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COMPUTERIZED MANAGEMENT SIMULATIONS AND SOME CORRELATES
OF STUDENTS' SATISFACTION

Charles S. White, U.T. Chattanooga
Dale Von Riesen, University of Wyoming

ABSTRACT

Student satisfaction, effort, and performance were investigated in a junior-level, semester-long management simulation. Self-reported survey data and group performance measures supported the relationship between student participation and satisfaction.

INTRODUCTION

Because simulations are becoming common place in business curricula, students are increasingly being expected to participate in this method of instruction. Anecdotal evidence suggests, however, there is substantial variation in students' satisfaction and learning with their use. Since students are increasingly being expected to participate in simulations, it is appropriate to investigate some of the correlates of performance and satisfaction.

METHODOLOGY

One hundred and forty students participated in a team-oriented business simulation in a junior-level management concepts course. The simulation, Allison Industries, is a total enterprise management game requiring students to formulate strategic and tactical plans for the purpose of operating a simulated factory. Decision inputs included price, factory capacity, production amounts, marketing and financial information. Students were organized into teams of between three to five members. Students were randomly assigned to their teams with the constraint that students majoring in the different functional areas of business were evenly dispersed. Teams competed against each other for a total of two practice sessions followed immediately by ten graded iterations. Students were provided income statements, balance sheets, and summary information of opponent's decisions at the end of each period of play. During the middle and then again at the conclusion of the simulation, bonus grading points were assigned to each team based on their overall success relative to each other.

At the end of the semester, each student was asked to complete a questionnaire, which included questions regarding their majors, their effort, and their satisfaction with the simulation. Students were guaranteed anonymity with regard to the reporting of data.

HYPOTHESES

H1: A student's satisfaction with the simulation is determined by his or her participation

H2: The academic credit earned by the student directly affects his or her satisfaction with the simulation.

H3: The student's influence on other team members is positively related to his or her satisfaction with the simulation.

H4: The student's self-reported effort directly affects the actual bonus points earned by the team on the simulation.

H5: The students effort expended on the simulation influences his or her desire to participate in other simulations in future classes.

RESULTS

Students were asked if the simulation was realistic. Of 133 responses, 116 (87.2%) indicated they felt the simulation was realistic. A contingency table was constructed cross-tabulating the student's perception of realism with the desire to play more simulations. The contingency table indicated there was a significant relationship ($X^2 = 14.39$, $p < 0.001$).

Hypothesis 1 examined the relationship between the student's participation and his or her satisfaction with the simulation. The dependent and independent variables were measured with likert scaled questions and both variables were considered to be intervally scaled. Satisfaction was regressed on the students self reported participation with his or her team. The hypothesis was strongly supported (R^2 0.30, $p < 0.001$, = 2.12, = 0.39).

Hypothesis 2 examined the relationship between the bonus points earned by the student with his or her satisfaction. Bonus points were assigned based upon each team's performance relative to the other teams. This hypothesis was strongly supported ($R^2 = 0.493$, $p < 0.001$, = 2.44, B1 = 0.19); that is, the more bonus points earned by the student, the higher the students self-reported satisfaction level.

Hypothesis 3 investigated the relationship between the student's self-reported influence on the group and satisfaction. Both variables were measured with a likert scaled question and were considered to be intervally scaled. The hypothesis was strongly supported ($R' = 0.347$, $p < 0.001$, = 2.06, B1 = 0.44). Therefore, the more influence perceived by the student, the higher the Student's satisfaction.

Hypothesis 4 investigated the relationship between credit earned and self-reported effort. Self reported effort was measured with a likert scaled question which was considered to be intervally scaled. The correlation coefficient (R^2 0.172, $p < 0.05$, B0 = 3.95 B1= 0.172) demonstrated a weak relationship between the two variables.

Hypothesis 5, which related self-reported effort to the student's desire for more simulations, was not supported by the data.

CONCLUSION

This study indicates a student's satisfaction with a simulation is a function of multiple factors. First, the games realism affects a students desire to participate. A student's satisfaction appears to also be a function of his or her participation's Students who exercise substantial influence in their teams are also more satisfied with the process. Whereas participation is a direct choice of the student, influence can be moderated by the influence-seeking behavior of fellow team members. Therefore, an instructor's ability to balance team memberships may enhance a student's opportunity to enjoy the game.

Finally, satisfaction is affected by the amount of academic credit received. If a student's effort is translated into actual performance, and if performance is tied directly to academic credit, then the structures exist to link student effort with satisfaction. This increases student responsibility an objective of higher learning.