

Impact of the Stringency of Attendance Policies on Class Attendance/Participation and Course Grades

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Abstract: The purpose of this preliminary study was to investigate the impact of three diverse attendance and participation policies in face-to-face and online courses and the effect on students' final grades in each course. We examined nine different undergraduate courses taught between Fall 2010 and Spring 2015. The results suggest that a more stringent attendance policy significantly impacts student attendance, absences were negatively correlated with course grades, and that course delivery methods were not predictive of either attendance/participation or course grades. Additional research is needed to determine what other factors might influence attendance and participation and correlation to course grades.

Keywords: attendance, participation, course grades, face-to-face courses, online courses, course policies

Introduction

Among the many decisions that a college instructor must make is whether to have a stringent class attendance policy. Some instructors may also have a separate participation policy. For example, in such a policy or policies, an instructor decides whether students earn points when attending class lose points when missing class or both. The focus of this study is to determine how the stringency of attendance and participation policies affect students' attendance and academic performance. The authors included both face-to-face and online courses in this study. Findings of the study will add to the current body of knowledge by examining attendance and participation policies in the context of technical courses with different course delivery methods.

Relationship Between Attendance Policy, Class Attendance and Student Performance

Numerous studies have shown that class attendance and participation are major factors that influence the outcome of students' learning (Gump, 2011; Kupszynski et. al, 2011; KunhiMohamed, 2012; Dalelio, 2013; Gbadamosi, 2015). Better attendance is often related to higher quiz scores (Clump, et. al, 2003) and better exam performance (Launius, 1997). Corbin et al. (2010) found that students who attended lectures more frequently achieved higher grades. Even though the strength of the relationship is disputable, the positive relationship between class attendance and student performance has been consistently found among several disciplines such as science, mathematics (Thomas & Higbee, 2000;

Meulenbroek & van den Bogaard, 2013), economics (Cohn & Johnson, 2006), chemistry (Lyubartseva & Mallik, 2012), and physiology (Hammen & Kelland, 1994). Similar results have also been found in different levels of students, with this study comparing attendance and performance for first-year and third-year students (Clark et al., 2011).

A few studies used observational methods to investigate the correlation between students' attendance and performance (Rogers, 2001; Golding, 2011). These studies have the limitation of not being able to discern the causal relationship between these two variables. Some experimental studies found that a clear attendance policy improves students' attendance and their performance (Baum & Youngblood, 1975; Hancock, 1994). Westerman and colleagues concluded that "[a]ttendance is positively related to exam performance. There are more pronounced negative effects of an absence for lower-performing students than for higher performers, and absences are negatively related to a student's cumulative grade point average" (Westerman, et al., 2011, p. 49).

Even though the positive relationship between attendance and performance has been well documented, some studies do not support or agree on these findings. Some studies have not shown a clear advantage of an attendance policy with regard to performance (Berenson, et. al, 1992, Butler, Phillman, & Smart, 2001; Golding, 2011).

Reasons Why Students Miss Class

Despite the well-documented negative correlation between class absences and grades, students do miss class for various reasons. Absenteeism is a significant problem at many institutions of higher education and a major concern for educators (Devadoss & Foltz 1996).

Research has indicted that absenteeism is a product of two types of factors: background factors, such as study mode, origin, employment, distance travelled to lectures, availability of lectures online, and behavioral factors such as attitude towards attendance (Sawon, Pembroke, & Wille, 2012). Van Blerkom (1992) determined that the reasons cited most frequently by students for missing class were boredom, illness and interference with other coursework or social life. Friedman and colleagues (Friedman, Rodriguez, & McComb, 2014) surveyed a total of 333 undergraduate students and identified 33 relatively distinct reasons for not attending class. The study results suggested that student characteristics, such as gender, class standing, age, employment, residence, funding of education, and number of credit hours did not affect attendance; however, students with higher grade point averages tended to attend class more regularly. The same study analyzed how class attendance may be affected by course characteristics, including type of course, motivation, enrollment size, time of class, and teacher status. The findings by Chenneville and Jordan (2008) suggest that many undergraduate students lack the experience to understand fully the impact that missing class has on their grades.

A common response from instructors is that students do not attend class because the lectures are available electronically. McKinlay (2007) notes that using recorded lectures may reduce attendance by 10-33%. However, a number of other studies disagree with this finding (Larkin, 2010; Biggs & Tang, 2007; McGarr, 2009). Sawon and colleagues (Sawon, Pembroke, & Wille, 2012) found that the students who do not regularly attend class generally find lectures easy—a fact suggesting the possibility that a low standards or lack of rigor means that the quality of a course is insufficient to keep many students motivated.

Increasing Class Attendance and Improving Student Engagement

Policies on class attendance vary from institution to institution and from instructor to instructor. Some faculty members do not require attendance and do not care whether students attend class as long as students learn the content and pass exams (Sawon, Pembroke, & Wille, 2012). Some faculty members

argue that college students are adults and that, since they pay for courses, they should be the ones who are responsible for deciding whether or not to attend class and should not be penalized for failing to show up (Chenneville & Jordan, 2008). A review of the literature demonstrates that the research in the area of attendance has primarily focused on the relation between attendance and grades. However, much less of research has focused on what educators need to do to increase attendance and improve student engagement.

Studies on students' absenteeism have determined that a graded attendance policy strongly encourages students to attend class. For instance, Launius (1997) found that 70 percent of the students participating in a survey thought that instructors should provide credit for class attendance; furthermore, 84 percent of the students surveyed claimed that their attendance would improve if they earned points for it. The findings by Chenneville and Jordan (2008) suggest that having a graded attendance policy may serve as a motivator for increasing and routine class attendance.

Methods

The data in this study were collected from nine different undergraduate courses taught at a large urban college in the Midwest between Fall 2010 and Spring 2015. Among the nine courses, one was taught online (ONL) and the other eight were taught face-to-face (FTF) (see Table 1).

Table 1: List of courses that are included in the study

Instructor	Course	Meetings per week	Student count	Delivery method	A/P Policy ¹
Instructor 1	Foundations of New Media	1	658	FTF	GAP ²
Instructor 2	Computer and Information Ethics	N/A	209	ONL	MAP ³
Instructor 3	Mathematical Foundation of Informatics	2	114	FTF	MAP
Instructor 3	Information Infrastructure I	2	122	FTF	MAP
Instructor 3	Information Infrastructure II	2	105	FTF	MAP
Instructor 3	Applications of Data Mining	2	55	FTF	MAP
Instructor 4	Online Document II	1	70	FTF	SAP ⁴
Instructor 4	Online Video Delivery	1	40	FTF	SAP
Instructor 4	Advanced Digital Video	1	74	FTF	SAP

¹ Attendance/participation policy

² Gentle Attendance/Participation Policy

³ Moderate Attendance/Participation Policy

⁴ Stringent Attendance/Participation Policy

In this study, the face-to-face courses are lecture-based and meet one or two times per week. In terms of the online courses examined, one of the hallmarks is a highly interactive weekly discussion forum, in which students review the course materials and provide feedback to one another. The authors of this study, as instructors, have taught technology-related courses in two of the major programs under the same school for varied number of years. The students included in this study are a mixture of traditional-age and returning/adult students and are diverse in terms of gender, race and nationality. The students' relatively homogenous academic interests have provided an excellent opportunity for the authors to observe the motivational impact of attendance and participation policies on these students' academic performances.

Course delivery method (face-to-face vs. online) and attendance policy stringency have served as two main independent variables in this study to investigate how they affect students' absences and their course grades. The absence variable also serves as an independent variable to see how it affects students' course grades. Through this study, the authors expect to determine which, if any, of the three policies demonstrate effective use of intrinsic and extrinsic motivation, how attendance and participation policies might be improved in order to motivate and actively involve students in the learning process, and what a reasonable combination of attendance policy is.

The authors have applied three different types of stringency in these courses consistently across the years. They are labeled as:

- SAP (Stringent Attendance/Participation Policy),
- MAP (Moderate Attendance/Participation Policy), and
- GAP (Gentle Attendance/Participation Policy).

The authors considered factors regarding each policy, including policy statement, implementation strictness, extra credit, make-up, and so on, and came to the agreement as to which policy falls in which category of stringency. The instructors' attendance and participation policies can be lengthy. To save space, following are the segments of each policy that pertain to absences only. Here is the SAP statement:

From Instructor 4:

There are reasons for missing class: illness, accidents, or death/serious illness in the family, etc. For whatever reason, you are allowed to be absent for up to two times. If you are absent three or more times, you have the choices of either withdrawing from the class when withdrawing is still possible or getting an "F" for your course grade. Every undocumented absence will cost you 2 points of your course grade. An absence due to sickness or other excusable reasons will be excused in the sense that 2 points will not be marked off your course grade, but it is still counted as an absence.

Here are the two MAP statements:

From instructor 3:

Learning is not a passive process. All learning requires active participation. Participation is required in this course and accounts for 10% of the total course grade.

Missing class reduces your grade through the following grade reduction policy: You are allowed two unexcused absences. Each additional absence, unless excused, results in a 2-point (out of 100 points) reduction in your final course grade. More than six absences result in an F in the course. Missing class may also reduce your grade by eliminating

opportunities for class participation. For all absences, the student is responsible for all covered materials and assignments.”

From instructor 2:

Please make an effort to participate in the Discussion Forums regularly—not only is this 20% of your grade, but it will also be a much more rewarding course if we all share our thoughts and expertise. Points will be taken off if all questions in a Discussion Forum are not responded to. This is a 3-credit hour course and we cover a great deal of material, so you can expect to be at least as busy as you would be in a course that meets face-to-face every week.

Here is the GAP statement:

From Instructor 1:

Missing class reduces your grade through the following grade reduction policy: You are allowed one excused or unexcused absences. Regardless of the reason, a second absence results in a 5% reduction in your final grade and a third absence results in a 10% reduction. Further absences result in an F in the course. Missing class may also reduce your grade by eliminating opportunities for class participation.

Table 2: Summary of course attendance and participation policies

Instructor	A/P policy	Number of penalty-free absences allowed	Is absence allowed?	% of final grade reduced by each unexcused absence	Number of absences allowed before an automatic F
Instructor 1	GAP	1	Yes	4	3
Instructor 2	MAP	None – no points are provided if responses to a Discussion Forum are more than one week late. Points also reduced for incomplete responses, missing questions, etc.	No, but allow an extension to the due date if requested ahead of time via email.	2.5 points per week	Missing all Discussion Forums reduces the final course grade to no higher than an 80%.
Instructor 3	MAP	2	Yes	2	6
Instructor 4	SAP	0	No	2	2

¹ Even though this policy has not stated very clearly how absences are handled since this online course does not have meeting time, the instructor has implemented relatively strict assignment grading. Therefore, this policy is labeled as MAP.

² This policy seems relatively strict, but the instructor provides abundant make-up opportunities and extra credit opportunities. Therefore, this policy is categorized as GAP.

Through this study, the authors tried to address the following research questions:

- RQ1: How does attendance and participation policy stringency affect student’s absences?
- RQ2: How does attendance and participation policy stringency affect student’s grades?
- RQ3: Are students’ absences negatively correlated with their course grades?
- RQ4: How do course delivery methods influence students’ course grades?

Since this study is based on a census of all courses governed by these three types of attendance/participation policies, both descriptive statistics and inferential statistics are applied to compare means and correlate variables.

Findings

RQ1: How Does Attendance and Participation Policy Stringency Affect Students’ Absences?

Tables 3 and 4 show the results of comparing the mean absences based on three types of attendance and participation policies. A One-way ANOVA test shows significant difference among the policies (F=19.84, df=2, p<0.001). An LSD post-hoc test (see Table 4) shows that the differences between all pairs are significant. Overall, SAP has brought up the least absences while GAP has caused most absences.

Table 3: Students’ average absences under each type of attendance/participation policies

	N	Mean	Std. Deviation	Std. Error
SAP	184	.96	.85	.06
MAP	607	1.29	1.50	.06
GAP	656	1.75	2.09	.08

Table 4: LSD post-hoc test regarding each type of attendance/participation policies

(I) Name	(J) Name	Mean Difference (I-J)	Std. Error	Sig.
SAP	MAP	-.326*	.146	.026
	GAP	-.791*	.145	.000
MAP	SAP	.326*	.146	.026
	GAP	-.465*	.098	.000
GAP	SAP	.791*	.145	.000
	MAP	.465*	.098	.000

*. The mean difference is significant at the 0.05 level.

RQ2: How Does Attendance and Participation Policy Stringency Affect Course Grades?

Although attendance/participation policies brought up salient differences among students' absences, they did significantly affected students' course grades ($F=0.8$, $df=2$, $p>0.05$) (see Table 5).

Table 5: Students' average course grades under each type of attendance/participation policies

	N	Mean	Std. Deviation	Std. Error
SAP	184	83.281	15.1287	.5907
MAP	607	82.264	13.0417	.5293
GAP	656	82.758	14.7303	1.0859

On the other hand, Table 6 shows the distribution of student grades under each type of attendance/participation policies. The results indicate that GAP policy is associated with higher percentage of A's and lower percentage of B's than SAP. The percentages of A's and B's associated with MAP are in the middle between the percentages associated with GAP and SAP. In addition, the percentages of D's and F's associated with GAP are higher than those associated with MAP and SAP.

Table 6: Grade distribution under each type of attendance/participation policies

	A (%)	B (%)	C (%)	D (%)	F (%)
GAP	41.0	31.1	14.0	6.9	7.2
MAP	32.8	35.8	20.9	3.6	6.9
SAP	28.8	48.9	15.3	2.1	4.9

RQ3: Are Students' Absences Negatively Correlated with Their Course Grades?

Figure 1 clearly shows the negative correlation. The more absences students have, the lower the scores they earn (Pearson $R=-.475$, $p<0.001$).

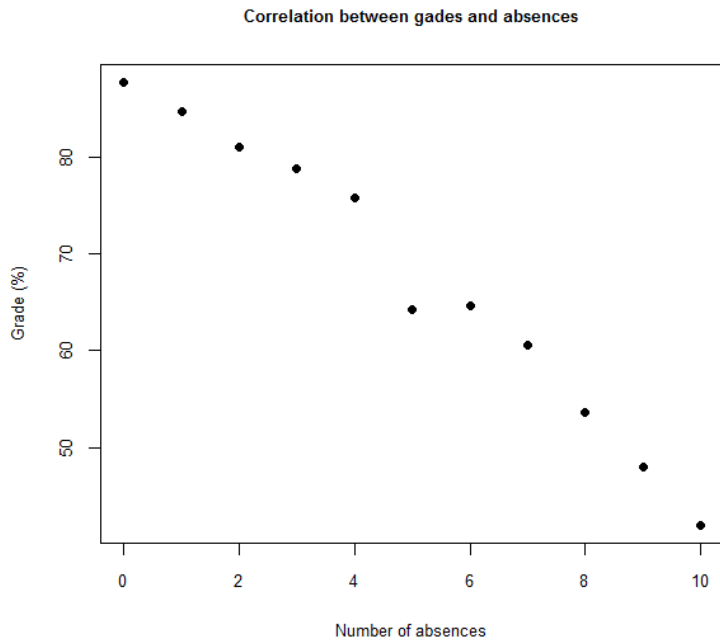


Figure 1: Correlation between students’ grades and their absences

RQ4: How Do Course Delivery Methods Influence Students’ Course Grades?

An independent-samples T-test shows that the face-to-face approach and the online approach brought no significant difference in terms of students’ grades ($t(1445)=0.4, p=0.69$) (see Table 7), though the course contents and teaching approaches are both different. A close examination at the distribution of student grades under each type of course delivery methods indicates the two course delivery methods did not cause significant difference in students’ grade distribution (see Table 8).

Table 7: Students’ average grades under each type of course delivery methods

	N	Mean	Std. Deviation
FTF	1238	82.85	13.86
ONL	209	82.84	16.27

Table 8: Students’ grade distribution under each type of course delivery method

	A (%)	B (%)	C (%)	D (%)	F (%)
FTF	35.5	36.0	17.3	4.7	6.6
Online	38.8	31.1	16.2	6.2	7.7

Discussion and Conclusions

This study was to evaluate the impact of stringency of course attendance/participation policies on student attendance and course grade. Findings from this study indicated that graded attendance policies increase the class attendance rate. These findings are line with the results reported by some of the previous studies (Gump, 2011; Kupszynski, et. al, 2011; KunhiMohamed, 2012; Dalelio, 2013; Gbadamosi, 2015). Furthermore, we found that the more stringent attendance policies were, the better class attendances and better course grades were.

The findings of this study indicate that a graded attendance policy with appropriate stringency on the course syllabus that explains the importance of attending class can encourage students to attend class and be responsible for their course outcome. This study concludes that having a graded attendance policy can serve as a motivator for increasing class attendance. If absence does not lead to any penalty on their grades, students may easily find excuses to miss class and thus earn undeserved grades.

This paper has studied the correlation between class attendances and student grades. However, this study has several limitations. First, in order to fully investigate the impact of attendance policy on class attendance, a study should be designed to include both experimental and control groups. In this study, we collected data from normally taught courses. Thus, a future study should include a control group.

Another limitation has to do with assessment of academic performance and student success. Final course grades were used to study the correlation between class attendance and academic performance. Even though course grade is a good indicator that shows how well students learn the course materials, there are other important factors that should be considered when assessing students' academic performance and success. Druger (2003) notes that it is the class experience gained from attending class that matters. Experiences in class, including the interaction with peers and the instructor, provide a motivational learning environment and are essential to meaningful, lifelong learning. In addition, class attendance might foster good work habits, teach responsibility, and improve social skills.

Due to the limitations of this study, the results must be interpreted with caution. Further studies would ideally be conducted with an appropriate experimental design. Studies should be repeated for different courses, instructors, and different course delivery methods. In addition to final course grades, other assessments should be included to evaluate students learning experience.

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