Value co-creation through learning styles segmentation and integrated course design

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ABSTRACT

This paper describes an innovative Principles of Marketing course design and delivery which matches learning and teaching styles, while reducing multi-section variation. Value co-creation is encouraged by instructors and students collaborating in the creation of customized learning experiences which facilitates both teaching style and learning style preferences. Kolb's (1984) experiential learning theory guided the learning styles segmentation, and pedagogy effectiveness was assessed based on Biggs, Kember and Leung's (2001) Study Process Questionnaire. Student comments and instructor assessment supplemented the survey data. Congruent with motivation theory our empirical results indicate that increased autonomy and value co-creation in learning enhances student motivation and attitudes which lead to the use of more meaningful study strategies and greater perceived learning. Learning styles segmentation allow educators to better understand their students and help meet the heterogeneous learning and teaching style preferences by deploying course designs that allow value co-creation by both instructors and students.

Keywords: integrated delivery, learning styles, experiential learning, value co-creation

INTRODUCTION

The Principles of Marketing course serves a broad cross section of business and non-business students and had been traditionally taught in large sections utilizing multiple instructors each with their own preferred pedagogy and course design. Students' self-selection of a particular section is often based on meeting times, instructor reputation and other factors often unrelated to learning. As educators, we are challenged with the task of developing innovative teaching strategies that accommodate divergent learning styles while still producing meaningful learning and consistent outcomes across students and sections. Value co-creation is a method of providing additional value by offering the opportunity for students to act as collaborators in creating the product or service (Grewal and Levy, 2011). This article describes value co-creation through a fully integrated approach, which combines traditional in-class content delivery, on-line web-based assignments, and student selected customized experiential learning activities that accommodate different learning and teaching styles.

Targeting unique teaching strategies to student segments based on learning style preferences is extensively researched and thoughtfully discussed in the education literature (Karns 2006; Morrison, Sweeney and Heffernan 2003; Kolb 1996). Learning styles are students' natural way of acquiring and processing information, e.g. hands-on experiences, observation, visual, etc. Whereas teaching styles reflect instructors' preference toward certain pedagogical techniques such as case analysis, team projects, individual reports, etc. Matching learning style preference and teaching strategies are thought to enhance student motivation and attitudes (Felder and Silverman 1988) which stimulates the use of higher levels of cognitive learning strategies resulting in deeper, more meaningful learning. Implications of these results are less clear when factoring in the additional instructor investment in implementing multiple learning experiences (Karns 2006). In addition the purposeful introduction of variation in the teaching process might be viewed as contrary to the goal of standardized learning outcomes. Standardization of content across multi-section courses has been reported to benefit both faculty and students (Meuter et al. 2009) and is consistent with business accreditation guidelines. This course design and delivery innovation addresses the problem of matching learning and teaching styles and reducing multiple-section variation without increasing individual instructor investment in creating an active learning environment.

VALUE CO-CREATION: LEARNING STYLES SEGMENTATION AND INTEGRATED COURSE DESIGN

Three instructors co-designed and team-taught a single section of Principles of Marketing that combined multiple sections which were previously individually taught. The single section was designed to handle the department's need for teaching multiple sections per semester. Each of the instructors had their own preferred learning outcome assessments and content expertise. In order to capitalize on this content specialization and to develop synergy among upper level teaching assignments the course content was divided into three equally weighted five-week units, with each instructor acting as the unit content leader for the unit covering the instructor's area of specialization and expertise.

Course standardization was accomplished with a single co-authored syllabus that utilized standardized course learning goals, policies, content coverage, assignments, exams, grading, and a common textbook. Class management aspects such as announcements, distribution of class

materials, feedback, testing, etc. were handled with classroom management software (Desire 2 Learn). All students were required to lease laptop computers as part of the university learning experience which greatly facilitated this aspect of the course.

Three core components form the basic organization of the course: Weekly Lecture, On-line Quizzes & Assignments, and Application Activities. The course followed a typical semester's 50 minute, three days per week schedule. However, as part of the integrated component, each student had the opportunity to select their delivery method, ranging from a mostly traditional in-class format to almost exclusively on-line anytime, anywhere learning, based on individual learning preferences.

Weekly Lecture – Instructor Specialization

Each instructor took on the lead role for content delivery for their five week unit through the live face-to-face Weekly Lectures delivered to all students once per week in a large auditorium. The lectures provide an overview and organization of the unit's content in addition to assisting students in integrating chapter to chapter material. Each instructor, as the unit content leader, was free to use the teaching style/content delivery method consistent with their individual strengths and experiences during their unit's weekly lectures, e.g. lecture, content maps, power point slides, video, student activity, discussions, etc. Student attendance at weekly lectures was optional; however, attendance was recorded and bonus points (five percent maximum of total course points) were earned for attendance. An alternative or supplement to the live weekly lecture was an on-line narrated power point presentation which presented chapter by chapter textbook material. Content knowledge was assessed with three equally weighted multiple choice exams given after each unit. The unit's lead instructor created the unit's exam which was taken by all students and counted as 65 percent of the course grade.

On-line Quizzes & Homework

The textbook provided the detailed terms and concepts critical in a principles level course. All students were required to read each chapter and complete a weekly, open book on-line readiness assessment quiz. The purpose of the quizzes (10 multiple choice questions per chapter) was to help ensure students kept current in their reading and provided feedback on their initial understanding of the material. In addition to the weekly quiz students also completed two on-line assignments per week designed to apply the chapter concepts in a video mini-case exercise and in a decision-making activity. The on-line quizzes and assignments were computer graded with scores automatically recorded in the course management software. One class period per week was allocated (students did not meet in class) for students to complete this on-line aspect of the course. Allowing students to complete this on-line anytime, anywhere within the week helped develop their time management skills and provided a sense of responsibility for their learning. The unit's lead content instructor was responsible for creating the on-line quizzes and assignments for his/her unit. The scores from this on-line aspect of the course counted 10 percent of the overall course grade.

Application Activity – Learning Style Appropriate

Kolb's (1984) experiential learning theory formed the foundation for designing the different application activities. Prior to this fully integrated course design each of the three instructors had been utilizing activities (Team projects, Case Analysis & Marketing Audit) that fit their preferred teaching style and coincidentally corresponded to three different learning styles. Thus, with minor modifications of existing activities the course was able to accommodate and match teaching strengths and preferred learning styles.

Students were e-mailed Kolb's Learning Style Inventory Survey (1996) and were required to complete it before the end of the first week of class. Students were provided with their preferred learning style results as well as a recommendation for their semester-long application activity. Learning styles were explained during the first class using more student-friendly terminology and descriptions adopted from the Hay Group (http://www.haygroup.com). The correspondence between the classroom terminology and Kolb's learning cycle is: 'Do-er' – Accomodator, 'Creator' – Diverger, 'Planner' – Assimilator, and 'Decision-Maker' – Converger. Do-ers and Creators were combined into one group and worked on the Team Project Activity. Planners were targeted with a Marketing Audit Project and the Decision-Makers conducted Case Analyses. Each Application Activity Coach (instructor) created a one page concept sheet describing their activity and the targeted learning style, see appendix for an example concept page. Instructors pitched their application activity and recommended that students select the application activity that matched their learning style; however, matched selection was not required.

The distribution of learning styles in this class of 107 traditional undergraduate students as indicated in Table 1(Appendix). Each of the three instructors acted as the Application Activity Coach for one of the activities which allowed individual students to work with the same instructor and classmates on a weekly basis throughout the semester. Students who selected either the Marketing Audit or Team Project met one class period per week for their application activity; those students who chose the Case Analysis activity completed their application activity completely on-line. The application activities were specifically tied to the unit/chapter material and were designed so grades were provided at the end of each of the three units. The Application Activity scores contributed 25 percent for the course grade.

ASSESSMENT RESULTS

This educational innovation was developed and implemented in a naturalistic setting and fine-tuned as the project proceeded; therefore, assessment of effectiveness was guided by educational theory and based on a triangulation of evidence from both students and instructors.

Student Assessment

The course design provided students with choice in content delivery and in application activities. Student selection of certain course elements, such as lectures and in-class application activities, could provide an experience very similar to a traditional class while selection of other elements, web-based narrated lectures and the Case Analysis application activity could provide a nearly on-line course. All students had a choice in application activity selection and forty-eight percent of the students did appropriately match their preferred learning styles with the

recommended application activity. Increased autonomy in learning has theoretical (Deci and Ryan 1985) and empirical support in enhancing student motivation, use of higher level cognitive strategies, and perceived learning (Young 2005).

First, students provided an evaluation of the effectiveness of the major course design components in helping them perform well in the course. The results as indicated in Table 2 (Appendix) are interpret as a positive reaction to the course design.

Second, the course was assessed based on the graded components – Exams, On-line Assignments, Application Activity, Attendance, and Total Course Points. Analysis of Variance results suggest no statistical difference among the four learning styles and performance on any of the graded components. In addition, no significant differences were detected between the performance on the graded components and with students who matched their learning styles to their application activities and those who did not. Graded components were also found not to be correlated with the course design components. Whereas, the lack of relations to the graded components was unexpected it is not uncommon with innovative interventions and graded outcomes (Lincoln 2006, Peng and Bettens 2002). In fact students' overall self-reported GPA was the only measured variable that explained performance of the graded course components. This is congruent with Bacon and Bean's (2006) findings that GPA is typically the covariate that explains the majority of variation in academic performance.

Perhaps a more appropriate evaluation of educational innovations is suggested by Kember, et al. (1994) and is based on changes in the learning approaches of students. Biggs, Kember, and Leung's (2001) revised two-factor Study Process Questionnaire was used to measure students' approaches to learning and whether or not meaningful learning occurred. The 20-item scale measures motivation and learning strategies in order to create the two factors representing Deep Approaches (meaningful learning) versus Surface Approaches to Learning. Examples of scale items for Deep Learning include: 'Topics were interesting and I often spent extra time trying to obtain more information'., 'Made me work hard because I found the material interesting.' as compared to Surface Approaches: 'There was no point in learning material which was not likely to be on the exam.' and 'I only applied what was given in class or on the course outline.' The value co-created, fully integrated course was compared to traditionally taught courses which were previously offered as four separate sections using three different instructors who specified the activities without student choice (bake sale team project, simulation, personal marketing plan). The results for the deep motivation and deep strategy scales which signifying meaningful learning are presented in Table 3 (Appendix). These results indicate that this innovative team-taught, integrated course facilitated deeper learning motivation and strategies as compared to traditionally taught Principles of Marketing students. In addition, the team-taught students reported higher levels of perceived learning (Young 2005, 5-item scale) gained and expressed more favorable attitudes (Mitchell and Olsen 1981, 4-item scale). The self-report measures of Perceived Learning, Attitude, Deep Motivation and Deep Strategies were all significantly correlated with the major course design components.

Typical positive comments on the course included …

"It was a great course design. I really like the fact that you allowed us to choose our own application activity, I don't think that I would have learned as much otherwise. The lectures were not only beneficial to go to in order to learn more, they provided bonus points, and also were interesting too. It was also a great idea to break it up with different instructors too; it keeps

things changing as far as lectures go otherwise things tend to get stale by the end of the semester."

"I actually really enjoyed the way the class was run. If you can be self-motivated and do the work on time it's an awesome way of teaching a class in my opinion."

Suggestions for course improvement revolved around the perception that three different teachers made it difficult to prepare for the three exams which some students perceived as being constructed differently. In addition, some students thought there was too much material covered on just three exams and the exams were weighted too much for the course grade. There were also a couple of comments on signing up for a specific instructor and then only having that instructor lecture one third of the time.

Instructor Assessment

"We as marketing educators want to be as much marketers as we are educators…" (Czinkota and Kotabe 2001). The "practice what we preach" application of segmentation, targeting and positioning concepts in designing and delivering this Principles of Marketing course may in and of itself warrant recommendation of this design. However, additional benefits of focusing each instructors teaching efforts on their preferred content and teaching styles also supported their other teaching loads both reducing overall workload and enhancing their enjoyment in the course. Each instructor received credit for a full section, although shifting part of the course to a technology monitored integrated design reduced our individual lecture load to five lectures, while allowing improved content delivery. Working hands-on with students during the weekly application activity maintained the instructor-student interactions which was valued highly. Instructor-instructor collaborations also increased allowing the instructors to learn and improve from each other. In addition, students were exposed to three different marketing faculty which we view as a positive in recruitment of majors. A side benefit of this design was the reduction of physical classroom space required for the course in that the application activities were staggered across the three days requiring only one room versus three if taught as a traditional class.

CONCLUSIONS, CHALLENGES AND ADAPTABILITY

This value co-creation, fully integrated, learning style appropriate course design met the course goal of enhancing the student and instructor experience in Principles of Marketing. The Learning Styles Inventory and the Study Process Questionnaire provided an understanding of the students' heterogeneous learning style needs allowing the deployment of this dynamic and evolving course design. Time must be spent on educating the students on the purpose of each course design component e.g. on-line quizzes are to facilitate currency in reading the text and are not meant as an exam. It is also recommended that "staff" be listed for registration purposes so an expectation for a specific instructor is not created. In addition, the perception of instructor-exam variation should be addressed by co-authorship and/or by standardizing the results across exams.

The implementation of this innovation is suitable for any multi-section course in which the instructors are willing and able to work together as a team. Perceived reduction in academic

freedom may be the greatest hurdle for adaptation in other classes and institutions. A strong shared goal of enhancing student learning and the co-creation of instructional design can help overcome individual instructor autonomy. The reward can be an increase in student motivation and meaningful learning, in addition to, an overall reduction in individual instructor investment through technology and the specialization in content and teaching strengths.

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APPENDIX

Table 1: Learning Styles and Application Activities

Learning Styles	Percent Learning Styles	Recommended Application Activity	Percent Application Activity
Creators	28%	Team Project	{
Do-ers	34%	Team Project	{ 50%
Planners	26%	Marketing Audit	28%
Decision-Makers	12%	Case Analysis	22%

Note: N=107

Table 2: Evaluation of Course Design Components

Course Design Components	Mean	Standard Deviation	Percent Very Effective or Effective
Application Choice	1.53	.707	87.7%
Attendance Choice	1.53	.830	88.7%
On-line Assignments	1.75	.769	85.8%
Application Activity	2.04	.975	72.6%
Weekly Lecture	2.30	1.06	66.0%
Multiple Instructors	2.54	1.13	54.7%

Note: N=107, scale 1 = Very Effective and 5 = Very Ineffective

Table 3: Motivation, Strategies, Attitudes and Perceived Learning

	Innovative Course Mean(SD)	Traditional Course Mean(SD)	Scale # of Items Reliability	Correlations: Weekly Lecture	Correlations: On-line Assignment	Correlations: Application Activity
Deep Motivation	13.2(4.5)	16.1(4.1)	5 (α=.91)	.58	.52	.54
Deep Strategy	11.7(3.9)	16.4(3.3)	5 (α=.87)	.62	.58	.56
Attitude	10.7(6.1)	19.4(6.7)	4 (α=.97)	.62	.60	.59
Perc. Learning	17.5(6.4)	24.4(5.7)	6 (α=.94)	.60	.55	.58
N	107	186				

Note: All means different at .05. All correlations significant at .05. 1 = Completely Agree and 5 = Completely Disagree

Target Market: "**CREATORS**" & "**DOERS** "

- Learn best through experience, observation and/or hand-on experience.
- Good at generating ideas, open to different views, likes personalized feedback and/or carrying out plans and adapting to change.
- Prefers group work, brainstorming , using your imagination and/or action orientated assignments.

Application Activity: **TEAM PROJECT**

- **Sweet Treat Snack Project**– Teams of about six students each form an organizations to develop and market a tasty sweet treat snack offering. The process consists of ten individual assignments. Each assignment builds on its predecessors. Each team will create a Charter for its organizations, a mission statement , establish its marketing objectives, conduct an environmental assessment, develop its marketing strategy, formulate a product plan, price its product, distribute its product, sell its product and promote its product and evaluate their success.
  Learning Outcome: Application of Marketing Terms, Concepts and Processes

- ***See ⇨ Do ⇨ Understand*** - The Team Project Application Activity begins with in-class demonstrations of marketing concepts using real-life examples from your Professor's decades of hands-on marketing experiences. Class participants apply hese concepts to their team project with frequent feedfback and assistance from your Professor. Team members then implement their plans and assess their experience in a final evaluation of their project presented during the normal final exam period .
  Learning Outcome: Responsible Decision-making Skills

Class Time & Grading

- The Team Project Application Activity meets weekly on Mondays. Meeting time is divided among concept discussions, introductions and disvcussions of the ten team assignments and time for the teams to work on their assignments with coaching.
- Each activity member is expected to read the assigned chapters, take on-line quizzes and complete the on-line decision-making activities on her or his own. You may choose to attend the Wednesday lectures (highly recommended) or to review the narrated PowerPoint sldies on-line. Examination questions will come from a combination of the text readings and the live Wednesday lectures.
- Grades received on the ten team assignments, adjusted to reflect your and your team members' perceptions of your contributions to the team project, will comprise the 25% of your course grade resulting from your activity participation.

Activity Coach: Professor