



Attendance as a Success Predictor in Developmental Education

By Cassandra O'Sullivan Sachar

Developmental educators frequently report low attendance in their classes (Loneragan, Snyder, & Rinker, 2014). Developmental education courses are populated with students who have been identified through one of a number of different predictors (such as ACCUPLACER®) as needing additional instruction before placement in a traditional college class (Rutschow & Schneider, 2011). Thus, daily instruction may be particularly important for improvement. Although variables such as prior achievement and personality traits also impact student success, attendance is a stronger predictor (Credé, Roch, & Kieszezyinka, 2010). Many other factors cannot be controlled by an instructor, yet requiring attendance is a choice that can encourage students to come to class and therefore reach their potential.

Theoretical Underpinnings

Many studies have previously examined the relationship between grades and attendance amongst college students in various academic subjects. Researchers have found that high attendance is a strong predictor of success, just as low attendance predicts lack of success (Clark, Gill, Walker, & Whittle, 2011; McCool, Kelly, Maguire, Clarke, & Loughran, 2015; Moore, 2008). Teixeira (2016) noticed large discrepancies in the final grades between low- and high-attending macroeconomics students in a college in Portugal even though students were “quite homogenous in terms of their academic performance” upon admission (p. 237). She recommends that professors stress the relationship between attendance and grades. These results were echoed in a study by Sanders, Daly, and Fitzgerald (2016) that measured students’ potential for success across several variables; when students attended class at high rates, they significantly raised their odds of achievement.

Since regular attendance generally has a positive impact on student success, instructors should be aware of the way attendance policies affect student decisions on whether or not to come to class. In Lopez-Bonilla and Lopez-Bonilla’s study (2015) to understand explanations behind student absenteeism, students rated 28 factors that affected their attendance. While other reasons such as health and family/work obligations were more likely to influence their decisions to miss class, students rated “no compulsory attendance” within the top third. O’Sullivan et al. (2015) found similar results in their study; after removing points associated with attendance in an undergraduate sociology class, attendance rates decreased. In a follow-up survey to assess reasons for these absences, students responded that they had missed class because attendance was “optional,” despite the instructor’s frequent remarks on the importance of coming to class. Furthermore, in a study by Snyder, Lee-Partridge, Jarmoszko, Petkova, and D’Onofrio, (2014), students in classes with compulsory attendance policies went to class more than students whose grades were unaffected directly by attendance.

Like many of the students in the studies just mentioned, developmental education students may not perceive attendance as important or

necessary to their success. In a study by Higbee, Schultz, and Goff (2006), the majority of students surveyed responded that classes should not have attendance policies, citing “maturity, monetary commitment, or student responsibility” as reasons (p. 80). However, a majority of the same respondents expressed that they believed attendance *should* factor into their grades. Although the researchers noted this as a “conflict between reward and punishment logic,” they drew from these results that students *were* motivated by attendance policies, even if they viewed point deductions as punishments (p. 82).

In addition to implementing a mandatory attendance policy, instructors can encourage attendance by ensuring that activities completed in class (rather than outside it) directly impact students’ grades; if students are absent, they will not be able to complete those activities. This way, students who may consider skipping class would see more value in their presence. Carol and St. Peter (2017) examined how point-earning class activities encouraged attendance. Students were expected to attend every day and complete class activities; however, as they were told in the syllabus, there were some days when they would earn 0 percentage points towards their grade, other days when they would earn 1-3 percentage points, and days when they would earn 4-8 percentage points towards their grades. Unsurprisingly, attendance was highest when students knew they would complete in-class activities that directly contributed to their grades, especially on days they could earn the most points. These results suggest that students were motivated to attend when they felt that their attendance affected their grades.

In my class, I have combined these approaches; in addition to giving students a grade for their attendance/participation to encourage attendance. Students also earn points by completing class activities that they cannot complete if absent. Thus, students can see a direct relationship between their grades and absences accrued.

Methods

Sample

From the Fall of 2016 until the Spring of 2018 (four semesters), 318 students remained on the roster for the duration of the semester and thus earned a grade in my first-year writing course at a public access college. The students were in fifteen sections which met over the course of a 14-week semester; I did not count attendance for the week of final exams. Class size ranged from 13 to 25 students with class size averaging 21.2 students. Eight classes met on Mondays, Wednesdays, and Fridays for 50 minutes each: three met at 9:00 a.m., four met at 10:00 a.m., and one met at 2:00 p.m. The other seven courses met on Tuesdays and Thursdays for 75 minutes each; four met at 9:30 a.m., two met at 11:00 a.m., and one met at 3:30 p.m. The sample does not include students who dropped the course during the drop/add period or who withdrew during the semester. However, the sample contains seven students who retook the course with me from a previous semester; since they earned two grades, they are

counted separately for the purpose of this study. Additionally, the sample includes those with extremely low attendance; one student did not attend a single class, and several more attended only two or three classes. These students were included in the sample as they received grades for the course.

Out of the 318 students, almost all were first-time freshmen. Of these, 102 were Act 101 or Educational Opportunity Program (EOP) students; that is, they came to the university as part of a program geared towards students who are traditionally underrepresented in higher education. These students, who completed summer coursework and program requirements, were admitted to the fall semester only after successfully completing the summer session. Many other students were known as “summer freshmen.” Like Act 101/EOP students, their admittance to the fall was conditional based on successful completion of summer courses, yet they were not involved in the additional program requirements and progress monitoring of Act 101/EOP students. The remaining first-time freshmen began their coursework in the fall.

The student population was almost evenly divided by gender, with 160 female students and 158 male students. Of the students, 62% of students (198) were Caucasian, 23% (74) were African American, 11% (34) were Hispanic, and 4% (12) were Asian, Native American, or multi-racial.

Attendance Expectations and Grading Processes

At the beginning of the semester, students were informed orally and in writing that their class participation/attendance would account for approximately 10% of their overall score. After one absence, in addition to missing the material covered for the day, they would lose 5 (Monday/Wednesday/Friday classes; 40-42 total classes per semester) or 7.5 (Tuesday/Thursday classes; 27-28 total classes per semester) points from their attendance/participation score, which ranged from 195-197.5 total points. The variance in number of classes per semester had to do with university closing or instructor absence. The other 90% of the course grade would be earned by successful completion of such assignments as essays, tests, quizzes, and projects.

After each class, I recorded attendance on an Excel spreadsheet to allow for a simple calculation of the attendance/participation grade at the end of the semester. At the beginning of the semester, when I did not yet know students’ names, I circulated an attendance sheet for students to sign. To ensure that students did not sign in for an absent student, I cross-checked this list with the number of students present in class. After I learned all of the students’ names, I recorded the attendance myself. In addition to attending class, students were required to engage in class activities such as note taking, asking and answering questions, and participating in collaborative work to earn those points. Students were recorded as present if they attended for more than 50% of the class period; however, it should be noted that tardiness affected the number of points earned for that class.

Class participation/attendance points were not the only points a student would receive if present in class. Tests, quizzes, and several other class activities, such as collaborative writing or other practice events, could only be completed if a student were present for class.

Additionally, it should be noted that I coded both excused and unexcused absences; if students presented me with written documentation for their absences in concordance with university policy, they would receive both their points and the missed work. Reasons for excused absences included illness, university-sponsored activities (such as field trips or sports), military release, and death or critical illness in the family. Upon receiving the note, I would forward the student all the missed work along with a written narrative description of the class activities. Students were encouraged, but not required, to attend office hours following an excused absence to receive support for the missed work.

Procedure

In order to assess the relationship between attendance and course grade, I coded students by both attendance and final grades. I broke attendance into four categories: 90-100% (green), 80-89% (orange), 70-79% (yellow), and less than 70% (red). I broke down grades more simplistically; successful completion was coded as any grade between an A and a C (green), completion but with low success was a C- to a D- (yellow), and unsuccessful completion was an F (red).

For this study, while I coded excused versus unexcused absences separately in my recordkeeping, I chose to count excused absences as attendance in class. This was done for two reasons: only 34 of the 318 students’ excused absences pushed them into a lower attendance category, and almost every student whose excused absences took them to a lower category attended office hours or communicated back and forth with me over e-mail with questions to receive extra help following an absence. Thus, although students with excused absences were not physically present in class, they received written and usually oral instruction and support. Although 109 students produced documentation and had at least one excused absence during the semester, only 34 of these students would have switched categories, and nine of these 34 were coded as yellow (C- to D-) or red (F), showing that their overall attendance was weak.

Results and Discussion

Of the 318 students, 231 received “green” grades; that is, they received scores of C or higher and were deemed as successful. Two hundred and twenty eight were scored as green or orange for attendance; these students attended class at least 80% of the time, with most (199 of the 231) attending 90% or more. This indicates a relationship between frequent class attendance and successful completion of the course. Only three students who attended class less than 80% received “successful” grades.

A small number of students (40 of the 318) passed with poor results (C- to D-). All but three of these students attended at least 70% of the time. Very few students with high rates of attendance achieved poor results.

A slightly larger number of students (47 of the 318) failed the course. It should be noted that 34 of the 37 students with the lowest rates of attendance (under 70%) failed the course, and only one student with the highest rate of attendance failed, indicating that high attendance alone does not equate to success. A comprehensive breakdown further examines high/low attendance and high/low grades (See Table 1).

Table 1

Comprehensive Comparison of Grades and Attendance

Attendance %	Number of students who received the following grades											
	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
Green (90- 100)	60	34	28	47	12	7	11	4	3	2	2	1
Orange (80- 89)	0	0	2	7	4	6	10	5	2	7	2	4
Yellow (70- 79)	0	0	0	0	0	2	1	3	3	1	3	8
Red (below 70)	0	0	0	0	0	0	0	0	0	3	0	34
Totals	60	34	30	54	16	15	22	12	8	13	7	47

Although not all students who had the highest attendance achieved successful grades, the students with the most desirable grades (A, A-, B+, and B) were almost exclusively 90% or greater attendees, with only nine students of the 318 achieving B’s with less than 90% attendance. These results are somewhat consistent with those of Moore (2006), who found that students who attended less than 80% of the time did not ever receive A’s, and students who attended less than 60% of the time did not ever receive A’s or B’s.

With my students, the correlation between grade and attendance was even more pronounced, suggesting that attendance was an extremely important factor in student success for my course. The linear correlation between grades and attendance was 0.9318. Figure 1 uses a scatter diagram to explore this relationship.

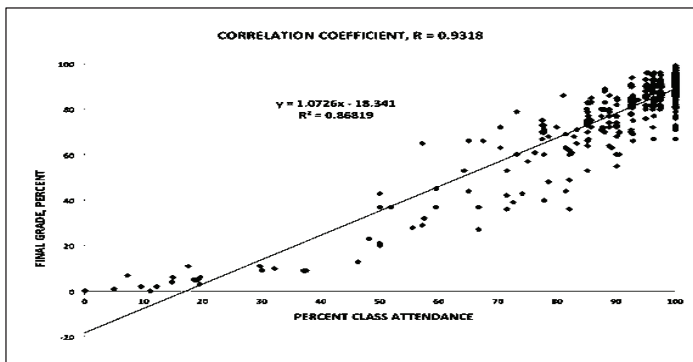


Figure 1. Correlation of Class Attendance and Final Grades

Most students who earned successful grades had a high rate of attendance, with few outliers. The R-squared value of 0.86819, out of a maximum 1.0, shows that the regression line model strongly fits the data and can meaningfully predict the final class grade percent based on class attendance.

Providing a grade for attendance slightly inflated many students' overall scores in the class. Among all students, 115 experienced score code decreases (from a B+ to a B or from a C- to a D+, for example) with attendance scores factored out of their grades. When the attendance grade was removed from the students' scores, 21 of the 318 students fell into lower categories (from "successful" to "poor results" or from "poor results" to "failing"). Although many students benefitted from the rewards of attendance grades, few students' grades were affected punitively by failure to attend. Only three of the 318 received a lower score code (D+ to D, for example), and no students dropped into a lower category when attendance was graded. It is important to consider grade inflation when deciding whether or not to count attendance as part of a grade, but the overall benefits (increased attendance) may be worth slightly higher grades. Table 2 compares overall scores with and without attendance grades.

Table 2

Comparison of Grades with and without Attendance Points

Attendance %	Successful grades		Passing but poor results		Failures with attendance points	
	WAP	WOAP	WAP	WOAP	WAP	WOAP
Green (90-100)	199	193	11	17	1	3
Orange (80-89)	29	22	16	15	4	9
Yellow (70-79)	3	4	10	8	8	10
Red (below 70)	0	0	3	3	34	34
Totals	231	219	40	43	47	56

Note: With attendance points (WAP); Without attendance points (WOAP)

Figure 2 shows the statistical relationship factoring out the points for attendance. The correlation coefficient between grades and attendance decreased only minimally (from .9318 to .9160).

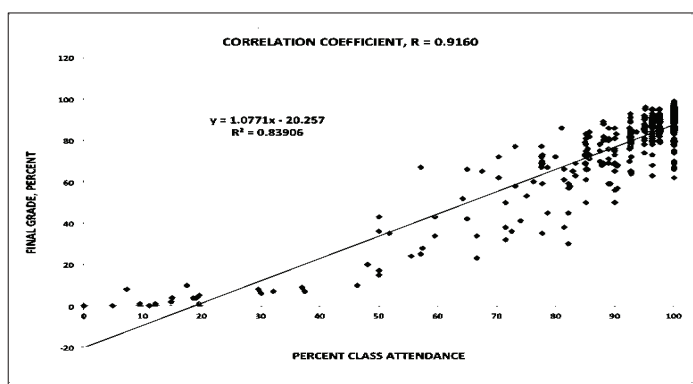


Figure 2. Correlation of Class Attendance and Final Grades (with Attendance Points Removed)

Even without the grade for attendance inflating their scores, students who attended most frequently received the highest scores, and students

who attended less than 70% almost exclusively received failing grades. The R-squared value has decreased only slightly to 0.83906, indicating that, even when removing attendance points, there is very little impact on the regression line predictive model. Table 3 provides a full breakdown of what students' scores would be if attendance were not included as part of the grade.

Table 3

Comprehensive Comparison of Grades and Attendance with Attendance Grade Removed

Attendance %	Number of students who received the following grades											
	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
Green (90- 100)	53	21	31	48	16	14	10	1	8	7	1	3
Orange (80- 89)	0	0	2	6	4	3	7	3	6	4	2	9
Yellow (70- 79)	0	0	0	0	0	1	3	1	4	2	1	10
Red (below 70)	0	0	0	0	0	0	0	0	1	2	0	34
Totals	53	21	33	54	20	18	20	5	19	15	4	56

Limitations

Some limitations of this study need to be addressed. Although I have used four semesters' worth of data for the study, all of it comes from classes I personally taught. As I am not the only instructor of developmental writing at my institution, I cannot generalize that the relationship between attendance and success is as strong in another instructor's class. Thus, a follow-up study could include data from classes taught by different instructors, even those across disciplines, to provide information that could be applied more generally to developmental education. Furthermore, future research could study the impact of the attendance policy by contrasting success rates in classes with and without such policies.

Conclusion and Implications for Practice

This study's findings add to the significant body of evidence that high rates of class attendance strengthen the chances of student success (Clark, Gill, Walker, & Whittle, 2011; McCool, Kelly, Maguire, Clarke, & Loughran, 2015; Moore, 2008). As such, developmental educators should carefully consider their approaches. Whether or not students are in favor of compulsory attendance, various studies (Lopez-Bonilla & Lopez-Bonilla's, 2015; O'Sullivan et al., 2015; Snyder et al. 2014; Higbee et al. 2006) have found that such policies positively impact students' decisions to attend class. Although not all researchers and/or instructors are in favor of compulsory attendance, they can use other methods to promote attendance. These may include employing class time to work on graded activities that cannot be completed outside of class (Carol & St. Peter, 2017) or continuing to emphasize the relationship between attendance and success (Teixeira, 2016).

Students are more likely to attend my class and thus, are more likely to succeed when these approaches are combined. My goal is not merely for students achieve a high grade; with increased attendance, they will learn and practice strategies to improve their overall writing skills, which they can transfer to writing tasks in other classes for higher achievement, as well.

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