

Benefits of Co-Teaching in Relation to Student Learning

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Paper presented at the 116th Annual Meeting of the American Psychological Association, Boston, Massachusetts, August, 2008. Correspondence regarding this paper should be addressed to David Gillespie, Ph.D., Division of General Education, Davenport University, Warren, Michigan, 48092

Abstract

College instructors have long searched for methods to enhance the learning process for their students. Co-teaching is one method by which instructors from diverse fields merge their expertise in order to facilitate student learning. This study examined how co-teaching might affect the learning process.

Twenty-three, largely non-traditional college students participated in this study. A learning activity was developed and taught by faculty from the areas of Psychology and Mathematics. The initial portion of the activity, designed to instruct students on data collection was taught by the psychologist. The second portion of the task, which focused on teaching measures of central tendency and variance along with the use of a computer software program, Minitab, was co-taught by both the psychologist and the mathematician.

As a means of determining the effectiveness of this demonstration, students anonymously completed a questionnaire. Results of this study demonstrated strong support for co-teaching as a method of instruction.

Introduction

College instructors frequently search for approaches to teaching which will engage students, maintain their interest and enhance learning of key concepts (Harris & Harvey 2000; Conderman & McCarty 2003). The use of co-teaching can be one such approach (Crow & Smith 2003; Jankiewicz, H. 1999; Davis-Wiley, P. & Cozart, A. 1998). Through co-teaching, instructors from diverse fields join to teach concepts which bridge two or more fields of study by merging each instructor's knowledge in their respective area of specialization. By employing this approach, students are able to benefit from the knowledge and skills of each professional as they master the key concepts in a more integrated manner (Robinson & Schaille 1995; Bess 2000).

The present study employed co-teaching as a means of teaching basic statistical/psychological principles, data collection and computer assisted computation. In order to accomplish this, a psychology and mathematics professor joined forces to teach these concepts over the course of two class meetings. Information was then gathered regarding student responses to this approach through the use of a survey completed by each student.

Sample

The individuals for this study were enrolled in an introductory psychology course. There were a total of 23 participants. These participants were largely non-traditional students, having been out of the organized educational setting for several years.

Method

The material for this set of lessons was divided into two sections. The first section focused on data collection via a mini experiment. The second section focused on data analysis including computer assisted computation using Mini-tab (2007).

For the first section, students were divided into teams of two. One student was identified as the "researcher" while the other was the "testee". The "researcher" administered the Stroop test (Stroop 1935) in two formats. In the first format, the Stroop test was administered in a modified black and white format. In the second administration, the "researcher" administered the Stroop test in its standard color format. The researcher recorded the number of words that were correctly read by the testee within a 45 second time span for each format. The administration of these tests were used as a means of generating data for subsequent analysis and to give the students the experience of performing a standardized data collection project.

The first component of this learning experience was lead by the psychology professor. The second component of the task was lead by both a mathematics and psychology professor. For this component, students were instructed on data analysis including measures of central tendency such as mean, mode and median as well as standard deviation. The data were then analyzed using a Mini-tab (2007) computer software program. Finally, the discussion turned to the implications of the results of this analysis.

Once the learning tasks were completed, students were asked to respond to a questionnaire regarding their reactions to this approach to teaching.

Results

The questionnaires, completed by the students, provided information regarding this approach to teaching, including efficacy. To this end, a five point Likert scale was employed. Survey results indicated that students found the co-teaching experience to be an effective approach in learning the material presented. Students reported that the co-teaching demonstration held their attention. The mean score for this statement was 4.6 (See Tale 1). Students also indicated that this approach helped to make the material more accessible. The mean score was 4.4 (See Table 1). When students were asked if the team teaching approach was of benefit in understanding the content of the lesson at hand (data collection and analysis), 96% of the students either agreed or strongly agreed with this statement. The mean score for this statement was 4.5 on a 5 point Likert scale (See Table 1). Similarly, students were also asked if this team teaching approach helped to make the class more interesting. Once again, 96% of the students either agree or strongly agreed with this statement. The mean score for this statement was 4.6 (See Table 1). Finally, when asked if this approach should be replicated, 96% either agreed or strongly agreed with this statement. The mean for this statement was also 4.6 (See Table 1).

Table 1
Results of the Student Evaluation Questionnaire
Related to Co-Teaching of Data Collection
and Statistical Analysis

<u>Variable</u>	<u>Mean</u>	<u>Std. Dev.</u>
Held Attention	4.6	0.73
Accessible	4.4	0.90
Understanding	4.5	0.90
Interesting	4.6	0.73
Replication	4.6	0.73

Conclusions

College instructors often search for new ways to teach material in an innovative manner. Joining forces with colleagues in other departments may prove to be just the answer. The present study reported on the outcome of one such approach. A psychology and mathematics professor merged their respective talents and knowledge to teach students the basics of data collection and statistical analysis, including an introduction to computer assisted computation. The majority of students who participated in this study were non-traditional students, who had little experience with data collection and statistical analysis. By employing a co-teaching model, each instructor was able to teach to their strength. This model also allowed students to be exposed to inter- disciplinary views of content. The results of this study underscored the benefit of co-teaching. Students reported benefit from the co-teaching experience by positive responses to survey questions. Future research should focus on larger, broader samples of students, across a greater variety of content areas. In addition, future research should also consider the efficacy of co-teaching as compared to the standard teaching model in relation to student learning.

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