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HOW TO USE BUSINESS GAMES IN THE BUSINESS POLICY COURSE:
THE STUDENTS' PERSPECTIVE

Peter R. Sugges, Jr., Arizona State University

ABSTRACT

This paper examines the issues of student team size and creation method, and the evaluation of team performance in business games used in Business Policy courses. The conclusions drawn are a result of integrating earlier recommendations based upon both experience and research with the results from an anonymous survey of students who used a business game in a Business Policy class. It is concluded that students should be allowed to select their own teammates and that the nominal team size should be three members. Both quantitative and non- quantitative measures of performance should be used in evaluating team performance. Students should be allowed to participate in establishing the criteria used. Other conclusions about the use of business games in Business Policy classes are also reported.

INTRODUCTION

During the time since computerized business games first were introduced into Business Policy courses, instructors - sometimes referred to as game administrators -have been seeking guidance in their use. A paper published by Wilson [3] in the first ABSEL Proceedings has been cited numerous times as a source of answers to instructor's practical questions about the use of games. While Wilson covered many game administration issues, two of those which he discussed continue to occupy users' and researchers' attention. These issues are:

1. How should student teams be formed and how big should they be?

2. How should an instructor evaluate a student team's performance?

Wilson's answer to the first question is that while it is theoretically desirable to have a balanced team composed of students with varied backgrounds and majors, he allows students to create their own teams. The reason for this is pragmatic. Students must be able to get together outside of class meetings and must be able to work together. Therefore they should be allowed to choose their own team members.

As for team size, Wilson recommended three to five students per team unless the game is unusually complex.

Wilson's answer to the second question is to use two criteria. One is based on 'relative performance in terms of rate of return on investment and the second is a subjective evaluation of the management processes of the team in terms of planning, setting of goals and strategies, and their analysis of performance.

This paper provides empirical answers to these questions from the students' perspective and also adds some information regarding related issues. Thus this paper complements Wilson's views and those of others such as Badgett [1] who adds perspective to Wilson's paper through a survey of twelve administrators regarding how to form student teams, and Wolfe and Chacko[4] who examined the empirical relationship between team size and game performance. This student perspective is an important but seemingly overlooked point of view regarding the use of business games.

METHODOLOGY

In this study an anonymous questionnaire was administered to my Business Policy class students at the end of the (Summer, 1981) semester after all of the game activity had been completed, but before grades were assigned. The game used in this Business Policy class was Cotter's[5] Business Policy Game(BP Game). This is a moderately complex game calling for a maximum of 76 decisions each quarter of play although students usually made only about 19(25%) non-zero decisions each quarter. Students were allowed to form their own teams. The instructor only intervened by placing an upper limit of four on the team size and by assisting a couple of "retiring" students in finding a team. The game contributed 1/6th of a student's grade.

Students were allowed complete freedom in the operation of their companies. During the early part of the course before game play started, the instructor introduced the concept of corporate objectives and showed how a performance index could be constructed which would provide a basis for the comparison of team performance. The one which we used was a weighted composite of three factors. The factors were return on equity(ROE), total profits, and executive compensation. Each industry("World" in Cotter's context) was composed of six teams and each team within an industry was ranked from one(first) to six(last) on each of the three factors. The quarterly index was calculated as follows;

(3 x ROE rank) + (2 x Total Profit rank) +

(1 x Executive Compensation rank) = Quarterly Index

Each quarterly index was added to the sum of the previous quarterly indexes and averaged to determine the overall position of a company; i.e.,

$$\text{Average Index} = \frac{\sum_{i=1}^{n} (\text{Quarterly Index})_i}{n}$$

This average quarterly index is analogous to a student's GPA(grade point average) with the exception that for the game, a student is striving for a low numerical average index as opposed to a high numerical average for his GPA.

During the final two classes of the semester a game debriefing was held during which each student team was given the assignment of evaluating a close competitor's play of the game.

TABLE 1
HOW STUDENTS THINK BUSINESS GAMES SHOULD
BE USED IN A BUSINESS POLICY CLASS (N - 31)

1. What is the right-sized student group for each company in the Business Policy Game? (Specify a number between 1 and 8.)

1.	0%	5.	9.7%
2.	0%	6.	3.2%
3.	51.67%	7.	0%
4.	35.5%	8.	0%

2. How should student teams be established:

a. Instructor creates teams   9.7%
b. Instructor and students jointly determine constitution
     of teams   22.6%
c. Students create their own teams   67.7%

3. Do you think that your instructor should use a specific Set of quantitative criteria to evaluate your company performance in the Business Policy Game?

Preferable		Don't Know		Not Preferable
1	2	3	4	5
19.4%	38.7%	3.2%	19.t%	19.4%

4. If your instructor uses a specific set of quantitative criteria to evaluate your company performance in the Business Policy Game, what is your preference for establishing the criteria?

a. Instructor sets objectives without student consultation   22.6%
b. Instructor and students set objectives through consultation   67.7%
c. Students set their objectives without consultation   9.7%

5. Rate the debriefing session as a learning experience:

Very valuable		Moderate value		No value
1	2	3	4	5
16.1%	38.7%	32.3%	12.9%	0%

6. Rate the Business Policy Game as a learning experience:

Very valuable		Moderate value		No value
1	2	3	4	5
25.8%	35.5%	35.5%	3.2%	0%

7. How much emphasis do you think should be given to the Business Policy Game in a Business Policy course?

Use game only	Cases and game with emphasis on game	About equal emphasis between game and cases	Cases and game with emphasis on cases	Use cases only (No same)
1	2	3	4	5
0%	9.7%	29.0%	58.1%	3.2%

8. If Business Policy is a required course, should all sections use the Business Policy Game?

Definitely		Indifferent		No
1	2	3	4	5
38.7%	29.0%	25.8%	6.5%	0%

RESULTS

The results obtained using the anonymous questionnaire are shown in Table 1. Question 1 was asked in an open ended manner. The range of responses showed that none of the students felt that team size should be less than three or more than six. The majority (51.6%) of the students thought that three was the right size with 35.5% in favor of four per team. Thus over 90% thought that the right sized team was three to four students.

Question 2 asked about the manner in which teams should be constituted. Almost 8% favored allowing students to develop their own teams. About 32% favored some degree of instructor involvement.

Questions 3 and 4 dealt with performance evaluation. In question 3 students were asked whether specific quantitative criteria should be used. Over 58% were favorably disposed to this while almost 39% were not in favor of the use of specific criteria.

In question 4 students were asked how the specific quantitative criteria should be selected, given that the instructor has decided that they should be used. About 68% wanted there to be some kind of consultation between the students and the instructor in determining what quantitative objectives should be used. Almost 23% of the students were willing to simply allow the instructor to set the quantitative objectives for them.

Four other questions were asked of the students regarding the use of business games in a Business Policy course. Question 5 showed that 86Z of the students found the debriefing session to be a moderate to very valuable learning experience. And question 6 showed the same percentage(86%) of students rated the BP Came as a moderate to very valuable learning experience. Question 7 asked students about the amount of emphasis which should be placed on the game. The majority(58%) felt that case study should be given more emphasis than the game while a substantial percentage(29%) felt that the game and case study should be given equal emphasis. Finally question S asked about whether all Business Policy students should play the business game. Almost 68Z thought Business Policy students should be required to play the game. About 26% were indifferent.

DISCUSSION

The results of this survey provide both support and perspective for positions advocated by other papers. Wilson[3] advocated the use of student self-determination in creating teams. Over two-thirds of the students surveyed favor this option although one-third favored some instructor involvement. Thus Badgett's [1] desire to balance teams would not be acceptable to most students. Therefore an instructor would not be able to push the idea of balance very far. Re might recommend that students strive for balance, but not try to enforce it.

When it comes to team size, Wolfe and Chako(4) found three-person teams outperformed other sized teams. Wilson [3] recommended three to five-person teams. Gentry[2] found two to three-person teams had less dissension than larger teams, but he found no differential performance in different sized teams. In this study most students favored three-person teams although slightly over one-third favored four-person teams. Therefore it appears that instructors should ask students to create three-person teams as a nominal objective but allow four-person teams.

It does seem that most instructors use some sort of quantitative assessment of team performance for the purpose of grade assignment. Most students accept this fact of life although over one-third don't like quantitative assessment. Wilson[3] was sensitive to this point in recommending that student teams also be judged on their strategic management process. Judgment of the strategic management process took place during the debriefing sessions and most all students found these sessions to be useful learning experiences.

When it comes to the establishment of quantitative criteria, over two-thirds of the students wanted a role in setting these criteria. Most instructors have some set of criteria in mind

which they wish to use to judge performance. The students seem to be saying, "don't just impose them on us, convince us that they are appropriate.' The instructor should be prepared for some give and take when he establishes the quantitative assessment criteria if he wants them to be acceptable to the students. This is obvious to those who subscribe to management by objectives (MBO), but I wonder how many instructors actually follow this practice. If they don't students probably are justified in griping about the assessment of their performance.

Two questions were raised in the survey regarding the emphasis placed on the game in a Business Policy courses Slightly less than one-third of the students seemed to opt for being able to take a Business Policy course where a business gate is not used. Some schools follow the practice(ours is one) of offering some sections of Business Policy where the game is not used. A not insignificant number of students seem to be in favor of having this option. Schools which don't provide this option may meet with resistance from students who are not convinced of the educational value of the business gaming experience.

Finally if a business game is used in Business Policy all students want cases to be used as well. This raises a serious question about the policy decision made by some schools where the business game is the Business Policy course. As to the weight placed on the game, most want cases to be given more weight than the game while almost 30% want them to be given equal weight. This result seems to fit with the student judgment about the business game as a learning experience. The vast majority of students view the business game as a good learning experience and therefore if it is used and most students want it to be used - it would be given a substantial amount of attention and weight in the course. I would judge one-third to be about right, but this is a question deserving of research.

CONCLUSION

The purpose of this paper has been to examine the judgments and research results regarding the use of business games in Business Policy courses from the student perspective. This integration has provided us with some interesting results, They are tabulated below:

1. Business games are desired by most students in Business Policy. However some students don't want to play a business game and therefore a small number of sections should be scheduled where a business game is not used.

2. Approximately one-third of the Business Policy course and the course grade should be devoted to the business game.

3. Unless an unusually complex game is used, student teams should be composed of nominally three persons with an upper limit of four persons.

4. Students should be allowed to create their own teams unless some instructor involvement is requested. Students should be encouraged to strive for some balance of background and majors on their team.

5. Quantitative performance measures should be

used to judge team performance. A composite index criterion is recommended. Students should be allowed to participate in the selection of the factors and weights used to Construct the index.

6. Non-quantitative measures should be used to assess the strategic management process used by a team. These can be obtained during one or more debriefing sessions held during and/or at the conclusion of the game.

It is satisfying to find that the judgments and results of earlier papers seem to be acceptable to students as regards the use of business games in Business Policy courses. It is time to leave the issues discussed in the paper and to move on to ocher issues in business gaming such as the creation and evaluation of decision support systems for business games.

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