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Teaching of Psychology 2014 41: 63 originally published online 31 December 2013

DOI: 10.1177/0098628313514180

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Teaching of Psychology
2014, Vol 41(1) 63-65
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DOI: 10.1177/0098628313514180
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Abstract

This study was designed to help faculty make decisions about when to administer an exam in relation to an in-semester break. Students in multiple sections of an undergraduate educational psychology class were assigned to take an exam either before or after a scheduled 5-day break (Thursday–Monday). A multiple regression analysis revealed the break condition (exam taken before, exam taken after) offered no significant or unique contribution to the prediction of scores on the exam over and above the scores students obtained on other exams of the course. It is concluded that in-semester breaks do not impact exam performance and that faculty may choose to hold exams either before or after such breaks without concern for affecting student grades.

Keywords

college students, exam performance, exam scheduling, exam administration, multiple-choice exams

The exam plays a significant role in faculty assessment practices (Hurtado, Eagan, Pryor, Whang, & Tran, 2012) and students have much ownership as to how well they perform on the task. Of course students are not solely responsible for their exam performance—faculty also matter. For instance, Yoder and Hockevar (2005) found that students performed better on exam items covering material that faculty delivered through active learning techniques compared to traditional techniques (e.g., lecture). Similar findings have been found with faculty uses of hands-on exercises (Owen & Siakaluk, 2011; Ryan, 2006), engaging demonstrations (Treadwell, 2008), and service learning (Knutson-Miller & Yen, 2005; Lundy, 2007). Faculty may also impact exam performance in the way they prepare students for exams. Teaching study skills and learning strategies to students (Fleming, 2002; Stalder, 2005; VanVoorhis, 2002) and requiring students to complete practice exams and study guides (Balch, 1998; Dickson, Miller, & Devoley, 2005) have been shown to positively affect performance on exams.

In addition to faculty teaching practices, exam specification and context factors have been shown to influence exam performance. Skinner (2004) found students taking an exam printed on white paper outscored students whose exam was printed on a primary colored paper. Balch (1989) found students who had exam items arranged in a manner that mirrored the presentation of course content did better on their course exam than those who had an alternate arrangement (e.g., randomized). Others have found no differences in these areas (Pettijohn & Sacco, 2007; Tal, Akers, & Hodge, 2008). Looking at the impact of environmental context on exam performance, Van Der Wege and Barry (2008) found students taking their final exam in the classroom that the course was delivered in performed better than those taking the exam elsewhere. Additionally,

McClain (1983) found students performed better on exams that came at the beginning of their scheduled exam period than at the end.

Despite this published interest in factors that may influence student exam performance, the impact of an in-semester break on performance has not been investigated. No study appears that can assist faculty in making a decision about when to hold an exam in relation to a scheduled break that occurs during the semester (e.g., spring break, Thanksgiving recess). This study investigated the contribution of such a break condition (5 days, Thursday–Monday) on student exam performance with the goal of empirically addressing whether it is best to administer an exam before or after an in-semester break.

Method

Participants

Exam scores for students enrolled across multiple sections of an undergraduate educational psychology course were used in this study. Class rosters indicated the 61 students had the following characteristics: 37 women, 24 men; 30 seniors, 14 juniors, 4 sophomores, 13 freshmen; 12 disciplines represented with psychology ($n = 13$), education ($n = 12$), and business ($n = 9$) being the most prevalent. The sample was predominantly Caucasian (over 95%).

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Table 1. Standard Regression Results With the Middle Exam (Taken Before or After the Break) as the Outcome Variable.

Predictor	B	SE B	β	t
First exam	0.34	0.16	.24	2.10*
Last exam	0.67	0.16	.51	4.31**
Break (before, after)	-1.21	1.70	-.07	-0.72

Note. SE = standard error.

* $p < .05$. ** $p < .01$.

Procedure

The course had a tripartite structure and each section concluded with a 50-item multiple-choice exam. The three exams (first, middle, and last) covered approximately the same amount of course content. All sections of the course took the first exam on the same scheduled day. Similarly, all sections took the last exam on the same scheduled day. The middle exam, however, was scheduled around a 5-day in-semester break (Thursday–Monday) and the sections were divided so that some students took the exam before the break ($n = 32$) and some took the exam after the break ($n = 29$). Prior to this manipulation, these groups were checked for equivalence by comparing demographics, self-reported grade point average, and performance on the first exam. No statistically significant differences were found ($ps > .05$).

Statistical Analysis

A standard multiple regression analysis was conducted to assess the influence of the in-semester break on students' exam performance. The dependent variable was scores obtained on the course's middle exam taken by students either before or after the break. The predictor variables were scores on the course's other two exams (first exam and last exam) and a dummy-coded dichotomous break condition variable (exam taken before break and exam taken after break).

Results

The regression model (first exam, last exam, and break condition) significantly predicted performance on the middle exam, $F(3, 57) = 16.02$, $p < .001$ and explained 42.9% (adjusted R^2) of the variance in student scores. Of the variables in this model, only scores on the first exam (mean [M] = 81.05, standard deviation [SD] = 5.90, $t = 2.10$, $p < .05$) and last exam ($M = 80.95$, $SD = 6.33$, $t = 4.31$, $p < .01$) made significant contributions to predicting exam performance on the middle exam ($M = 79.08$, $SD = 8.46$). The break condition variable (exam taken before the break and exam taken after the break) made no significant or unique contribution to the prediction of this exam's scores ($t = -.72$, $p > .05$; see Table 1).

Discussion

Faculty who use in-class exams to assess student learning have to plan for scheduled breaks that occur during the semester and

make decisions about when to assess students should their course timetable conflict with their school's academic calendar. Findings from this study, while limited, suggest faculty need not worry about when to administer an exam in relation to an in-semester break. The break condition showed no ability to predict exam scores. As such, it is concluded that holding an exam either before or after an in-semester break will have no deleterious effect on student exam performance. For the students in this study, what was most predictive of their performance on the exam taken around the break was how well they performed on the other course exams. This finding mirrors others that have found isolated exam performance predictive of other exam performance within a course (e.g., Bowen & Wingo, 2012).

Although this study did not find any influence of the in-semester break on student exam performance, faculty may still wish to consider the practice of holding exams next to breaks. It may be intuitive to think that students would prefer to get an exam out of the way in advance of a pending break. However, the increase in demands students often face in their collective classes before a break may make putting the exam off until after the break preferable. On the flip side, putting the exam off until after the break means students are burdened with having to think about and prepare for the exam during their vacation. Ultimately, perhaps the question "should I give the exam before or after the break?" should only be asked after deciding that there are no other course planning and scheduling options that would take the break out of play altogether.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

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