

Designing Marketing Courses based on Self-Determination Theory: Promoting Psychological Need Fulfillment and Improving Student Outcomes

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Purpose of the Study: Experiential learning allows students to bridge theory and practice, and there is substantial research that points to the benefits of this approach. However, prior research has not explored reasons *why* experiential learning is effective. Not all experiential learning is created equally and not all students experience equal success; so, empirical research is needed to explain experiential learning effectiveness and provide guidance on course design that promotes success. This research uses Self-Determination Theory to address this gap in scholarship.

Method/Design and Sample: Self-Determination Theory suggests contextual fulfillment of psychological needs – autonomy, relatedness, and competence – is associated with increased student motivation and improved student outcomes. An Integrated Marketing Communication course was designed with the goal of increasing student perceptions of need fulfillment. Using a before/after survey with paired observation t-tests, this research compares student perceptions of need fulfillment and key learning outcomes in the current course to prior courses. Ordinary least squares regression was used to uncover the relationships between specific needs and outcomes. The sample consisted of 98 juniors and seniors.

Results: Consistent with SDT, results suggest that course design was successful in increasing psychological needs fulfillment and student perceived outcomes. Also, significant relationships were found between need fulfillment and student outcomes. Findings help illuminate underlying mechanisms that give experiential learning its power. The study suggests courses can be designed to promote psychological needs and, therefore, better student outcomes.

Value to Marketing Educators: This research informs design of future experiential learning marketing curricula according to Self-Determination Theory.

Keywords: Experiential Learning; Self-Determination Theory; Marketing Education

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“There is no such thing as genuine knowledge and fruitful understanding except as the offspring of doing.” - John Dewey – 1916, p 321

Like Dewey before them, many educators contend that there is no better way for people to learn than by actually doing tasks related to the material they are learning. In this pursuit, marketing courses have increasingly incorporated experiential learning. While it is well accepted that experiential learning can improve student outcomes, little research has used a theoretical framework to explore why it is so effective and how to design courses that promote success. Using self-determination theory (SDT), this research provides theoretically based understanding of how experiential learning impacts students and, thus, why it is so effective.

Not all experiential learning is created equally and not all students experience the same success, so empirical research is needed to further explain *why* experiential learning is effective (Hagenbuch, 2006;

Toncar, Reid, Burns, Anderson, & Nguyen, 2006). To advance existing scholarship, the present study extends prior research by applying and holistically testing self-determination theory (Deci & Flaste, 1996) in a marketing course to shed light on underlying mechanisms fueling experiential learning success, as well as provide recommendations for course design based on the findings.

SDT posits that satisfaction of psychological needs of autonomy, relatedness, and competence leads to greater motivation, performance, and well-being. Prior research has demonstrated these effects in “domains such as health care, education, work, sport, religion, and psychotherapy” (Ryan and Deci 2000, p. 68). Humans have intrinsic motivational tendencies, but this motivation needs supportive conditions to maintain it. Contexts that support autonomy, competence, and

relatedness foster greater internalization of goals and values than contexts that hinder satisfaction of these needs. This finding is important for managers and educators who wish to motivate others in a way that stimulates greater commitment, effort, performance and well-being of students and employees. Thus, this perspective is adopted due to its broad applicability and its focus on designing environments for optimal individual motivation and functioning; both are important outcomes of learning environment design.

A course was designed to fulfill psychological needs to test the efficacy of self-determination theory to explain the mechanisms underlying experiential learning. The goal of this research is to answer three research questions: (1) can marketing courses be purposely designed to offer higher levels of psychological need fulfillment compared to prior courses taken, as suggested by self-determination theory; (2) when fulfillment of psychological needs occurs, are desired student outcomes higher compared to more traditional learning design; and, (3) which psychological needs relate to which student outcomes?

EXPERIENTIAL LEARNING

Learning, rather than teaching, is professors' key responsibility, so decades of research have been devoted to better understanding how to help students learn (Duke, 2002; West, 2011). Since the inaugural volumes of marketing education journals (Burton, Johnston, & Russ, 1991; Marcus, 1979), marketing educators and scholars have been compelled by the possibilities of improved learning facilitated by an experiential approach. Experiential learning involves students in processes that begin with learning foundational knowledge and then move to application of learning through real or simulated experiences (Kolb, 1984; Metcalf, 2010). This allows learners to bridge theory and practice (Craciun & Corrigan, 2010; Inks, Schetzle, & Anila, 2011; Kolb, 1984; Peterson & Albertson, 2006). The power of this pedagogical approach is the ability of learners to apply learned materials to real problems, often with and for community partners (West, 2011). As a result, experiential learning has found prominence as a path to student learning.

Students prefer, enjoy, and feel empowered by applied projects (Metcalf, 2010; Peterson & Albertson, 2006; Pollack & Lilly, 2008). There is substantial research that points to the many benefits of experiential learning on actual learning such as critical thinking and applied business skills (Alvarez, Taylor, & Rauseo, 2015; Metcalf, 2010). In addition, student perceived learning is achieved through experiential learning in terms of improved perceptions of communication, teamwork, and decision-making skills (Craciun & Corrigan, 2010; Metcalf, 2010). Student perceptions of learning are an important focal outcome of the teaching process (Duke, 2002; Toncar et al., 2005) because student perceived and actual abilities are often correlated (Pajares & Kranzler, 1995). Perceptions of expertise are often related to engagement and

motivation and mastery perceptions relate to academic performance (Pajares, 1996; Zimmerman, 2000).

Despite the growing body of knowledge about the beneficial outcomes of experiential learning, there is little research that tests or uses theory to explain how learning occurs within the experiential paradigm. Instead, researchers tend to adopt one of two approaches to developing experiential learning activities: Bloom's (1956) taxonomy of learning objectives or Kolb's (1984) model of experiential learning. However, prior research has largely failed to explore the reasons *why* experiential learning is effective. The present study suggests a holistic exploration of self-determination theory as an explanatory framework for the effectiveness of experiential pedagogy may prove insightful for educators.

SELF-DETERMINATION THEORY

Developed and applied in educational and work contexts, self-determination theory is concerned with context-specific motivation resulting from situational attainment of individual psychological well-being (Deci & Ryan, 2000). SDT is widely applicable and has been applied in research in health care (Ryan, Huta, & Deci, 2008), social community (Chou & Yuan, 2015) with frontline service employees (Rayburn, 2014; Rayburn & Gilliam, 2016), industrial workers (Ilardi et al., 1993), and even school children (Deci & Ryan, 2000; Grolnick, Deci, & Ryan, 1997). The theory relates attainment of well-being to context and is concerned with meeting psychological needs (i.e., autonomy, relatedness and competence) through that context (Baard, Deci, & Ryan, 2004; Deci & Ryan, 2000; Gagné & Deci, 2005; Ryan & Deci, 2000). These needs are described as "innate psychological nutrients that are essential for ongoing psychological growth, integrity, and well-being" (Deci & Ryan, 2000, p 229).

According to self-determination theory (Deci & Ryan 2000), (1) autonomy refers to the freedom to choose one's own path, (2) relatedness refers to connectedness to the group and having close and caring connections to the people around you, and (3) competence refers to having the relevant knowledge and skill to operate in one's context and the mastery of activities needed to function as an effective member of the core referent group. Self-determination theory proposes that need fulfillment leads to personal well-being, internalization of goals and values, and increased self-motivation (Deci & Ryan, 2000; Ryan & Deci, 2000). This is particularly salient in the marketing education context since self-motivation is at the heart of creativity, responsibility, healthy behavior, and lasting change (Deci & Flaste, 1996). Further, enhanced self-motivation is positively associated with better conceptual understanding, greater creativity, and improved problem solving (Deci & Flaste, 1996). When individuals experience need fulfillment they experience improved well-being, become committed to organizational goals and values, and act accordingly. For example, two studies of bank employees (bank

operations and front-line investment bank employees) found that those who reported experiencing greater need satisfaction received better performance evaluations from their managers and felt greater well-being as measured by reductions in depression/anxiety (Baard, Deci, & Ryan, 2004). Further, frontline workers, in general, experience greater job affect in the presence of need fulfillment and act in accordance with organizational goals and value by performing more desirable discretionary job duties (Rayburn, 2014; Rayburn & Gilliam, 2016). As such, in the classroom, need fulfillment can result in desirable student outcomes.

CONTEXTUAL DESIGN FOR NEED FULFILLMENT

Self-determination theory explains how environments can be designed to be transformative for people operating in those contexts by identifying and fulfilling the psychological needs of people in those contexts (Chou & Yuan, 2015; Rayburn, 2014). For example, providing individuals with a meaningful rationale for the doing the task, acknowledging the fact that they might not find the activity interesting, and an emphasis on choice rather than control led to greater goal and value internalization measured by amount of time on task and attitudes toward the task (Deci, et al. 1994; Ryan & Deci, 2000).

Supports for autonomy include social context factors, such as choice and positive and relevant feedback, “interpersonal ambience,” which is organizational climate and managers’ interpersonal styles (Gagne and Deci 2005). Empowerment promotes autonomy because it provides the sharing of authority and the ability to make decisions. Because empowerment implies confidence in employees’ and students’ abilities, it also promotes competence. Mastery of challenging tasks or challenging situations also fulfills the need for competence (Deci and Flaste, 1996). Relatedness is fulfilled when an individual perceives herself as a valued group member and feels close to others within the team context (Deci and Flaste, 1996). Socialization is the process by which individuals learn role structures, processes, and expectations, acceptable and unacceptable behaviors, how to form relationships within the group. During the socialization process, team members learn from each other and develop bonds, thus enhancing relatedness. Key aspects of the designed environment that can be manipulated by managers and teachers are empowerment, support, and socialization.

Self-determination theory suggests proper contextual design is not only essential for psychological need fulfillment but also goal integration (Deci & Flaste, 1996; Deci et al., 2001). Recent research supports the ability to design context in a manner that propels individuals in that context to internalize goals and values and then to act accordingly (Chou & Yuan, 2015; Rayburn & Gilliam, 2016). Research also shows environments can be manipulated to impact the fulfillment of psychological needs and, when needs are met, motivation and other relevant outcomes improve

(Chou & Yuan, 2015; Rayburn, 2014; Rayburn & Gilliam, 2016). This implies that, in an educational setting, courses can be purposely designed to enhance the fulfillment of psychological needs; and, thereby to enhance motivation, engagement and learning.

PROJECT DESIGN AND HYPOTHESES

The research was conducted in three sections of an Integrated Marketing Communications (IMC) course. This is an upper-level (Juniors and Seniors), required course for undergraduates obtaining a degree in marketing where the research was conducted. This course is an appropriate context for the present study because most students in the course have taken three or fewer prior marketing courses with limited opportunity for experiential learning. All must have the introductory marketing course, which is primarily taught in large sections of 100 or more and generally does not assign a class project. Students are advised to take consumer behavior and marketing research prior to taking IMC, but these courses generally have very structured projects with limited choice and do not work with community partners. This offers an appropriate comparison set of courses for the study.

Three sections taught by the same professor were used to allow simultaneous replication of the study across three independent learner groups and to provide adequate participants for statistical purposes. The focal experiential learning exercise was a team-based community engagement service learning project. Students created teams, identified and partnered with local organizations, and completed a comprehensive IMC plan for partner organizations. A team-based approach was used since this approach generally enhances both individual achievement and group cohesiveness (Slavin, 1980), two goals of the course design. Community partners were chosen by student teams to allow choice in the project, another goal of the course design.

The team project was designed to specifically fulfill psychological needs for students according to self-determination theory. Autonomy fulfillment is supported through the following: (1) student selection of their own teams, (2) student team selection and partnership with a community organization of their choice, and (3) team determination of all marketing solutions and creative content. Relatedness fulfillment is enhanced in multiple ways: (1) teams were required to report meeting times to increase face-to-face interactions, (2) some team work-time was provided in class with the professor available, and (3) possible termination of free-riders was built into the project. Finally, competence fulfillment is supported through: (1) class discussion of content occurred prior to lectures, (2) lectures were conducted to reiterate content, (3) students completed an independent project analyzing the IMC of self-chosen brand to practice applying the content needed to complete the team project, and (4) project deliverables were broken into “digestible chunks” with due dates spread through the semester in conjunction with content as it was covered. According to self-

determination theory and as a result of the purposeful design of this marketing course, students are expected to report higher levels of psychological need satisfaction in the experiential learning course compared to prior marketing courses.

H1: Compared to prior marketing courses, students in the experiential learning course will report higher levels of: (a) autonomy, (b) relatedness, and, (c) competence.

As described above, in the presence of psychological need fulfillment, personal motivation, performance, and well-being are expected to increase. Research shows that psychological need fulfillment is contributory to participants' contextually relevant motivation, behavioral, affective, and learning reactions (Deci & Ryan, 2000; Rayburn, 2014; Rayburn & Gilliam, 2016). Ryan and Deci (2000) review a number of articles finding that self-determination leads to positive outcomes in terms of motivation, engagement, improved performance, and higher quality learning in domains ranging from health care and work to sports and education. Rayburn & Gilliam (2016) find that manager support and serial/investiture socialization promoted organizational commitment and role clarity which, in turn, improved performance of customer-oriented behaviors among front-line service employees. Rayburn (2014) finds need fulfillment has both direct and interactive effects on work affect for service workers. Ryan and colleagues (2008) find that people high in need fulfillment are more motivated to personal growth while also performing more prosocial behaviors for others in their social context. Further, Rufin and colleagues (2013) find that people are more bonded to the goals, values, and the organization itself in the presence of enhanced need fulfillment.

When discussing motivation, self-determination theory posits a continuum from amotivation through levels of extrinsically motivated goals to intrinsically motivated goals (Deci & Ryan, 2000; Ryan & Deci, 2000). Though intrinsic motivation is the most powerful, motivation at work and school is most often extrinsic. The highest level of extrinsic motivation is integrated regulation and results in internalization of contextual goals and values so that individuals autonomously work toward them (Deci & Ryan, 2000). Environments that provide choice, support, rationale for performing tasks, and relevant content enhance the possibility of self-determined extrinsic motivation (Deci & Flaste, 1996). In environments that support psychological needs, individuals will be more motivated toward contextual goals.

H2: Compared to prior marketing courses, students in the experiential learning course will report greater learning motivation.

Students in the experiential learning course will also report higher levels of learning reactions compared to prior marketing courses because goal and value identification occurs in the presence of need fulfillment (Rayburn & Gilliam 2016). Learning reactions include favorable attitudes toward the course and perceptions that the course is valuable and relevant to students' careers. Positive learning reactions can enhance the

relationship between learning motivation and performance, but negative reactions can reduce attention and receptivity to learning new ideas (Mathieu, et al., 1992). Because students have the ability to be self-determined, or autonomy, as they complete course requirements, they will be more likely to identify with the goals and values of the course, leading to more favorable attitudes and perceptions that the course is relevant and valuable to their future careers.

H3: Compared to prior marketing courses, students in the experiential learning course will report more favorable learning reactions.

"In addition to how much trainees learn in training, the training transfer climate of the work situation affects the degree to which learned behavior will be transferred onto the actual job" (Rouiller and Goldstein 1993). In the IMC course, the instructor supported students by relating course content to the project, allowing class time for project work, and providing guidance and feedback to students. Therefore, students will perceive a favorable training transfer climate where applying course content to the project is expected, recognized, and rewarded.

H4: Compared to prior marketing courses, students in the experiential learning course will report a *stronger* content transfer climate.

Because they must apply content, students are more likely to believe they have mastered the knowledge and skills taught in the experiential learning context (Dewey, 1916; Metcalf, 2010). As a result, students who are empowered by choice are likely to report higher self-efficacy in the experiential learning course compared to other courses.

H5: Compared to prior marketing courses, students in the experiential learning course will report greater self-efficacy.

Moreover, in the experiential learning context, students will report higher levels of emotional engagement. As need fulfillment increases so does internalization of course values and goals and, thereby, engagement (Deci & Ryan, 2000; Ryan 1995). Thus, students will feel more enthusiasm and interest in the course.

H6: Compared to prior marketing courses, students in the experiential learning course will report stronger emotional engagement.

Finally, overall learning perceptions in the experiential learning course will be higher for students due to self-determination (Deci & Flaste, 1996; Ryan & Deci, 2000). Students will believe they learned more about marketing, understand IMC better, and are better able to perform marketing tasks in the real world.

H7: Compared to prior marketing courses, students in the experiential learning course will report more favorable learning perceptions.

In addition to student reports of higher levels of perceived learning outcomes, we expect that autonomy, relatedness, and competence will have differing effects on these outcomes as in prior research (e.g., Deci & Ryan, 2000; Rayburn, 2014). To investigate these effects, we take an exploratory approach by using post-hoc regression analysis to

determine which dimensions of need fulfillment relate to each outcome. Findings from this portion of the research provide valuable information to educators as they develop experiential learning activities.

METHODS

Sample and Procedure

The respondents who participated in this study were students who attend a large university in the South-Central United States. University students were selected as participants because they are a critical component of experiential learning assessment and evaluation since they are a key stakeholder in the process (Duke, 2002). Participants in the study were junior and senior level students. Approximately ninety percent of students were marketing majors, while the remaining were management majors. Although no demographic data were collected as part of the study to ensure anonymity, students in these classes reflect the demographic profile of the marketing department (Female - 53.9%; Caucasian - 55.6%; Hispanic - 29.7%; African-American - 9.5%; Asian - 2.6%).

Baseline (Time 1) data were collected to capture student perceptions of focal constructs in relation to prior marketing courses for comparison with student perceptions of the experiential learning course. These data were collected immediately following the first day of class and prior to the project introduction on the second-class day to avoid any confounding effects of current project information on perceptions of prior marketing courses. Time 2 data were collected at the end of the course. Students provided anonymous unique IDs so that paired observation t-tests could be employed to compare individual students' responses at

Time 1 (start of semester) and Time 2 (end of semester); all the while securing the anonymity of respondents to increase the likelihood of accurate and honest responses. The data (N=98) were collected in three sections (n=42, n=27, n=29) of the same course, taught by the same instructor. Analysis of variance (ANOVA) was employed to test whether significant differences existed among the three sections; the results shown in Table 1 reveal no significant differences between the three sections. Thus, the data were aggregated for further statistical testing.

Measures

Because the current study is examining outcomes for the learner and linking those outcomes back to students' psychological needs according to SDT, perceived learning assessed through a student perceptions survey was used. The multi-item measures of perceived learning shown in Table 2 were adapted from prior literature (except learning perceptions). Since this research is concerned with contextual need fulfillment, measures for Autonomy, Relatedness, and Competence were adapted from Baard et al. (2004). The measure of Learning Motivation is based on LePine et al.'s (2004) work. Learning Reactions and Content Transfer Climate scales were adapted from Mathieu et al. (1992) and Salas et al. (1997), respectively. Self-Efficacy was measured using an adaptation of the scale in research performed by Spreitzer (1995). Emotional Engagement was measured using Rich et al.'s (2010) scale. Lastly, the Learning Perceptions scale was created for the study. All scales exhibit acceptable reliability (Peterson, 1994); alphas are greater than .70 as seen in Table 2. Correlations are reported in Table 3.

Table 1. ANOVA Results of Group Comparisons

Construct	F Statistic	p Value	eta ²
Autonomy	.280	.756	.078
Relatedness	.171	.843	.210
Competency	.688	.505	.088
Learning Motivation	.103	.902	.079
Learning Reaction	.276	.759	.082
Content Transfer Climate	.428	.653	.179
Self-Efficacy	.198	.820	.112
Emotional Engagement	.056	.945	.110
Learning Perceptions	.156	.856	.062

Table 2. Construct Reliabilities of Perceived Learning Measures

Construct Items	Cronbach's α	
	T1	T2
<i>Autonomy</i>		
I feel like I have a lot of input in deciding how to do work on class projects.		
I am free to express my ideas and opinions while working on class projects.		
I feel like I can pretty much be myself while working on class projects.	.71	.74
There is considerable opportunity for me to decide how to go about working on class projects.		
<i>Relatedness</i>		
I really like the people I work with on class projects.		
I get along with people I work with on class projects.	.78	.80
I socialize with the classmates I work with on class projects.		
People on my teams care about me.		

Competency

Most days I feel I know what to do when working on team projects. .80 .75
 On team projects, I get many chances to show I am capable.
 When I am working on team projects I often feel very capable.

Learning Motivation

I am willing to exert considerable effort to learn the materials needed to be successful in class. .89 .90
 I try to learn as much as I can in my class.
 I am motivated to learn the skills presented in class.
 I am motivated to learn the theories presented in class.
 I am motivated to learn the applications presented in class.

Learning Reaction

I am generally impressed with this marketing class
 I have a favorable impression about this marketing class .80 .75
 The content of this marketing class will be generally valuable to me on the job.
 The content of this marketing class will be generally relevant to my job.

Content Transfer Climate

Professors expect students to apply the knowledge and skills we gain in class to team projects.
 Professors recognize students who exhibit skills learned in class while working on team projects. .75 .70
 Professors reward students who apply the skills learned in class while working on team projects.

Self-Efficacy

Overall, I am confident in my ability to apply marketing concepts.
 I have the capabilities to work in a marketing position. .78 .85
 I am good at marketing.
 I have mastered the skills necessary to perform well in a marketing position.

Emotional Engagement

I feel enthusiastic about this class.
 I feel energetic in this class. .92 .90
 I feel interested in this class.
 I feel positive about this class.

Learning Perceptions

I learned a lot about marketing during this class.
 My knowledge of marketing improved as a result of this class. .95 .91
 This class enhanced my understanding of how I can apply marketing concepts.
 This class helped me understand how I can perform in a marketing function.

The items were averaged to for each construct. All scales measured strongly disagree (1) to strongly agree (7).

Table 3. Correlations Among Variables: Time 1 and Time 2

Construct	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Autonomy	1	.273**	.456**	.200*	.327**	.261**	.309**	.256*	.259*
(2) Relatedness	.597**	1	.377**	-.057	.151	.310**	.231*	.158	.022
(3) Competency	.686**	.487**	1	.413**	.242*	.339**	.425**	.244*	.202*
(4) Learning Motivation	.573**	.396**	.559**	1	.035**	.281**	.491**	.324**	.533**
(5) Learning Reactions	.432**	.434**	.358**	.718**	1	.337**	.429**	.719**	.540**
(6) Content Transfer Climate	.416**	.267**	.478**	.615**	.460**	1	.280**	.297**	.287**
(7) Self-Efficacy	.337**	.329**	.422**	.480**	.442**	.402**	1	.520**	.454**
(8) Emotional Engagement	.475**	.468**	.485**	.759**	.798**	.519**	.471**	1	.610**
(9) Learning Perceptions	.371**	.281**	.376**	.488**	.599**	.416**	.608**	.610**	1

*p<0.05, **p<0.01, ***p<0.001. Note: Time 1 correlations are shown below the diagonal, while Time 2 correlations are above.

RESULTS

Hypothesis Testing

Following procedures in prior experiential learning research (Nielson & Border, 2016), the quasi-experimental design employed paired observation t-tests as they are more sensitive and provide a greater

amount of information than traditional t-tests (Aczel & Sounderpandian, 2002). The results of this analysis are shown in Table 4. The majority of results are in the hypothesized direction. Student reports of autonomy and competence were higher and statistically significant at Time 2, supporting H1a and H1c ($t[97]=2.35$, $p = .021$; $t[97]=2.72$, $p = .008$). Student reports of

relatedness were opposite the hypothesized direction but were not statistically significant, failing to support H1b ($t[97]=-1.02$, $p = .309$). These results partially support hypotheses that students' psychological needs can be fulfilled through the course design.

Student reports of Learning Motivation were also opposite the expected direction but were not statistically significant, not supporting H2 ($t[97]=-0.32$, $p = .748$). Student reports of Learning Reactions were

significantly higher at Time 2, supporting H3 ($t[97]=2.55$, $p = .012$). Reports of Content Transfer Climate were not significantly higher, not supporting H4 ($t[97]=1.13$, $p = .262$). Finally, student reports of Self-Efficacy, Emotional Engagement, and Learning Perceptions were all higher at Time 2 and statistically significant, supporting H5, H6, and H7 ($t[97]=4.82$, $p < .000$; $t[97]=3.82$, $p < .000$; $t[97]=6.09$, $p < .000$).

Table 4. Changes in Perceptions of Experiential Learning Outcomes

Construct	Mean		(t) Statistic	p Value	Cohen's <i>d</i>
	Time 1	Time 2			
Autonomy	5.57	5.75	2.35	.021*	.28
Relatedness	5.31	5.20	-1.02	.309	.11
Competency	5.53	5.76	2.72	.008**	.27
Learning Motivation	6.07	6.05	-0.32	.748	.04
Learning Reaction	5.71	5.89	2.55	.012*	.14
Content Transfer Climate	5.86	5.97	1.13	.262	.13
Self-Efficacy	5.47	5.82	4.82	.000***	.42
Emotional Engagement	5.64	6.03	3.82	.000***	.47
Learning Perceptions	5.72	6.31	6.09	.000***	.75

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Theory Testing

To test self-determination theory's predictive power and determine the effect of autonomy, relatedness, and competence on student outcomes a second analysis was conducted using ordinary least squares regression as in prior research (Nielson & Border, 2016). The research employed ordinary least squares regression (OLS) because it is a robust and commonly used line-fitting method (Lai et al., 1979). Each outcome variable was regressed on the three psychological need variables using Time 2 data. Table 5 shows the results of these tests. The tests expose a marginally significant positive impact of Autonomy on Learning Reaction ($\beta = .196$, $p = .090$) as well as a significant positive impact of Autonomy on both Emotional Engagement ($\beta = .262$,

$p = .022$) and Learning Perceptions ($\beta = .264$, $p = .022$). The tests also demonstrate the negative effect of Relatedness on Learning Motivation ($\beta = -.288$, $p = .006$) and its marginally significant positive impact on Content Transfer Climate ($\beta = .207$, $p = .055$). Finally, the tests reveal the significant positive impact of Competency on Learning Motivation ($\beta = .539$, $p < .000$), marginally significant impact on Content Transfer Climate ($\beta = .217$, $p = .067$), and positive impact on Self-Efficacy ($\beta = .356$, $p = .003$). In all, these tests reveal that self-determination theory helps explain many of the positive effects of experiential learning on student outcomes. These tests reveal that all three psychological needs are relevant to student success.

Table 5. OLS Regressions: Autonomy, Relatedness, and Competency

	Learning Motivation	Learning Reactions	Content Transfer Climate	Self-Efficacy	Emotional Engagement	Learning Perceptions
Autonomy	.025 (.24)	.196† (1.72)	.123 (1.15)	.163 (1.53)	.262* (2.34)	.264* (2.33)
Relatedness	-.288** (-2.79)	-.007 (-.064)	.207† (1.95)	-.026 (-.25)	.058 (.526)	-.081 (-.72)
Competency	.539*** (4.74)	.131 (1.05)	.217† (1.85)	.356** (3.06)	.085 (.693)	.110 (.887)
R ²	21.0%	5.0%	16.4%	20.0%	11.5%	6.7%

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

DISCUSSION

Given that it is well accepted that experiential learning improves student outcomes, the goal of this research was to provide a theoretical explanation of the mechanisms underlying experiential learning. Results suggest that self-determination theory is an efficacious and parsimonious model to begin explaining how experiential learning works. In this process, the research provides the answers to three questions: (1) can a course be designed to fulfill psychological needs, (2) will student outcomes be higher if psychological

needs are met, and (3) which psychological needs relate to which student outcomes? Research results are now discussed in relation to each question and how this can be helpful to educators. In addition, key aspects of contextual design proposed by self-determination theory for the fulfillment of psychological needs and how to apply this in the marketing classroom are discussed.

Concerning research question one, results from this study suggest that context can be purposely designed to meet students' psychological needs as predicted by self-determination theory (Deci & Flaste, 1996; Deci et al., 2001). Through the manipulation of the design of the

marketing course, autonomy and competence levels were both higher in the experiential learning course compared to other courses. Providing choice in aspects of the course related to the team project helped students to feel free and self-determined. Providing content in conjunction with project deliverables helped students feel both mastery of course content and able to effectively apply what they learned. Though autonomy and competence were higher in Time 2, relatedness was flat. One observation within the classroom provides a probable explanation for the lack of change in relatedness. Student team selection took only minutes; most students appeared to already know one another. This makes sense as the course is an upper level required marketing course. Being at the university for a couple years and knowing peers from other courses, relationships are already established; relatedness fulfillment is already accomplished. Though not completely as predicted, course design is shown effective in facilitating psychological need fulfillment. Design elements from this course can be used in other marketing courses.

Research question two enters into the discussion of the efficacy of self-determination theory as an explanation of the beneficial outcomes of experiential learning. According to the theory, increases in need fulfillment relate to higher levels of context specific motivation as well as relevant behavioral, affective, and learning reactions (Deci & Ryan, 2000; Rayburn, 2014). The research predicts that students in the experiential learning course will report higher levels of learning motivation, learning reactions, content transfer climate, self-efficacy, emotional engagement, and learning perceptions. Interestingly, students did not report higher levels of motivation or content transfer climate; however, all other outcomes were higher and statistically significant.

The lack of higher student reports of learning motivation and content transfer climate has a couple of potential explanations. One possibility is that the failure of relatedness to increase in Time 2 could have hampered both learning motivation and content transfer climate. Since both outcomes are strongly linked to relatedness, perhaps if relatedness had increased from Time 1 to Time 2, there might have been a comparable increase in motivation and content transfer climate. Another possibility is that the lack of change in these constructs is reflective of the program where the study was conducted. Means of both constructs are high at Time 1, nearing six on a seven-point scale, so there is little room for improvement. This suggests that students are strong and instructors are demanding. This is not a bad thing, but may undermine the ability to uncover the impact of need fulfillment on motivation and content transfer climate.

The other perceived learning outcomes were all higher in the experiential learning course compared to other courses. Students reported higher learning reactions, indicating both a positive overall impression of the course and an importance of the content to their future. Self-efficacy was higher in the experiential course; students were more confident in their ability to

apply their learning. This is likely due to the ability to practice applying the material with community partners. Students expressed higher levels of emotional engagement with the course; they were enthusiastic and interested in the content. Finally, student learning perceptions were higher; they believed they learned more in the experiential course.

Answering question three required a bit of empirical exploration to tease out the specific effects of autonomy, relatedness, and competence on student outcomes. The present study suggests that it takes fulfillment of all three needs to impact all of the outcomes. Consistent with this notion is the current study's findings that: (1) relatedness (a psychological need), along with learning motivation and content transfer climate (outcomes) did not increase while (2) autonomy and competency (psychological needs) as well as learning reaction, self-efficacy, emotional engagement, and learning perceptions (outcomes) did increase. This suggests that fulfilling two of three needs can contribute to positive outcomes in some, but not all, measures of success.

This study illuminates how autonomy, relatedness and competence fulfillment relate to different student outcomes. Autonomy relates to higher student engagement, learning reactions, and learning perceptions. Students engage at a deeper level with the material; and this is reflected in their pleasure with the course and, more importantly perhaps, with what they feel they got out of the class. Self-efficacy, on the other hand, relates to feelings of competence in the course. This is not a large surprise since competence is about both knowledge and mastery of content; students feel equipped and able to use the content. These feelings relate to higher confidence in the application of the material, likely due to the hands-on approach in experiential learning with real clients. Relatedness and competence relate to student perceptions of content transfer climate and learning motivation. Looking at content transfer climate, students' peers may be driving perceptions of content application to course objectives more than professors. This makes sense in this course as the focal project was a team-based project. Also, feelings of mastery of the content appears to drive perceptions of the need to apply the material to meet course goals. While overall levels of content transfer climate were not higher in this study, the use of teams and incremental development of knowledge can lead to increased application of learned materials to course goals. Lastly, learning motivation was a key aspect of this study, but student perceptions were not statistically different from prior marketing courses; however, self-determination theory still has a bit to tell. Learning motivation in this course correlated with both relatedness and competence. Again, peers appear to be a key aspect of what drives students to want to succeed. This supports the notion that the team approach to learning continues to be relevant and efficacious. Group learning promotes motivated learning. Further, mastery of material leads to motivation to learn; as students engage content and see success they appear to be driven to further learning.

This is not a new sentiment, but it is refreshing to see it is still at work with another cohort of learners.

As in prior research, self-determination theory explains positive outcomes; however, this is not a simple or straightforward explanation. It takes all aspects of self-determination theory – autonomy, relatedness, and competence – to achieve all of the desired outcomes. In this research, it is shown that students need autonomy to feel engaged and they not only enjoy the learning process more, they get more out of it. They need competence to build self-efficacy. Finally, students need competence and relatedness to stay motivated and apply the information they learn. Self-determination theory helps explain *why* experiential learning works by illuminating the relationships between psychological needs and course outcomes.

Application – From Theory to Practice

Since this research supports the proposition that courses can be designed to produce psychological need fulfillment and that need fulfillment leads to positive student outcomes, what can marketing educators do to design courses to these ends? Direction can be taken from research in work and other educational contexts to understand specific aspects of context design that can lead to beneficial outcomes. Specific aspects of the course environment can be manipulated in such a way as to promote fulfillment of autonomy, relatedness, and competence and, thereby, improve outcomes for marketing students.

Imperative to self-determined motivation are personal choice, leader support, an understanding of why things are the way they are, acknowledgement of individuals' feelings, and connection to the group (Deci & Flaste, 1996). When these are present in the environment, people internalize the goals and values of the organization and leaders (Rayburn & Gilliam, 2016). Choice can be built into most environments (Rayburn, 2014). Choice empowers people and gives them a feeling of autonomy. In the marketing classroom, this can be as simple as students choosing teams or the community partners on which assignments are based.

Leader support in the classroom comes directly from the instructor. Leader support results in more than just comfort and satisfaction, it also helps people feel more confident in what and how to do their job (Rayburn & Gilliam, 2016). Students, when properly supported, will feel more autonomous and competent when executing assignments. In the marketing classroom, this is straightforward; instructors must be available and, when engaging with students, they must use positive and constructive language even when correcting work. Also, instructors should be available to assist students as they work on assignments by offering direction but allowing students to find the answers themselves. All of these efforts build confidence for students while supporting their choices, which builds self-determination.

People in any situation need to understand why they are being asked to do things (Deci & Flaste, 1996; Ryan & Deci, 2000). Course communications should inform

students not only what they are doing, but why they are being asked to complete assignments. Concrete linkages between required activities and desired student outcomes should be clear. Course syllabi often include goals and/or outcomes sections, instructors should spend time discussing this with students, not simply reading it to them or skipping it over. All assignments can include a brief statement reiterating learning goals tied to that assignment. Learning goals should be discussed throughout the course, and there should be a logical building of the content toward these goals. Students, just like anyone in any context, want to know what they are getting out of the process. Students deserve to know the fruits of their labor, and they will be more motivated if they know.

Understanding and validating participants' perspectives and concerns in organized contexts leads to deeper levels of self-determination, goal integration, and feelings of connection to the group. (Deci & Flaste, 1996; Ryan & Deci, 2000). Early on, instructors should hold discussions, answer questions, and provide feedback about the course. This is, perhaps, a great way to set the stage that student engagement is both welcomed and encouraged. Instructors can have discussions of material prior to, or during, lecture periods to enhance student participation and engagement and to ask their perspectives and opinions. It is even possible to flip classrooms and allow students to teach one another. Allowing students to have a say in their education builds autonomy and competence. Additionally, students believe they are integral members of the team and feel a deeper connection and commitment to the learning environment and their peers.

Finally, connection to the group is imperative; this is particularly true when using team projects in the learning process. Fostering team cohesiveness in an organizational context occurs as participants are socialized into the environment. Particularly important to building feelings of relatedness are building on existing skills and perspectives as mentioned above and using a team-based learning process (Rayburn, 2014). This starts at the beginning of the course; create teams early, build team-work time into class periods, and offer students a way to remove free-loaders. During these times, the instructor should be available to advise and guide teams. These efforts can support a cohesiveness that will benefit students as they work together.

Marketing courses can be designed with experiential learning that facilitates the fulfillment of psychological needs. Autonomy, relatedness, and competence are paths to better outcomes for students. The examples of ways in which to facilitate need fulfillment in this research are the proverbial tip of the iceberg. There are many paths that can lead to student success based on this new understanding of the role of self-determination theory in successful experiential learning.

LIMITATIONS AND RESEARCH DIRECTIONS

This study exhibits some limitations. It is difficult to compare one class to another without encountering

some confounds such as individual student ability and motivation. These concerns are somewhat minimized in the simultaneous replication of the study in three sections of the same course and taught by the same professor. An additional confounding effect could be student's inability to identify what is considered a project within a class and how this may have affected survey responses to questions referred to projects. To overcome this, in the verbal instructions for the survey, several project archetypes were offered such as team projects, case studies, and simulations. Also, all data were collected from students and the Hawthorne effect or social desirability could be an issue. The impact of

this possibility was minimized by the anonymous nature of the data collection process. Using an experimental design with a control group might be a stronger test of theory. However, it must be cautioned that there may be ethical implications of providing need fulfillment in some sections or courses but not others. Finally, the anonymous nature of the data in this research did not allow for testing the effects of need fulfillment on actual student performance, such as grade in the project and course. Replication of this study in other marketing courses with these adjustments would increase the generalizability of the findings and be ideal future research.

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