

# Developments in Business Simulation and Experiential Learning, Volume 26, 1999

## DEVELOPING PARTICIPANT SATISFACTION MODELS OF EXPERIENTIAL EXERCISES IN BUSINESS EDUCATION

Gregory H. Patton, University of Southern California  
Daniel Cochece Davis, Marist College

### ABSTRACT

Previous business education research establishes predictive relationships between student satisfaction levels and both "utility" and "understanding" oriented measures. The present study extends this line of research by also examining value relationships. A replication of recent ABSEL research indicates stable findings, and an extension identifies that utility and understanding may actually be better predictors of how valuable students perceived a business course to be, rather than how satisfied they were with the course.

### INTRODUCTION

The present paper focuses on the effect of integrating a program of experiential exercises into an introductory business course. This article offers an extension of previous empirical research and theoretical development in the area of experiential learning and pedagogical praxis by building on preliminary work presented at the 1998 annual meeting of the Association for Business Simulation and Experiential Learning (ABSEL). The present study seeks to confirm the extent to which large lecture, discussion section, and experiential formats contribute to overall student understanding, as well as student evaluations of satisfaction and value in business education. Drawing on Albertson's (1995) concept of "learning enhancement," two competing models appeared capable of predicting major portions of variance in students' overall evaluation of their educational experience. The first model is grounded in students' perceived "utility" of their educational experience, and focuses on the degree to which the student learns how to *apply* business information. The second model

is based on the student's perceived "mental understanding" of the educational experience and focuses on the degree to which information improves *understanding* of the material. Exploratory research by Patton, Davis and Govahi (1998) compared these two competing models of "learning enhancement" across three categories of participant learning: large lectures, discussion sessions, and experiential exercises. On a macro level, "nearly equal amounts of participant variance were accounted for across the two models ("mental understanding":  $r^2 = 82\%$ ; "utility":  $r^2 = 79\%$ )" (Patton et al., 1998, p.73). On a micro level, it was discovered that "in each of the three categories, the predictor variables accounting for the greatest variances of overall satisfaction were consistently related to "mental understanding" rather than "utility" (p. 73).

### PURPOSE

The purpose of the present study is to expand present knowledge of the unique ways in which experiential exercises contribute to overall participant learning. The present effort reexamines the two primary prediction models of student satisfaction ("mental understanding" and "utility"), seeking to replicate earlier findings. Replication of empirical research is foundational and indispensable in ascertaining the stability of statistical findings. In addition, previous research was limited to the relationship between participants' understanding and satisfaction. The present expansion of this research involves an investigation of the perceived value of the three educational methods, and is based on suggestions for future research generated at ABSEL 1998 when Patton et al (1998) was initially presented. Specifically, along with satisfaction, the *value* participants place on the three instruc-

tional categories is also explored, as well as the satisfaction of participants *compared to* the value participants place on the three categories of instruction. Thus, the present study seeks to examine the contribution of two different perceptual measures of students' educational experience.

Patton, Davis, and Govahi (1998) suggest participants' perception of improved conceptual *understanding* of management concepts is a better predictor than participants' perception of their improved ability to *apply* these concepts when determining overall satisfaction of a core management course. The present study begins with a replication to verify the stability and reliability of these past findings across all three learning categories. Following this is an exploratory effort to better understand satisfaction and value as two *different* perceptual measures of classroom success. The best case to be made for a learning methodology is when participants view it as both valuable and satisfying.

Although there is a downside to utilizing perceptual measures when conducting research into experiential learning and business simulations (Wolf, 1998), the present study does not offer definitive claims of learning gains as the result of participation in simulations and exercises. Such validation claims are best done through other data collection methods. The present research focus is on exploring the components leading students to perceive experiential exercises as satisfying, as well as valuable. By better understanding participants' perceptions, those components making experiential exercises satisfying for participants may be better utilized. The creators of experiential exercises can use this understanding to develop activities that participants view as more satisfying and valuable. Ultimately, this type of inquiry necessitates perceptual data collection.

This research program is also guided by a consumer orientation, resulting in different claims

from research involving validation of learning methodologies. As business schools battle for top students, national rankings are increasingly determined by surveys of students, recruiters, faculty and industry executives. Current and former students' evaluations of their educational experience are highly influenced by levels of perceived satisfaction and value. To the extent that experiential learning and business simulations can improve students' perceptions of their education, the political justification for inclusion of experiential components in courses becomes far easier, if not critical for the success of some courses. These claims of user satisfaction are not meant to supplant the broader issue of learning effectiveness, rather to provide additional justifications that are, or may be, unique to experiential methodologies.

## METHODOLOGY

Survey data was collected at the conclusion of an introductory, upper-division, management course containing lecture, a discussion laboratory, and experiential components. The particular management course in organizational behavior is a core requirement for all business majors being taught at a large, southwestern, private university. During the sixteen-week class, students of the four-unit management course are provided fifteen lectures, twelve discussion sessions, and engage in four experiential exercises. A total of 308 participants voluntarily completed the survey at the semester's conclusion. The survey, building on the earlier research efforts of Patton, Davis, and Govahi (1998) focused on student's perceived understanding and utility of organizational behavior concepts. Specifically, this survey sought quantitative feedback to 21 questions, divided among three categories (lecture, discussion lab, and experiential learning sessions). Each of the three categories contained seven standard questions, measured on seven-point scales, relating to the students' perceived abilities in using and understanding course material, as well as their perceptions of

the overall value and satisfaction of the educational category. Data analysis was completed using SPSS for Windows (version 7.5).

## RESULTS

A monotonic trend (e.g., Braver & Sheets, 1993) exists among the means of the "overall satisfaction" measures of the three categories (e.g., Experiential program = 6.42; Discussion lab = 5.47; Large lecture = 5.35). Skewness across the three categories varies, showing minimal to severe skews, directed toward the positive evaluations of the learning experiences in each of the learning method categories. Students often evaluated their experiences at the highest evaluation level possible (7.00), resulting in a data set displaying a strong "leaning" or skewness toward the positive end of the scale. The skewness in the participant's responses was most pronounced in the experiential category (Experiential program = -2.82; Discussion lab = -1.08; Large lecture = -0.62). The consistency of participant responses, particularly within the experiential category, led to a highly peaked statistical distribution of responses. Similarly, the kurtosis of the experiential program was 9.92, indicating a very strong consistency across students' evaluations of their experiences. The distribution of the other two categories did not demonstrate the same level of peakedness (Discussion lab = .692; Large lecture = -.19).

Stepwise multiple regression analyses facilitated testing of the two competing satisfaction models of business education. Survey instrument items supporting a "mental understanding" model and a "utility" model functioned as predictor variable clusters in the analyses. The initial criterion variable used was overall satisfaction with the course experience. Nearly equal amounts of participant variance were accounted for across the two models ("mental understanding":  $r^2 = 43\%$ ; "utility":  $r^2 = 41\%$ ). A second series of regression analyses was used to determine micro satisfaction level predictors. Four questions (two

"mental understanding" and two "utility") within each category served as predictor variables in a stepwise multiple regression for each of the three methods of participant learning (large lecture, discussion lab, and experiential program). The overall satisfaction measure within each category of learning served as the criterion variable. In each of the three categories (experiential program, discussion lab, and large lecture), the predictor variables accounting for the greatest variances were consistently related to "mental understanding" ( $r^2 = .63$ ;  $r^2 = .65$ ;  $r^2 = .30$  respectively) rather than "utility" ( $r^2 = .57$ ;  $r^2 = .63$ ;  $r^2 = .24$  respectively).

Stepwise multiple regression analyses, similar to those used to determine predictive ability of satisfaction variance, were used to predict variance in how valuable students perceived their business management experience. This was conducted on a macro level and with each respective learning category. In almost every case, the "mental understanding" and "utility" models functioned as superior predictors of response variance across perceptions of how valuable the educational experience had been for the students. Though superior, the two models showed similar patterns to the empirical results for satisfaction. On the macro level, nearly equal amounts of participant variance was accounted for ("mental understanding":  $r^2 = 46\%$ ; "utility":  $r^2 = 42\%$ ). Across the three categories (experiential program, discussion lab, and large lecture) nearly equal amounts of values was also accounted for: "mental understanding" ( $r^2 = .62$ ;  $r^2 = .70$ ;  $r^2 = .57$  respectively) and "utility" ( $r^2 = .60$ ;  $r^2 = .67$ ;  $r^2 = .43$  respectively).

## DISCUSSION

Though the present study is part of a larger data collection effort, results from an initial data analysis provide several intriguing findings. Despite the consistency with which the "mental understanding" predictor model accounts for greater variance in participant satisfaction than

the "utility" variable, differences between the variances are slight and may not be of practical use. Though the replication of Patton, Davis and Govahi's (1998) initial findings should not be ignored, the most important findings from this line of research may not be that a "mental understanding" model shows slightly superior predictive abilities, but with the recognition that both "mental understanding" and "utility" components appear to be integral parts of all three learning categories. For experiential programs, these results indicate that participant satisfaction does not lie solely with the skill-building "utility" component, but also with the cognitive learning "mental understanding" component. Too often, experiential exercises have been relegated within learning models to a post knowledge retention, post knowledge organizing, skill building phase (see the discussion of learning models in Patton et al, 1998). Research on the multiple phases of the learning process by Hsu (1989), for example, concluded that the home of gaming and simulation is in the third learning phase of skill building and "experiencing" that occurs after two previous cognitive phases. The current research confirms that experiential exercises span many learning phases. A program of experiential activities in an introductory management course are as likely to assist in the cognitive learning of core concepts as they are to assist with the application of the concepts and the building of applied skills. For the creators of experiential exercises, this understanding can aid in the development of activities that participants view as more satisfying and valuable. Specifically, exercise should be developed that include both strong cognitive "mental understanding" elements and the traditional skill building "utility" components.

Additionally, the present results suggest that perceptions of how valuable an educational experience is may not be synonymous with how satisfying the experience is perceived by students. As such, each term probably represents a dimension of students' educational experience. From a consumer orientation, it would certainly

be best if the experiential learning components were seen as highly successful in both dimensions. The results from 1998 and the 1999 data sets appear to provide strong support along these lines.

While confirming the foundational aspects of Patton, Davis, and Govahi (1998), the monotonic trend among the satisfaction measure means was different across the three learning categories than that which was reported in the 1998 exploratory study. While the experiential component was stable and was seen as the most satisfying in both data sets, the lecture category dropped from second to third in the ranking in the current data set. Focusing on the experiential component, the mean of the satisfaction with this learning component rose from 6.14 in the 1988 study to 6.42, well above the levels reported for the other two learning categories, while the skewness also increased from -1.96 to -2.82.

#### **IMPLICATIONS FOR FUTURE RESEARCH**

Building on the consumer orientation approach, it would be informative to expand the scope of the present research into areas that allow more definitive claims as to the value and satisfaction experienced by students after engaging in experiential programs. Additional inquiries also appear necessary into the perceptual changes that may occur in students towards experiential activities before and after they engaging in a program of such activities. For example it may be far more effective when conducting a recruitment program to put perspective students through an experiential activity rather than to explain or discuss how such activities may be used within a school's business program.

From a methodological standpoint, the perceptions of how valuable and how satisfying an educational experience is, although different,

may have tremendous overlap in terms of predictor variables. This presents empirical researchers with the task of separating out collinearity, or what Pedhazur & Schmelkin (1991) term "multicollinearity" (p. 448). This problem of correlation among variables can unduly diminish the variance accounted for in regression analyses, as well as other statistical analyses. Future researchers should seek to develop predictor variables that account for unique variance when regressed on criterion variables.

### REFERENCES

- Albertson, D. S. (1995). Evaluating experiential training: Case study and recommendations. *Developments in Business Simulation and Experiential Learning, 22*,
- Braver, S. L., & Sheets, V. L. (1993). Monotonic hypotheses in multiple group designs: A Monte Carlo study. *Psychological Bulletin, 113*(2), 379-395.
- Hsu, E. (1989). Role-event gaming simulation in management education. *Simulation & Games, 20*(4), 409-438.
- Patton, G. H., Davis, D. C., & Govahi, G. (1998). Predictive models of learning: Participant satisfaction of experiential exercises in business education. *Developments in Business Simulation and Experiential Learning, 25*, p.69-75.
- Pedhazur, E. J., & Schmelkin, L. P. (1991). *Measurement, Design, and Analysis: An Integrated Approach*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Wolfe, J. (1998). Business games teach: Thoughts on the sources of conflicting conclusions on their effectiveness. *Developments in Business Simulation and Experiential Learning, 25*, p. 151.