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SIMULATION AS A TECHNIQUE FOR TEACHING COLLECTIVE BARGAINING

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ABSTRACT

A primary goal of the course in question is to provide students with an understanding of the realities of the world of collective bargaining. The issue here is how best to bring the "real world" into the isolation of the classroom. Simulation appeared to offer the greatest potential for accomplishing that transfer. The concern, however, was over whether that technique is as effective at transferring knowledge as it is at transferring situations. The purpose of this study is, first of all, to assess the effectiveness of simulation as a technique for teaching an undergraduate course in collective bargaining, but also to examine the relationships between the learning effectiveness of the simulation technique and certain student variables, such as measured mental ability and selected personality characteristics.

INTRODUCTION

A primary goal of the course in question is to provide students with an understanding of the realities of the actual world of collective bargaining. Such a goal statement is in no way intended to imply the exclusion of bargaining theory from the course. Rather it identifies the theoretical focus as being a tool for understanding the "real world" of labor-management relations --i.e., as a means, instead of an end--but as appropriate for an upper division undergraduate course.

The central question was how best to introduce "real world" conditions into the isolation of the classroom. Classes in finance, e.g., can visit banks, brokerage houses, and the like, and observe "finance" being practiced. It is unlikely, however, that a group of 63 students can sit in on a collective bargaining session (much less the pre-negotiation meetings). Traditionally, collective bargaining classes engage in simulated negotiation exercises. If carried out in sufficient detail to be at all meaningful, these exercises are extremely time-consuming. Are they worth it? At what benefit is the time diverted from more direct dissemination of information?

The purpose of this study, then, was first to assess the effectiveness of simulation as a technique for teaching an undergraduate course in collective bargaining; and second, to examine the relationships between the learning effectiveness of the simulation technique and certain student variables, such as measured mental ability and selected personality characteristics.

PROCEDURE

Choosing the Simulation Technique

The effect of "tradition" on the decision to utilize the simulation technique in the bargaining classes has been noted. There were, in addition, some arguments of logic

which influenced the decision. First, for a true understanding of the material involved, the students must actively participate in the learning process. And, second, the students need to see the impact of their decisions and actions regarding course problems. The active and applied nature of the course objectives, then, suggested that a technique such as simulation would best facilitate the accomplishment of those objectives.

A literature search revealed less than full agreement as to the relative effectiveness of student-centered (e.g., simulation, case study, etc.) vs. teacher-centered (e.g., lecture) techniques. In general, no type (or even few types) of teaching technique stands out as clearly superior for all varieties of students in all varieties of courses. There are, however, some systematic relationships which emerged with sufficient frequency as to warrant consideration: viz., relationships between the teaching method and (1) student cognitive abilities and/or aptitudes, (2) student personality characteristics, (3) class environment, (4) nature of course content, and (5) course objectives [see, e.g., 2, 3, 5, 7, 9, 13]. Thus, no attempt was made to unearth the "one best way" of teaching. Instead, the goal of the experiment was to examine the differential effects of simulation vs. lecture methods of teaching collective bargaining, as they are associated with measured mental ability, social boldness, emotional stability, and risk aversion. Three types of effects were viewed: course examination scores, development of interpersonal skills, and attitudes toward labor unions.

Design

The study was conducted in the College of Business at a medium-sized western university. A total of 63 upper division undergraduate students in three collective bargaining classes (sizes 19, 20, and 24) were involved. Two of the classes (19 and 24) were experimental (i.e., simulation) classes, while the third (20) was a control (i.e., lecture) group class. There were eight females (3 and 5) in the experimental classes, and two in the control class. All students had either a major or a minor in management, and all had successfully completed the Principles of Management and the Personnel Administration courses.

For approximately 60 percent (9 weeks) of the semester, the same format, methodology, and materials were used in all three of the classes. This period was devoted to the history of the labor movement, the structure and role of labor unions, and the laws governing the conduct of the parties involved in the collective bargaining process. In the control (lecture) class, the remaining time (6 weeks) was spent on lecture/discussion periods dealing with contract negotiation and contract administration. Special emphasis was focused upon the development, writing, and interpretation of contract language and clauses. (But, recall that this was a s of how these things are done, and not an actual practice at doing them.)

In the experimental (simulation) classes, the remaining six-week period was used to simulate the negotiation of a labor agreement. Students were provided with necessary background information (demographic, economic, organizational, historical, and other relevant data), and were instructed to develop bargaining teams, prepare for negotiation, conduct negotiation

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sessions, and write up the resultant labor agreement. This exercise constituted 40 percent of their course grade. The outcome of the simulation exercise was evaluated on the following criteria: adherence to results, quality of contract language and clauses, and, for each side, the relative "strength" of the agreement from that side's point of view. To best simulate a real world situation, scheduling of the planning, negotiation, and contract construction session was left up to the students, as was the organization of the bargaining teams (i.e., after "union" and "management" sides were defined).

The Dependent Variables

One of the dependent variables was the change in final examination scores (ZAMCHG). All students were given a final examination at the first class meeting, and another during final examination week at the close of the semester. The difference in these scores was taken as one measure of the transfer of knowledge that occurred during the term.

Because proficiency in the collective bargaining arena requires a variety of interpersonal skills as well as cognitive capacities, one goal of the course was to provide an opportunity for the students to develop those skills. To assess the extent to which such development had actually occurred, the Self-Evaluation of Abilities instrument was administered on the first day of class, and again at the end of the semester. This instrument is designed to measure individuals' evaluations of their own interpersonal (especially leadership) skills. The change in S.E.A. scores over the course, then, served as a second dependent variable (SEACHG).

Also administered at the beginning and again at the end of the course was the Social Issues Questionnaire. It is imperative that professionals - both labor and management - in the field of labor and industrial relations be rational in their approach to and conduct of collective negotiations. Inability or unwillingness to understand the position of the other party, or blind hatred of the other party, will almost surely lead to miscalculations and suboptimization in the bargaining process. The S.I.Q. was utilized to measure attitudes toward labor unions. Students in the locale where these classes were conducted tend to be almost totally non-conversant with the actual nature and workings of labor unions, and, at the same time, exceptionally hostile toward the existence of labor unions. Thus, the change in S.I.Q. scores (SIQCHG) was adopted as a third dependent variable. (It should not be taken from this that the goal of the course was to produce a cadre of union supporters; rather this variable was adopted as a measure of whether student attitudes had been in any way affected by the exercise -- and, if so, in what direction.)

In each instance, the relative effects of simulation vs. lecture on the pre- and post-course measurements were assessed by applying the Aspin-Welch approach to t-tests.

The Explanatory Variables

Following the literature review, several explanatory variables were selected as those likely to influence the effects of simulation as a method of teaching collective bargaining. These variables were: (1) measured mental ability (MA); (2) social boldness (SOBOLD); (3) emotional stability (STABLE); and (4) risk aversion (RSKTAK). The following instruments were administered at the first class meeting to ascertain student status in each of the above

areas:

a) Thorndike Short Vocabulary Test; (b) Gordon's Survey of Interpersonal Values; (c) Guilford-Zimmerman Temperament Survey; and (d) Work Requirement Preference Questionnaire (designed to measure propensity for job-related risk-taking).

The Hypotheses

It was anticipated that the lecture method would produce the best results on the variable ZAMCHG, but that simulation would have a stronger positive effect on SEACHG and SIQCHG. It was further hypothesized that the simulation technique would meet with relative greater success among those with higher levels of measured mental ability, with stronger tendencies toward social boldness, with greater emotional stability, and with greater propensities for risk-taking.

RESULTS

The impact of simulation vs. lecture on ZAMCHG was generally as expected. That is, the lecture method clearly yielded a greater effectiveness in teaching factual material (Table 1). Likewise the relationship between teaching methodology and SEACHG took on the expected direction. Students who participated in the simulation exercises altered their evaluations of their own leadership capacities more than did those who were in the lecture section (Table 1) (It is interesting to note that the S.E.A. scores of all of the females in the simulation classes increased noticeably over the period, while none of the S.E.A. scores of the women in the lecture section increased. Unfortunately, however, the cell sizes are insufficient to warrant confident analysis or interpretation.) In the case of the third dependent variable, SIQCHG, the results are contrary to those hypothesized. That is, the students in the lecture class displayed a greater positive change in attitudes toward labor unions than did those in the simulation classes (Table 1). The data do not provide an explanation for this result. It can be speculated, however, that the information base of these students was barren enough that the direct (i.e., lecture) presentation of the factual conditions surrounding labor-management relations did more to influence attitudinal change than did the simulation exercise (in which existing attitudes may, in fact, simply have solidified or intensified).

When the relationships involving the explanatory variables are examined, it can be seen that the associations were largely as anticipated (Table 2). The negative association between simulation, ZAMCHG, and RSKTAX is of no surprise. Students who are risk-averse could be expected to prefer being led and directed by the lecture method, rather than being given the freedom of the simulation method.

Similarly, the relationships between ZAMCHG and MA are consistent with the hypothesis. Lecture classes generally proceed at a 'normal' pace. The brighter students may become bored with that pace. Thus, while their absolute scores on the post-course final examination were high, the change was less. The simulation technique challenged and excited the brighter students. They were not only required to "learn" the material, but in addition it was necessary for them to "use" what they had learned.

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Higher MA students in the simulation classes were more likely to have high scores on the SEACHG variable. This, doubtless, is simply a matter of experience. They obtained experience in performing as leaders, and, in doing so, they (1) perceived that they had leadership advantages over others in the simulation, and (2) became comfortable in the leadership role. The lecture section provided no opportunity for such experiences.

Ti.' relationships involving the alternative methodologies, SIQCHG, and the explanatory variables are less easily understood. Perhaps the lecture/SIQCHG/RSKTAK link-up can be explained by students with low propensities for risk-taking being more easily influenced by persons in control (i.e., by the lecturers). The influences exerted by the explanatory variables SOBOLD and STABLE are even more confusing. One argument might be that students who score high on those measures are not easily influenced by any methodology. Equally plausible, however, would be the argument that persons who score high on SOBOLD and STABLE would not feel threatened by the prospect of shifting their attitudes, and so would be less likely to emotionally resist such shifts. Whatever the case may be, the authors do not offer speculation beyond that which was presented (above) when discussing the data from Table 1.

pointed out, with reasonable clarity, that selection of a teaching methodology should be done with a sensitivity for the composition of the student group involved. What works well and is most beneficial for the brightest, most aggressive students may be inhibiting to the middle-of-the-road students -- not to mention the below-average ones.

In spite of the absence of absolute and totally conclusive results, it is argued here that the data support the relative effectiveness of simulation as a method for teaching collective bargaining. Because the objectives involve both the transfer of factual information as a foundation, and the development of interpersonal skills and the ability to apply the factual base, an undergraduate course in bargaining should employ multiple techniques. The first portion of the course (not less than one-half, but depending on pre-requisites) should be of a lecture/discussion variety, and should provide the necessary foundation. The last portion, then, should provide the challenge and the experience necessary to sensitize students to what it is really like to be involved in an actual bargaining situation. During this final portion, the instructor must take particular care to assure that it is not just the "top" students who derive the benefit of the simulation.

SUMMARY

The results here are consistent with the literature on at least one dimension. There was no "one best way" to teach a class identified. One should have the objectives of the course well in mind when selecting a technique. A technique conducive to the transfer of cognitive skills e.g. may be less effective than an alternative technique when it comes to the development of interpersonal skills. The experiment also

TABLE 1
EFFECTIVENESS OF SIMULATION VS. LECTURE:
A THREE-GROUP COMPARISON

GROUP	ZAMCHG	SEACHG	SIQCHG
Simulation Group A	-3.46*	3.62*	-5.89*
Simulation Group B	-1.60	5.26*	-3.45*
Lecture Group	1.40	1.31	0.56

*Significant at $\geq .01$ level.

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TABLE 2
EFFECTIVENESS OF SIMULATION VS. LECTURE:
BY SELECTED STUDENT CHARACTERISTICS

DEPENDENT VARIABLE	EXPLANATORY VARIABLE	METHOD	CORRELATION*
ZAMCHG	RSKTAK	Sim. (A)	-0.459
ZAMCHG	MA	Lecture	-0.600
ZAMCHG	MA	Sim. (A)	-0.662
ZAMCHG	MA	Sim. (B)	0.648
SEACHG	MA	Sim. (A)	0.469
SEACHG	MA	Sim. (B)	0.569
SIQCHG	RSKTAK	Lecture	-0.545
SIQCHG	SOBOLD	Sim. (A)	-0.482
SIQCHG	STABLE	Sim. (B)	-0.479

*Only those associations which obtained statistical significance are displayed here.

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