Teaching Practices that Predict Performance in Undergraduate Psychology Courses

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Background and Purpose
In undergraduate psychology courses, a wide variety of course requirements is used to assess learning, such as attendance, quizzes, written assignments, and exams. There has been a wealth of research related to the pedagogy of teaching. For example, Bain (2004) examined the practices of effective teachers and found that some common teaching principles were supporting students’ learning outside of the classroom and helping students to engage in disciplinary thinking. When thinking about the “best” practices to promote student learning, Giordano (2006) emphasized that the grading criteria should reflect what instructors want students to learn and include frequent, graded assessments that measure a variety of skills. Furthermore, research has demonstrated that attendance policy can encourage students to come to class (Golding, 2011) and that practice (rather than graded) quizzes with corrective feedback can improve exam performance (Wickline & Spektor, 2011). Although it should be noted that while practice testing can lead to different learning methods probably due to department and university requirements. Additionally, exams (β = 503) predicted the strongest relationship relative to the other course requirements and thus, were further explored in subsequent analyses.

Method

Participants
Undergraduate students from Northern Arizona University (N = 1,506) enrolled in one of the six sections of the Introduction to Psychology (PSY101) course offered during the Fall 2013 semester. PSY101 was taught by five instructors.

- Section 1 (n = 193): Instructor A
- Section 2 (n = 375): Instructors B and C (team-taught)
- Section 3 (n = 375): Instructors B and C (team-taught)
- Section 4 (n = 192): Instructor D
- Section 5 (n = 178): Instructor E
- Section 6 (n = 193): Instructor A

Materials and Procedure
The materials consisted of the classroom lectures, assignments, and exams that were normally used by each instructor. There was also standardization across sections for most of the course requirements and the grading criteria used, which included:

- Attendance: Students were required to scan their student ID during each class meeting.
- LearnSmart Assignments: Adaptive learning assignments were completed online, due prior to each chapter being covered in class, and graded based on completion.
- Practical Application Assignments (PAAs): Students read a primary research article and then completed a written assignment to apply what they learned. These assignments corresponded to the course content and were graded using a standard rubric.
- Research Component: Students completed a pre- and post-survey to assess knowledge about psychological concepts, research screening, and research participation.
- Exam: Consisted solely (or primarily) of multiple-choice questions completed in-class.

The only requirements that differed among the sections was in Section 5 (see Table 1), which included an additional assignment (i.e., a reflection assignment where students had to reflect on ten things they learned about themselves throughout the semester) and cumulative exams that included multiple-choice, matching, and short answer questions. It should also be noted that all sections offered some form of extra credit throughout the semester (e.g., participating in additional research).

Analyses
Students who completed 60% or fewer of the course requirements were excluded (n = 70 across all six sections) to remove outliers, resulting in a total of 1,436 students for the analyses.

Multiple linear regressions, using a forced entry method, were conducted to determine which of the course requirements best predicted students’ grade performance in this course.

Results and Discussion
All multiple linear regression models were statistically significant (all p-values < .001), showing that many of the instructors had an influence on final and exam grades as the criteria. All course requirements predicted how well students performed on their final grade except for instructor (β = .997; see Table 2). This finding suggests that instructors (β = .997) had similar teaching methods benefiting all students. In addition, exams (β = 503) predicted the strongest relationship relative to the other course requirements and thus, were further explored in subsequent analyses.

With exam grade (i.e., the combined score for all four exams) as the criterion, 14.9% of the variance was accounted for by the predictors (R2 = .149). Although most of the predictors showed a positive relationship, extra credit (β = .076) showed an inverse relationship. Specifically, as students performed poorly on exams, they were more likely to complete extra credit assignments. Also, the outcome of overall exam grade may be predicted by how instructors (β = 107) give their tests to students; this finding was explored in additional analyses.

Future research should also examine class size and the teaching styles of instructors to determine whether they contribute to students’ learning. For example, with large class sizes, students may not receive the quality attention they need to learn the concepts in comparison to smaller class sizes. The teaching styles of instructors may also be important as they may provide different forms of motivation for student learning. While the different teaching practices available, there may be opportunities to enhance student learning. However, instructors should take careful consideration in the details of their methods.

References


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