

On the Effectiveness of Interteaching

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Abstract

Interteaching is a dyadic activity or a type of peer learning. In the last ten years this teaching pedagogy has been described in the behavior analytic literature (e.g., Boyce & Hineline, 2002). In the current study, we wanted compare the effect of interteaching with traditional lectures in a group of Bachelor students. We found that interteaching was more effective in giving the students more knowledge, i.e., self-rated, on a specified number of issues compared to traditional lectures. Results from a pre- and post-test are presented and discussed.

Keywords: interteaching, college students, self-rating,

Teaching techniques based on behavior analysis have been available for over 50 years as for example Skinner discussed the strategies for teaching in the classroom (Skinner, 1954). Later techniques such as programmed instruction (Holland & Skinner, 1961), precision teaching (Lindsley, 1964), direct instruction (Engelmann & Carnine, 1982), and PSI or the Keller-plan (Keller, 1968) have been used. However, there has been a decline in the use of such procedures (Lamal, 1984). Some years ago a type of strategy of peer learning or interteaching was described in the behavior analytic literature (Boyce & Hineline, 2002) as “.....mutually probing, mutually informing conversation between two people” (Boyce & Hineline, 2002p. 220). Interteaching is based on principles from the different strategies mentioned above and the main points are: (1) Students have to read the text beforehand, (2) Questions from the text are prepared by the instructor, (3) Students discuss the questions in pairs for 30-45 min, (4) An interteach record is filled out by the students whereby they write down the questions that are difficult, and (5) The instructor prepares a lecture based on the interteach records. Three studies have shown that interteaching is more effective than traditional instructions at improving students learning outcome (Saville & Zinn, 2006, 2009; Saville, Zinn, & Elliot, 2005). Saville et al. (2005) found that students did better on quizzes after interteaching than traditional lectures, reading alone or control. Saville and Zinn (2006) also found that after interteaching students did better on the exams and that students preferred interteaching. However, there have been relatively few reports on the effect of interteaching, so the purpose of the current study was to expand the knowledge by comparing the effect of interteaching with traditional lectures in a group of undergraduate students.

Method

Participants

Sixty-nine undergraduate students from two different classes participated in the current study. Two-thirds of the participants were females and the average age for the whole group of participants was 30 years. The participants were students studying on a bachelor program in social welfare. They were recruited through ads in the class. The classes were not mandatory.

Design

A pre- post-test design was used. One group of the participants was exposed to interteaching as the first condition and traditional lectures as the second condition. The other group was exposed to the conditions in the reversed order.

Procedure

Traditional lectures. The lectures were based on previously known learning objectives. The students had the curriculum and some recommended texts. Each lecture lasted for approximately 3-4 hours with 15 minutes breaks. The second author was the instructor

Interteaching. The sequence started with a short introductory lecture, maximum 45 minutes, followed by an interteaching sequence of 1-2 hours and finally a lecture of 45 minutes based on the results from the interteaching. In the introductory lecture, the learning objectives were clarified and some examples were given.

The interteaching sequence started with students reading a short article from the curriculum that was related to the learning objectives. Subsequently, the students formed pairs and discussed the questions. The instructor, the second author, moved from group to group (3-4 students in each group) answering any questions that the participants had and facilitated group discussion. Furthermore, the participants filled out an interteaching record. The purpose of this record was to help the instructor to identify questions which were difficult for the students.

Behavior recorded. We collected data on self-rating of how much knowledge the participants had about the different issues. The participants had to answer nine to eleven specific questions within each area. Self-rating was scored according to high, medium, and low knowledge about these different issues. The self-rating was done immediately before and after the classes. We have calculated the percentage of answers scored for the degree of knowledge before and after as shown in the diagrams below.

Results and Discussion

The self-ratings for the participants starting with the condition with the traditional lecture are shown in Figures 1 (traditional lectures) and 2 (interteaching). For the items scored as high knowledge, the differences in percentage increased more for the interteaching sequence than for the traditional lectures in pre- and post-tests. Likewise the items rated as low knowledge decreased more for the interteaching condition than the lecture condition. Furthermore, in the interteaching condition none of the items were rated as low knowledge after the interteaching condition. Figures 3 (interteaching) and 4 (traditional lectures) show the self-rating for the participants starting with interteaching condition. The change in percentage for the items scored as high knowledge is about the

same for the interteaching condition and the lecture condition in the pre- and post-test. For the items scored as low knowledge it is a pronounced decrease from pre- to post-test in the interteaching condition compared to the lecture condition.

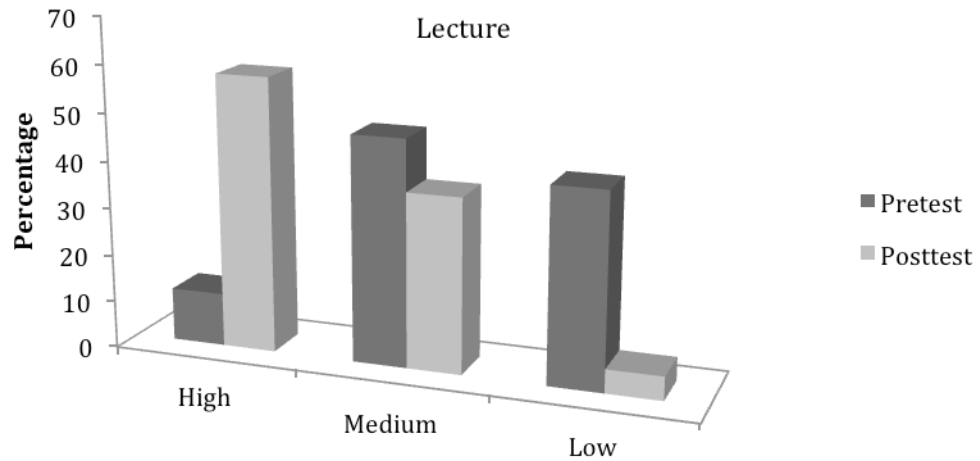


Figure 1. Figure 1 shows number of participants scoring high, medium or low on the self-rating on the pre- and post-test for the lecture condition when starting with the lecture condition.

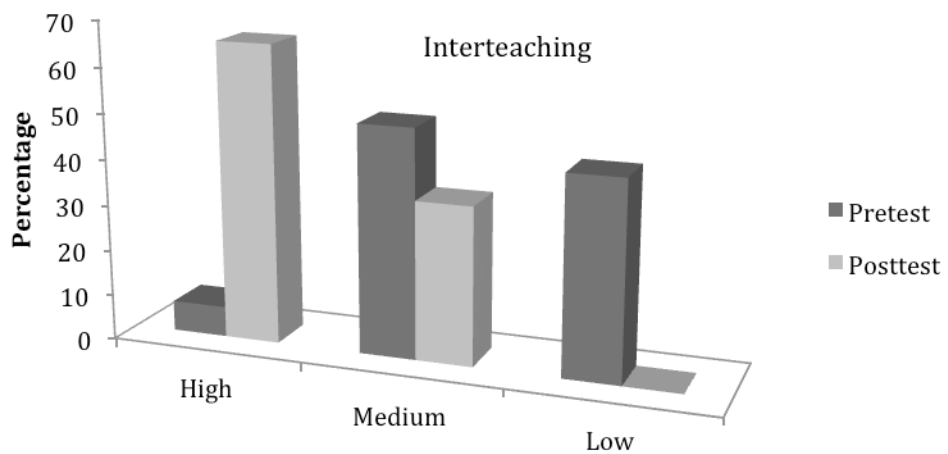


Figure 2. Figure 2 shows number of participants scoring high, medium or low on the self-rating on the pre- and post-test for the interteaching condition starting with the lecture condition.

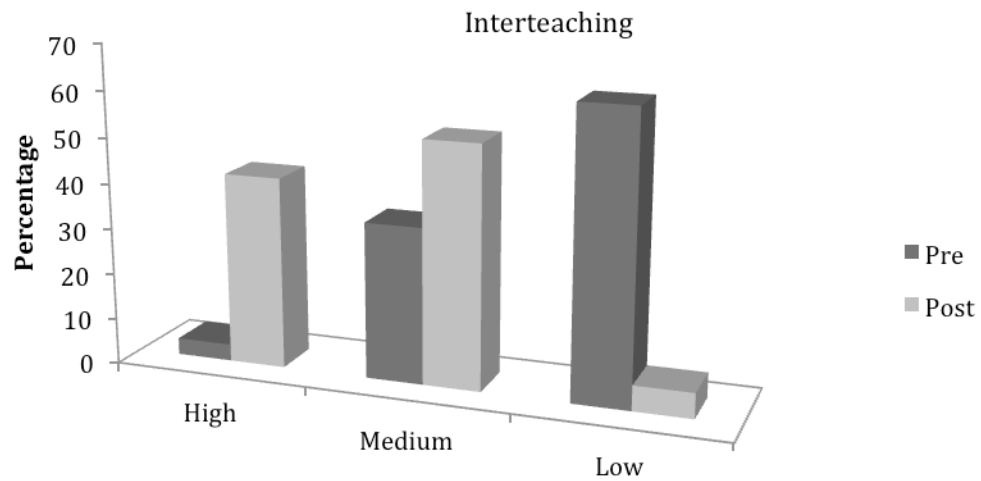


Figure 3. Figure 3 shows number of participants scoring high, medium or low on the self-rating on the pre- and post-test when starting with the interteaching condition starting with the interteaching condition.

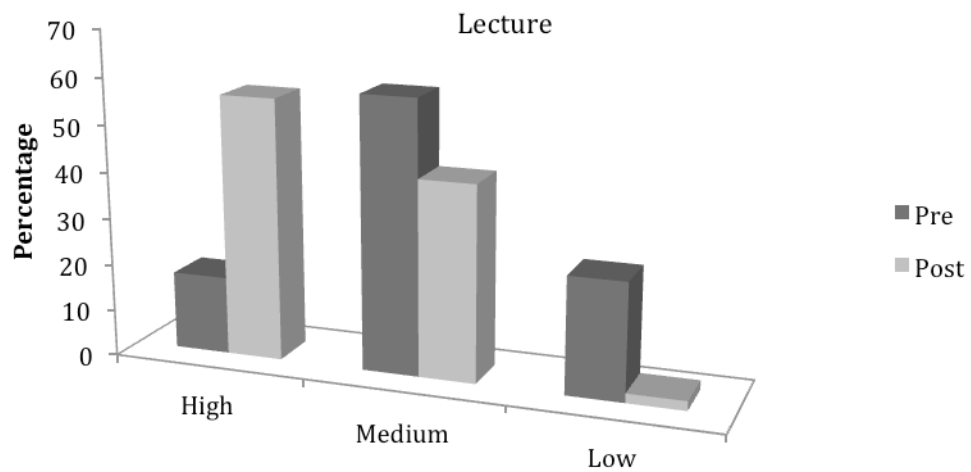


Figure 4. Figure 4 shows number of participants scoring high, medium or low on the self-rating on the pre- and post-test for the lecture condition with the interteaching condition.

It is also worth mentioning that participants said that sequences with interteaching were more engaging than traditional lectures. It is of course anecdotic data, but we have received such comments in almost all of the courses in which we have used interteaching. Another important variable is that interteaching compared to traditional lectures is more focused on the relation between learning objectives in the curriculum and the content of the tasks in the interteaching.

Furthermore, that interteaching is seen as preferable by instructors when compared to traditional lectures as for example mentioned in Saville and Zinn (2006). This is probably because the interteaching pedagogy encourages more contact between students and teachers than traditional lectures.

There are some limitations with the current study. First, the teacher in the current study was also an author and therefore, this may have affected the results. There are no reliability scores or fidelity measures. However, the scorings of the dependent measures were quite obvious and the descriptions on the procedures were written and easy to follow. Anyway, both measures should be included in future research. Secondly, we have only used self-rating as a measure. Future research should include essays and not quizzes (risk of guessing) to assess learning outcome and better to discriminate between the different teaching methods.

In summary, the findings in the current study, even with self-rating, replicate earlier findings on the efficacy of interteaching compared to traditional lectures. One may argue that some of the reasons for this effect are related to the fact that the instructor could adapt the content of the teaching in more extensively to the students need.

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Author Note

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