

Case studies: Effective in promoting student learning or waste of class time?

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Previous studies have asserted that use of case studies in college courses may help students better to understand the relevance of course topics; however, few studies have directly examined the impact of case studies on students' actual learning. Rather, previous studies have used student self-report measures to validate claims of effectiveness. The present study differs from previous studies in that we implemented an experimental-control group design to determine the effectiveness of four case studies to facilitate students' learning and retention of course concepts in an adolescent psychology course. The results revealed that the use of the case studies were enjoyable to students as well as an effective instructional intervention.

Keywords: case studies, learning, perceived relevance.

INTRODUCTION

Psychology instructors have reported using case studies in the classroom to enhance student learning of course concepts (e.g., Cabe, Walker, & Williams, 1999; Sheldon, 2004). Research involving case studies has suggested that increased understanding of course material is perceived by college students (e.g., Sheldon, 2004; Floyd, Harrington, & Santiago, 2009). However, few studies have examined the impact of case studies on students' actual learning of course concepts and instead have relied on student self-report measures to validate claims of effectiveness (Tsui, 2002). Also, among the research of case studies, the focus of teaching varies, so studies addressing the same teaching elements have produced varied findings (Tsui, 2002), which begs the question: Do case studies really affect student learning of course concepts, or are they mostly a waste of class time?

Because the use of case studies in college courses is a popular activity, educators need to determine whether they really may help students to learn and retain information. Sheldon (2004) described a case study assignment using the National Public Radio's *Teenage Diaries* series (Richman & Radio Diaries Inc., 2000) to facilitate college students' learning of concepts in an adolescent psychology course. Consistent with past studies, Sheldon (2004) reported high levels of student self-reported satisfaction associated with the presentation and perceived relevance of the single *Teenage Diary* presented; however, it was not determined whether the diary actually affected students' learning of course concepts. We sought to replicate Sheldon's (2004) findings to the extent that college students enrolled in an adolescent psychology course listened to *Teenage Diaries* as case studies in conjunction with the presentation of course content, and we obtained end-course

self-report student satisfaction data. This study differed from Sheldon's (2004) study in that we implemented an experimental-control group designed to determine whether exposure to four diaries actually had a direct effect on the students' learning and course performance.

METHOD

Participants

College students ($N = 65$) enrolled among two sections of an undergraduate Adolescent Psychology course consented to participate. The majority (70%) were traditional college aged (18 to 22 years old). The first author was the instructor of both sections of the course.

During the fall semester, the experimental group ($N = 35$) was exposed to the *Teenage Diaries* as part of the course curriculum. Of those 35, 28 (80%) were women and seven (20%) were men. Three (8.6%) indicated they had previously taken a course in developmental (infant or child) psychology. During the spring semester, the control group ($N = 30$) received the exact same course content (e.g., lectures and textbook) as the experimental group with one exception; the control group did not have exposure to the *Teenage Diaries*. The participants in the control group consisted of 21 (70%) women and nine (30%) men. Nine (30%) had previously taken a course in developmental psychology.

Materials and measures

Teenage diaries – We selected four diaries from the *Teenage Diaries* compact disc purchased from National Public Radio (Richman & Radio Diaries Inc., 2000). The diaries were a) *Girlfriend* by Amanda, b) *Growing up with Tourette's* by Josh,

c) *Teen Mom* by Melissa, and d) *Home School to High School* by Nick. A written transcript of each diary allowed students in the experimental group to follow along with the audio presentations.

Pretest and post-test – To identify and measure students' general understanding and prior knowledge of concepts in adolescent psychology before the course began, a 30-item multiple-choice pretest covered content provided in the text (Steinberg, 2008) used in the course. We selected the pretest items from the test bank that accompanied the course text and pertained to topics including sexuality, identity development, factors associated with puberty, and teen pregnancy, and corresponded to the teens' personal situations presented in the four selected diaries. We presented these items again as post-test items, and dispersed them among four 50-item course exams throughout the semester based on the course topic and content area. Thus, performance on the post-test items also affected the students' grades in the course and was not specifically identified as a post-test complement to the pretest.

Satisfaction survey – As with Sheldon's (2004) study, students in the experimental group completed a 6-item, end-course Satisfaction Survey. The items on the survey addressed students' general satisfaction and agreement with statements on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), indicating whether students perceived that the diaries helped them to better understand and apply course concepts to real-life situations.

Experimental design and procedures

During the first week of class, students completed the pretest and provided self-reported demographic information. Throughout the semester, students in the experimental group listened to each of the four selected *Teenage Diaries* during scheduled class time. The instructor presented the diaries during the second half of a 50-minute class period following a lecture about a related subject matter. For example, the instructor presented Amanda's diary, *Girlfriend*, following a lecture concerning adolescent sexuality. After the segment was finished, the instructor facilitated a class discussion and asked students questions regarding the diary and how it related to the text and lecture presentations on adolescent sexuality. Students also asked questions and responded to others during this class discussion time. The total time allotted to the four interventions was approximately 100 class minutes. As previously discussed, students took four course exams throughout the semester, each containing items that were on the pretest. Finally, students in the experimental group completed the end-course satisfaction survey during the last week of class.

The fall semester course contained two 50-minute class periods more than the spring semester course due to the University's holiday schedule. Thus, no alternative activity was required for the control group. We do not believe this aspect of the procedure posed a threat to the validity of the present study as the experimental and control groups received the exact same amount of coverage over course material with the exception of the *Teenage Diaries* intervention.

RESULTS

An independent-samples *t* test revealed no statistically significant differences between the experimental and control groups on their pretest scores, $t(2, 63) = -0.06, p = 0.95$. Consequently, difference scores (post-test – pretest) were analyzed to determine the effect of the intervention. An independent-samples *t*-test revealed a significant difference in gain scores, $t(2, 63) = 5.29, p = 0.0001$, between the experimental and control groups (see Table 1).

Also promising, the mean ratings of the end-course Student Satisfaction items indicated that students in the experimental group perceived that the *Teenage Diaries* activities were interesting and worthwhile (see Table 2).

Table 1. Pretest and post-test means, standard deviations, and gain scores for the experimental and control groups.

Group	Pretest <i>M</i> (<i>SD</i>)	Post-test <i>M</i> (<i>SD</i>)	Gain scores (post - pre)
Experimental	14.89 (2.79)	24.89 (2.75)	10.00
Control	14.93 (3.14)	20.07 (3.45)	5.14

Table 2. Means and standard deviations by item on the 5-point Likert end-course student satisfaction survey.

Student perceptions of teenage diaries	<i>M</i>	<i>SD</i>
Interesting	4.26	0.92
A good exercise	4.23	0.84
Helpful with understanding concepts	3.66	0.97
A productive way to promote discussions	4.26	0.92
Applicable to real-life situations	3.83	0.89
Useful in future courses	4.17	0.92

DISCUSSION

The experimental group exhibited significantly higher gain scores from pretest to post-test than did the control group. Course instruction and materials (lectures, textbook, etc.) were likely responsible for the increase in student scores from pretest to post-test in both groups, but the inclusion of the case studies helped boost student retention of material, as evidenced by the higher post-test scores among the experimental group. Consistent with Sheldon's (2004) findings, the results from the end-course Satisfaction Survey suggested that overall students in the experimental group perceived the *Teenage Diaries* to have helped them to understand concepts associated with adolescent psychology. They reported high satisfaction and enjoyed the inclusion of the *Teenage Diaries* case studies, indicating that case studies are also an enjoyable activity for students.

The results of this experiment have confirmed that the use of National Public Radio's *Teenage Diaries* series as case studies was an effective intervention to promote student learning and was not a waste of class time. The *Teenage Diaries* are just one of many in the NPR *Radio Diaries* series, thus, the implementation of a similar case study assignment utilized in the present study could potentially generalize to courses in other academic disciplines (e.g., history, English, biology, etc.)

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