F(1, 87) = 1.39$, $p = .24$, $\eta^2 = .02$.

V. DISCUSSION

These results strongly suggest that student attendance is related to grades. The relationship between attendance and grades exists whether or not an attendance policy is enforced. However, with the lack of an enforced attendance policy, both attendance rates and test score averages drop, but the relationship between attendance and test scores does not change significantly. The results suggest that while students may be externally motivated to attend class by an enforced attendance policy, having such a policy does not affect the relationship between attendance and test grade averages.

These findings have several implications for educators. While attendance itself may have a beneficial effect for students in terms of academic outcome, an enforced attendance policy seems to have no overall beneficial effect. Students seem to be opposed to enforced attendance. Enforced attendance becomes more problematic at schools with larger non-traditional student populations. For example, at one school tested, a significant number of students are older, work full-time, and have families. Without external motivation, it might be easier for students to justify not attending class.

On the other hand, college students may resent paternalistic tactics such as an enforced attendance policy. By eliminating enforced attendance, greater weight is placed on the assessment of subject mastery (see Rubin, 1990). As the results indicated, test score averages for groups of students with a higher frequency of absenteeism had a wider distribution as well as a lower test score average. Eliminating enforced attendance may require students to take more personal responsibility for their education. Furthermore, explicitly stating to students that lack of attendance correlates with lower grades while not requiring attendance allows students to make informed decisions (Levine, 1992).

There are a few limitations to this study that may have impacted the results. First, all classes in the study were taught by the same instructor. The results may not be generalizable to other faculty due to differences in teaching styles or approaches. Yet a strength of this approach is that the test measured consistent application of attendance, grading criteria and scale to a particular teaching style. As mentioned above, the dependent variables were shown to be reliable. Another limitation may be the lack of randomness in the participant pool. The participants in this study included all students who completed a class taught by the author. Yet despite these limitations, this study provided ample evidence of a correlation between attendance and grades compared to other studies due to size of the participant pool, number of sections, number of schools, and number of different courses.

These limitations suggest that more thorough study of the relationship between attendance and grade outcome might be warranted. In particular, future

studies might investigate whether courses taught remotely (online, or through distance education technology) differ significantly from traditional on-site classes in terms of the relationship between attendance (operationally defined to include both contexts) and grades. Yet to do such studies beg an obvious question: why study something that seems painfully obvious to educators? As a communication scholar, I am interested in how we frame our argument to students as to why they should come to class. Certainly, we might hope that students would take our sage wisdom regarding the importance of attending class based simply on our credibility as educators. Yet, effective persuasive arguments usually involve more than ethical appeals. They usually involve evidence and reasoning, as well as appeals to emotion. In my classes, where I admonish students to think critically, students often do so about the issues most important to them, such as whether they should come to class. This type of study provides evidence to enhance instructor credibility when giving advice that would seem to be commonsense.

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