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Does Class Attendance Predict Academic Performance in First Year Psychology Tutorials?

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Abstract

Student absenteeism is common across universities. Learning through attending lectures and tutorials is still expected in our technological age, though there are major changes in how information in lectures and tutorials can be transmitted via the use of iLearn and related packages, by video streaming of classes and by online technology generally. Consequently, availability of these supplementary resources and, in general terms, the issue of physical absence from classes, raises the question of whether missing class impacts on student learning. Does it matter if students attend classes or not? The aim of the current study was to assess whether student attendance in tutorials in first year subjects in psychology was associated with academic performance, that is, was attendance linked with improved performance? We took data from tutor held records on attendance and on results for article review assignments and laboratory reports for a total of 383 students who completed introductory psychology courses in classes over the years 2012-2015. The hypothesis that class attendance and performance would be significantly related was supported in 13 of the 14 class relationships examined separately, and, in the class that was the exception the correlation was in the expected direction. These results suggest that attending class continues to have a positive impact on student learning in this technological age. The limitations of the current study are discussed as are implications regarding instructor resource applications and/or compulsory class attendance policies.

Keywords: class attendance, academic performance, tutorials

1. Introduction

Absenteeism is common across university classes. Some of the reasons cited in the literature are illness, tiredness, prioritising other academic work, anticipation of low academic gain, lack of interest/motivation, finding the class boring and “personal reasons” (Cohall & Skeete, 2012; Dollinger, Matyja, & Huber, 2008; Moore, Armstrong, & Pearson, 2008; Paisley & Paisley, 2004; Schmulian & Coetzee, 2011; Woodfield, Jessop, & McMillan, 2006). One reason for student absenteeism might be the availability of online material, including the streaming of lectures. With access to PowerPoint presentations, and YouTube, students are now able to access a wealth of information and to study at their own convenience.

Consequently, this raises the issue of whether missing class (physical absence from the classroom), still impacts on student learning as it used to do before the recent technology advances. There have been numerous studies across the disciplines of psychology, economics, health, medical sciences and the physical sciences that have indicated in earlier years a positive correlation between class attendance and performance. Several of these studies are outlined in what follows, first for the psychology area. Launius (1997) found in a sample of first year psychology students that attendance was significantly correlated with academic performance; similar results were found by Rose, Bolen, and Webster (1996). The more classes students missed, the poorer they did on assessment and exams. Thatcher, Fridjhon, and Cockcroft (2007) using second year psychology students, found those who always attended lectures had a better total mark (composite of all assessment pieces) than those who never or seldom attended. These findings provide some indication that physically attending psychology classes may be directly associated with better academic performance.

Studies using students from other than psychology courses have found similar results. Crede, Roch, and Kieszczynka (2010) in a meta analysis showed attendance was strongly related to class exam and GPA levels. In other studies similar results have been reported. For example, in economics and business (Adair & Swinton,

2012; Arulampalam, Naylor, & Smith, 2012; Dobkin, Gil, & Marion, 2010; Paisley & Paisley, 2004); in engineering (Nyamapfene, 2010); in pharmacy (Landin & Perez, 2015) and in health (Cohall & Skete, 2012).

Although these studies have provided some indication that attending class impacts positively on academic performance, attendance might be a proxy for other factors such as cognitive ability, motivation or personality. Students who are more motivated are more likely to attend class. However, Romer (1993) found, after controlling for motivation, that attendance still had an impact on academic performance for first year economics students. Deane and Murphy (2013) after controlling for demographic factors such as age and gender also found a positive association between attendance and academic performance for fourth year medical students. Woodfield et al. (2006) found although personality factors such as neuroticism, openness and agreeableness were predictors of academic performance, they were not as strongly predictive as attendance. Woodfield et al. also failed to find a relationship between cognitive ability and academic performance, suggesting attendance was not a proxy for cognitive ability. Although a meta analysis conducted by Crede, Roch, and Kieszczynka (2010) identified a link between student characteristics such as conscientiousness and attendance, there was a stronger relationship in their study also, between attendance, class grades, and GPA.

These studies provide some indication that there is a link between physically attending class and subsequent academic performance. However, Schmulian and Coetzee (2011) identified a positive, but low relationship between attendance and academic performance. They acknowledged that culture and ethnicity may have had an impact on the relationship between the two factors. Further studies might help address the varying relationships found.

The aim of the current study was to investigate further whether attending class impacts on student learning. This has important implications for attendance policies in university courses, an area investigated in part also by earlier studies (Aaron, 2012; Cohall & Skeete, 2012; Dobkin, Gil, & Marion, 2010; Moore et al., 2008). Based on the literature presented, it was hypothesised that class attendance in first year psychology tutorials would be significantly associated with academic performance.

2. Method

2.1 Participants and Materials

Data from a sample of 383 students was gathered and analysed from two separate introductory psychology subjects at a university in South-Eastern Queensland over the years 2012 to 2015. Of the sample, 224 students were from the Introduction to Psychology: Learning and Social subject and 159 were from the Introduction to Psychology: Biology and Personality subject. There were 14 separate classes examined over the period.

The materials were the records of attendance and the records of the marks in each measurement element for each tutorial class. The classes were the tutorial classes associated with the subjects, and the specific academic marks were those associated with the article reviews and laboratory reports required in the subject.

2.2 Procedure

Approval was obtained from the University Human Research Ethics Committee to conduct the study. Records were held on tutorial attendances and the grades assigned to the members of each class. Records were available for the years of study over the two subjects for attendance and assignment results. The assignment marks were a key proportion of the overall subject marks. Attention in this paper was given to the results on the assignment work. The assignments emphasised *reviews* of a nominated research area and *reports* analysing and interpreting data with reference to relevant literature (found by the students). Our research question was, "Would attendance in the class tutorials be related to successful performance in the assessments"?

3. Results

The data for this analysis was taken from two introductory psychology classes conducted from 2012 to 2015. The variable attendance was operationalised by the number of tutorials attended prior to the submission of the second piece of assessment (up to week 10 of the semester). Academic performance was operationalised by the grade received on the first and the second assignments in each course. Students were excluded from the analysis if they did not complete both pieces of assessment. The 2014 biology and personality data was excluded from analysis as data was available for under 15 students in the cohort; we used 30 as the base for class analyses.

The relationship between attendance and academic performance was investigated using the Pearson product-movement correlation coefficient. As can be seen in Table 1 below in relation to the first of the two Introduction to Psychology subjects, there was a significant positive relationship between Attendance and marks for Assessment 1 over each of the four samples, from 2012-2015. In addition, there were significant positive

relationships between Attendance and Assessment 2 for three of the four cohorts (and the fourth was “nearing significance”).

Table 1. Correlation Analysis for attendance as predictor of academic performance for separate “Learning and Social” introductory psychology tutorial groups (2012-2015)

Assessment	2012 N = 68	2013 N = 59	2014 N = 52	2015 N = 45
Assessment 1	.46**	.55**	.30*	.35*
Assessment 2	.52**	.70**	.43**	.28

** $p < .001$, * $p < .05$

As can be seen in Table 2 below regarding the second separate introductory psychology subject (on biology and personality), there was a positive relationship between Attendance and both Assessment 1 and Assessment 2 for each of the 2012, 2013 and 2015 cohorts. All six studies supported the hypothesis that “attending tutorial classes and performance outcomes in terms of success on assignments” would be significantly correlated.

Table 2. Correlational analysis for attendance as predictor of academic performance for separate “Biology and Personality” introductory psychology tutorial groups (2012, 2013, 2015#)

Assessment	2012 N = 59	2013 N = 63	2015 N = 37
Assessment 1	.29*	.46**	.33*
Assessment 2	.34**	.66**	.42**

** $p < .001$, * $p < .05$; # the 2014 class total was less than $N = 15$ and was not included

In summary, of the fourteen possible comparisons over the four years of study, thirteen demonstrated significant relationships between attendance and academic performance and the fourteenth was “in the expected direction”.

4. Discussion

The aim of the current study was to investigate whether attending introductory psychology class tutorials impacted on student learning and subsequent assignment results. The hypothesis was supported as it was found there was a significant, positive correlation between attendance and both assessment pieces for all but one of the introduction to psychology cohorts. The finding of an association between attendance and academic performance is in line with previous research (e.g., Arulampalam, Naylor, & Smith, 2012; Cohall & Skete, 2012; Landin & Perez, 2015; Launius, 1997; Thatcher et al., 2007) that reported similar findings, despite current availability of online resources. This might be indicative that fundamental concepts are learned through class attendance (in this case in tutorials) where students are provided the opportunity to ask questions regarding the material and to work on the material.

Although a correlation between attendance and assessment was identified for 13 of the 14 introductory psychology samples, there was no significant relationship between attendance and the second assignment for the 2015 learning and social cohort. This could be simply the result of random error and while not reaching significance the result was in the expected direction. However, one other factor might have influenced this non-significant result. A change in the assessment was made for this cohort which completed an essay rather than a lab report. However, no hypothesis as to why this change may have lead to the non-significant result is made here.

4.1 Limitations, Summary and Future Research

Although a positive relationship between attendance and academic performance was identified, motivation cannot be ruled out as a possibility in explaining the results of the current study, as suggested in studies also by Crede et al. (2010), Dollinger et al. (2008), and Moore et al. (2008), though each of these also indicated the general importance of attendance. It is possible that students who attend class are more motivated and hence

perform better. Future research should therefore assess the impact of mediating factors such as motivation, personality and cognitive ability on the attendance-performance relationship.

A limitation of the current study was that a convenience sample of university students was used; consequently, the results from the current study may not generalise to other populations or areas of study. If the results are replicated in further studies, then stronger attendance policies might be considered for university and other courses. Crede, Roch, and Kieszczynka's (2010) meta analysis identified that there was a small but significant increase in grades when attendance was compulsory. This indicates that compulsory attendance could be beneficial in increasing academic performance. However, St Clair (1999) suggested that compulsory attendance could make students feel a loss of control. In any case, students who feel there is value in the class are more likely to attend. This was also indicated in the research of Launius (1997), Moore et al. (2008) and Woodfield et al. (2006) who found lack of interest/motivation and a boring class as reasons given for not attending. Introducing compulsory attendance also raises the issue of motivation, and results have been positive but mixed in yielding direct relationships with performance (cf., Aaron, 2012; Dobkin et al., 2010). Students are no longer at school and attending or not attending university classes is seen as their choice. Forcing attendance or punishing non-attendance may not work in the way desired. Consequently, students need to be motivated or self-motivated to attend class. One possible solution to increase motivation could be recognition of the changes in media delivery today, with assistance given to improving teaching abilities and skills. For example, incorporating more interactive elements into subjects, as well as more effective use of digital material (Prensky, 2001, as cited in Moore et al., 2008). This could involve interactive classwork from the first tutorial or lecture, that includes summary information from research on class attendance and performance (such as this article or a summary of similar relevant results). This could contribute to an increase in motivation and lead to more interest and involvement in classwork. Of course the instructors must also use interactive exercises and adult learning styles if boredom is to be reduced. The moves on a broader front to build first year seminars that prepare students for engaging in university studies (see Perzmadian & Crede, 2015) may also assist. But our study confirmed for the current 2012-2015 psychology students in our Australian sample that class attendance in tutorials relates significantly to subject performance just as attendance at associated labs had for economics students (Adair & Swinton, 2012). Certainly, policies are needed in our colleges and universities that incorporate at least some student freedom to choose; but along with clear information available on the demonstrated value of attendance and of effective teaching-learning interaction.

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