

Are there different applied project learning outcomes between senior and sophomore-junior students?

Robert D. Green, Lynn University
Farideh A. Farazmand, Lynn University

ABSTRACT

This study examines the learning outcomes of an applied real life project on undergraduate students' knowledge, skill and personal development and the differences in learning outcomes of an applied project between senior and sophomore-junior students' outcomes. From five upper-level, undergraduate Marketing courses, a sample of 143 students (51 seniors and 92 sophomore and junior students) participated. The findings are that while not significant, seniors did have greater personal development, skills, knowledge and overall/total learning outcomes than the sophomore and junior students.

INTRODUCTION

Business education has come under more scrutiny and greater criticism for better learning outcomes and career preparation for undergraduate students (Glenn, 2011). As a result of the current career preparation challenges to undergraduate business education, this study examines active, or applied learning outcomes for soon to graduate students (seniors). The purpose is (1) to examine the learning outcomes of an applied real life project on undergraduate students' knowledge, skill and personal development and (2) to investigate the differences in learning outcomes of an applied project between senior and sophomore-junior students' outcomes.

LITERATURE REVIEW

Increasing students' learning and personal growth through integration of theory and real world applied projects has been supported by literature (Aldas, Crispo, Johnson and Price, 2010; Titus and Petroschius, 1993; Walsh, 2002). Realizing the benefits of hands on experiential teaching pedagogy, many higher education institutions have integrated learning by doing experiential teaching method to their curricula (Aldas, Crispo, Johnson and Price, 2010). Business schools, though a little late but have also joined social sciences and liberal arts academics and adopted experiential projects to their courses (Zlotkowski 1996). Among business disciplines, marketing departments have shown more interest in incorporating applied projects to their curricula (Andrews, 2007).

There is no research on the learning outcomes of a real life applied projects by students' educational level. For example, Geringer, Stratemeyer and Canton (2009) have suggested further research on learning outcomes of service learning project among diverse student population. However, this study examines differences in outcomes of active or applied project between senior and sophomore-junior students.

There is only a handful of literature on differences in students' learning by educational level. Perry (1970, 1988) evaluates college students' epistemological belief and their perceptions of factors that affect their experience during college years. Epistemology is defined as "the nature and justification of human knowledge" (Hofer and Pintrich, 1977, p. 88). Perry (1970,

1988) finds change in students' thinking process and their intellectual development as they advance through college.

Pittman (2006) examines the differences in Reasoning About Current Issues Test (RCI) scores for 110 junior and 110 senior nursing students. Pittman (2006) does not find a significant difference between RCI scores of junior and senior nursing students, instead she finds significant relationship between students' RCI score and their cumulative GPA.

Furthermore, Bailey (2007) investigates the impact of course work of industrial design school during sophomore and junior years on senior students' knowledge. The author assesses the design process knowledge of first-year students at the end of an introduction to engineering design course and senior students at the beginning of their capstone design course. He discusses that senior students' scores were not different from the first-year students' scores on design process knowledge. Bailey's (2007) results show that sophomore and junior years' classes and course work did not impact design process knowledge of senior industrial design students.

Thomas (2008) examines the intellectual development between gifted sophomore and senior mathematics and science high school students. The author examines the developmental characteristics between group differences between gender and ethnic groups of high school sophomore and senior students. Thomas (2008) finds significant developmental differences among ethnic groups at senior year, but no developmental differences at the sophomore year. The purpose of this study is to compare the impact of an applied real life project on senior and sophomore-junior students' knowledge, skill and personal development.

METHODOLOGY AND RESULTS

The applied projects for this study were conducted during two academic years (four semesters) in five upper-level Marketing courses (Consumer Behavior, Marketing Communications, Global Marketing, Marketing Research, Business Marketing Management). Each course was structured exactly the same with the exception of the type of marketing project. Generally, class sessions met on Tuesdays and Thursdays for 75 minutes. Depending on the semester, examinations were 30% of the course grade, course project ranged from 30% to 50%, and other assignments 20% to 40%. The courses allocated time of approximately 60% classroom meetings and 40% field research and project development.

For over ten years Lynn University College of Business and Management has had a relationship with SCORE, a partner of the U.S. Small Business Administration, to provide "real world" learning opportunities for CBM students. Prior to each semester, the course instructor worked with a SCORE Counselor to develop a course project. During the semester, the same Counselor would be a co-instructor for the courses and in the classroom between 40% and 50% of the class sessions, but primarily during the student teams' project development period. However, the businessperson also would be in class the first week of the semester and a few sessions during the textbook learning period to discuss pre-project topics and answer any questions about the project. During this four-semester period, the same Score Counselor, a highly successful businessperson in manufacturing, provided the business project for and worked with 143 traditional undergraduate students (51 seniors and 92 sophomore and junior students).

Semesters were in two parts – textbook (assignments and examinations) and project (field research and presentations) – but were integrated with knowledge content and skills development. The first part of the semester was focused on textbook assignments while the second part was only for developing the applied learning project. For example, the textbook

chapter assignments included instructor-developed discussion questions that linked the text to the project. Furthermore, each course had instructor-developed project guidelines in which textbook concepts were to be applied to the project. During the project development period, there were no class sessions for one day of the week. The teams used the classroom for meetings with the instructor and/or members. Business (project) meetings were held with the businessperson and the instructor during the second scheduled class day each week. These meetings were to report (project status) and for informational (ask questions) purposes.

Each team made an oral presentation using PowerPoints and submitted a 30 to 40 page written plan to the instructor and businessperson during the last week of the semester. At the time of the written submission, each team individually rated or evaluated (based on a total of 100%) all team members as to their contribution to the project with no two members having the same rating (percentage). The projects were evaluated (graded) and returned to students during the scheduled Final Week class session. This provided an opportunity for students to ask questions and to make comments for timely feedback.

There was a post-project survey (post-test) at the end of the semester in which six items were asked. See Table 1, Panel A for these items. As shown in the table, these items were researchers' developed and measures students' applied project perceptions and experiences as (1) knowledge, (2) skills, (3) personal development, or (4) both knowledge and skills. Additional data were included as to the teams' ranking of each member with no two students in the team

Table 1 Project Score Comparisons: Seniors and Sophomores-Juniors

Panel A: Student-Reported (Post-test)			
Items	Senior Year Students Mean	Sophomore-Junior Year Students Mean	Mean Difference
Learned more about Marketing in this course than a Marketing course without a service (applied) learning project. (<i>Knowledge</i>)	1.73	1.71	0.02**
Developed better or new skills in this course than a Marketing course without a service (applied) learning project. (<i>Skills</i>)	1.76	1.76	0.00**
Look forward to doing another service (applied) learning course project in the future. (<i>Personal Development</i>)	1.92	2.21	-0.29
Look forward to working in a team in the future. (<i>Skills</i>)	2.14	2.36	-0.22
Did better in this course that had <u>both</u> examinations and a service (applied) learning course project than without such as project. (<i>Knowledge and Skills</i>)	1.90	2.15	-0.25
A service (applied) learning project has benefited me more in meeting my career goals than a course without such a project. (<i>Knowledge and Skills</i>)	1.80	1.88	-0.08**
Mean Score for the 6 student-reported items	1.89	2.02	-0.13

Panel B: Instructor-Reported			
Item	Senior Year Students Mean	Sophomore-Junior Year Students Mean	Mean Difference
Project grade	2.31	2.00	0.31

Note: * indicates significant differences ($p < 0.05$) and ** shows similarities ($p > 0.70$).

having the same ranking and was used to compute the student's applied project score. Furthermore, other data provided for the study were from the instructor or the University, e.g., examination and applied project scores, cumulative grade point average.

The purpose of this study is to examine the differences between advanced undergraduate students (seniors) and those with less college experience (sophomores and juniors) as related to applied learning project learning outcomes. The data were analyzed as a comparison between students who were seniors ($n = 51$) and those who were not seniors, or sophomores and juniors ($n = 92$) using t-Tests.

The post-project survey (post-test) is used to determine the students' learning outcomes. Students completed a six-item questionnaire that was measured by a 5-point scale (1 = strongly agree to 5 = strongly disagree). No item showed significant differences ($p < 0.05$) between the two groups. Three of the items measuring knowledge, skills, and knowledge and skills indicated similarities ($p > 0.70$) between senior and sophomore-junior students. While not significant, seniors had lower mean scores for three items (personal development, skills, and knowledge and skills) and total mean scores (unweighted for the six items). See Table 1, Panel A. To further examine the comparison between the two groups, an analysis of the project scores (1 = A to F = 5) was completed. The results was no significant differences but the sophomore-junior group performed slightly better (higher grade). See Table 1, Panel B.

CONCLUSIONS

As seniors experience their final year of undergraduate education, they should be demonstrating higher levels of learning, e.g., better understanding of course content, and more advanced skills development, e.g., interpersonal communications, to prepare for entry-level career positions. At the same time, younger students (sophomores and juniors) may not have advanced to the learning and skills development as the more experienced students (seniors). Hence, there is a need for a better understanding of these situations in preparing students for successful careers.

In comparing the two groups (seniors, and sophomores and juniors), three measures (knowledge, skills, and knowledge, skills) were analyzed. No measure showed significant differences ($p < 0.05$) between the two groups. However, the results indicated similarities ($p > 0.70$) between the two groups is similar to the Pittman's (2006) and Bailey's (2007) results. Pittman examines the differences in Reasoning About Current Issues Test (RCI) scores for 110 junior and 110 senior nursing students and her findings did not show a significant difference between RCI scores of junior and senior nursing students. Bailey (2007) investigates the impact of course work of industrial design school during sophomore and junior years on senior students' knowledge. He found that senior students' scores were not different from the first-year students' scores on design process knowledge. Bailey's (2007) results show that sophomore and junior years' classes and course work did not impact design process knowledge of senior industrial design students. While not significant, seniors nevertheless did have greater (lower mean scores) personal development, skills, knowledge and skills, and overall/total learning outcomes than the sophomore and junior students. Therefore, applied projects with the integration of theory and real world appear to have been a factor in seniors' professional development and better career preparation.

REFERENCES

- Aldas, T., Crispo, V., Johnson, N., and Price, T.A. (2010). Learning by doing: The Wagner plan from classroom to career. *Association of American Colleges and Universities*, 12(4), 24-28
- Andrews, C. (2007). Service learning: Applications for business. *Journal of Education for Business*, 83(1), 19-26
- Bailey, R. (2007). Effects of industrial experience and coursework during sophomore and junior years on student learning of engineering design. *Journal of Mechanical Design*, 129(7), 662-667
- Geringer, S.D., Stratemeyer, A.W. and Canton, A. (2009). Assessing service-learning outcomes in a Principles of Marketing course: A team-based vs. individual-based approach. *Journal for Advancement of Marketing Education*, 14(Summer), 1-12
- Glenn, D. (2011). The b-school blahs, *New York Times*, (April 17), ED 16
- Hofer, B.K. and Pintrich, P.R. (1997). The development of epistemological theories: Beliefs about knowledge and knowing and their relation to learning. *Review of Educational Research*, 67, 88-140
- Perry, Jr., W.G. (1970). *Forms of Intellectual and Ethical Development in College Years: A Scheme*. New York; Holt, Rinehart and Winston
- Perry, Jr., W.G. (1988). Cognitive and ethical Growth: The making of meaning. In A.W. Chickering (Ed.), *The Modern American College*, (pp. 76-116). San Francisco, CA: Jossey-Bass Publisher
- Pittman, D.M. (2006). *Applying the Reflective Judgment Model to Nursing Students*. Lawrence, KS: The University of Kansas.
- Thomas, J.A. (2008). An analysis of epistemology change by gender and ethnicity among gifted high school students. *The Gifted Child Quarterly*, 52(1), 37-98
- Titus, P. and Petroschius, S. (1993). Bringing consumer behavior to the workbench: An experiential approach. *Journal of Marketing Education*, 22(Spring), 20-30
- Walsh, M.S. (2002). Collective service learning experiences uncover both personal and interactive student potentialities: A case study within an academic setting. *Journal of Nonprofit & Public Sector Marketing*, 10(2), 231-241
- Zlotkowski, E. (1996). Opportunity for all: Linking service-learning and business education. *Journal of Business Ethics*, 15(1), 5-19