

# ENHANCING EXPERIENTIAL LEARNING VIA SUSTAINED STUDENT ENGAGEMENT

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## ABSTRACT

*Based on learning and engagement theory, this paper provides evidence of sustained (a) observed in-class participation / interaction skills (cognitive), emotional (affective), and performance physical (behavioral) engagement among competing simulation team members. In-class engagement measures monitored include observed levels of increased attendance, in-class focus and energy, relevant questions raised, discussion quality, decision support package usage, end-of-period scaffolding, initial, intermediate, and final debriefing. Out-of-class engagement measures include two-way communication, bi-weekly online decision entry, results retrieval, and graphics package usage, weekly writing assignments, individual report, team presentation, server log statistics of daily, weekly, and semester team activity, website tracking, and online survey responses.*

## INTRODUCTION

Student engagement is considered an important predictor of student achievement (Handelsman, Briggs, Sullivan, & Towler, 2005). Engaged students are good learners and effective teaching stimulates and sustains student engagement (Pintrich & DeGroot, 1990; Skinner & Belmont, 1993). In addition, Skinner and Belmont (1993) found a reciprocal relationship between student engagement and teacher involvement. Yet, the definitions and measurement of student engagement are limited.

The Association to Advance Collegiate Schools of Business (AACSB International) *2013 Eligibility Procedures and Accreditation Standards for Business Administration* (last revised July 1, 2018) Accreditation Standard 13 on Student Academic and Professional Engagement, states “Curricula facilitate student academic and professional engagement appropriate to the degree program type and learning goals.” (AACSB International, 2013). AACSB International asserts that student academic and professional engagement occurs when students are actively involved in their educational experience, in both academic and professional settings, and when they are able to connect these experiences in meaningful ways.

When reviewing business school accreditation applications, the AACSB International bases for evaluating student engagement, include (a) students give the appropriate attention and dedication to the learning materials, and (b) maintain their engagement with these materials even when challenged by difficult learning activities. In addition, the curricula include approaches that actively engage and include all students in learning. Pedagogical approaches suitable for challenging students in this way include problem-based learning projects and simulations (AACSB International, 2013). Faced with challenging learning activities, students are willing to invest personal, internal energies regardless of task difficulty. Kahn (1990) asserted that this investment of resources results in physical, cognitive, and emotional dimensions of engagement that produce active, full performance as demonstrated by attendance, performance and student products.

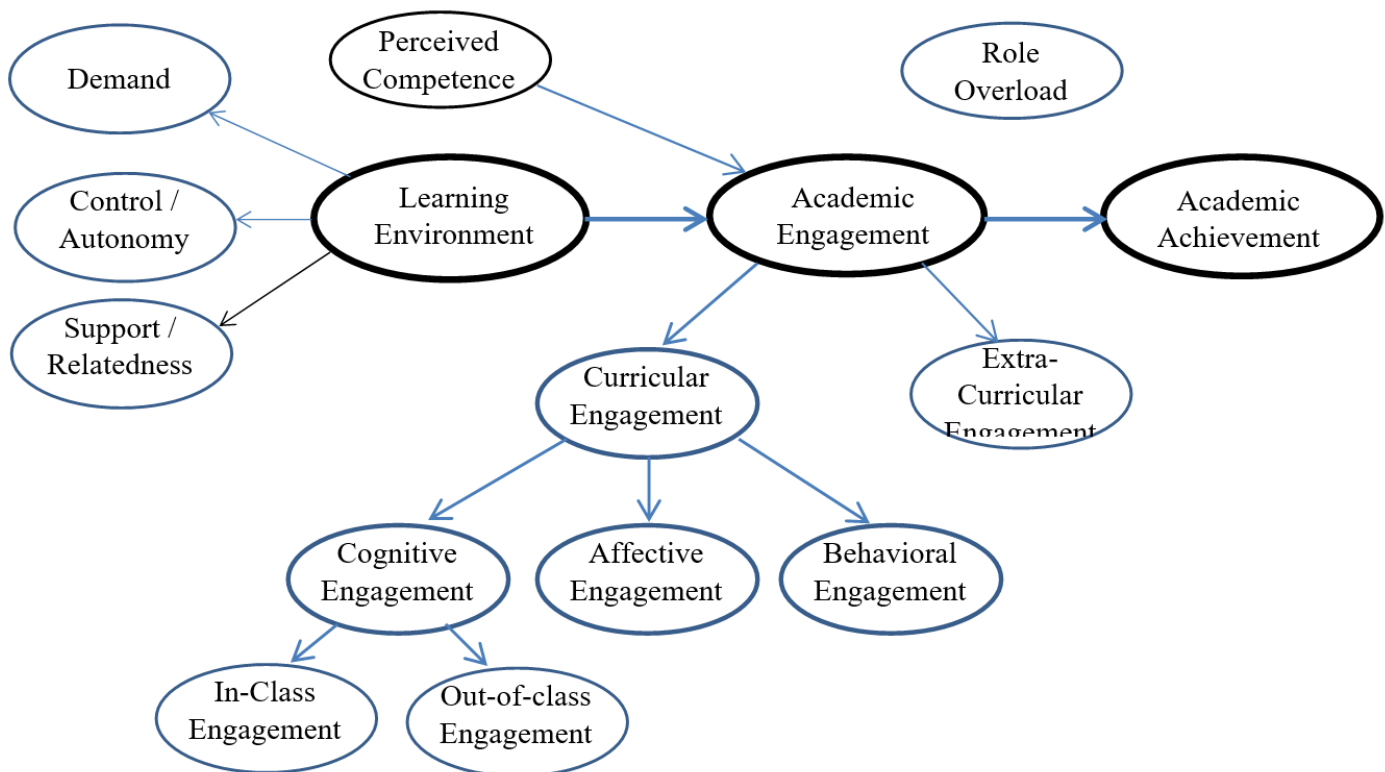
AACSB International recommends that educational institutions applying for accreditation document (a) curricula approaches that actively engage and include students in academic learning, and (b) outcomes of the learning process in the form of projects, papers, presentation, examination performances, and other demonstrations of learning in order to demonstrate clear evidence of active student engagement in learning (AACSB International 2013).

The primary purpose of this paper is to review the engagement literature, and identify, describe and attempt to synthesize the current models of academic and curricular engagement. Based on this review, evidence of sustained (a) observed in-class skills (cognitive), emotional (affective), participation/interaction and performance (behavioral) engagement among competing simulation team members is monitored on a continuing basis. Both subjective and objective measures of in-class and out-of-class engagement at the individual- team- and class-levels are currently monitored. In-class engagement measures include recorded levels of (a) attendance, (b) classroom focus and energy, (c) questions raised, (d) discussion quality, (e) decision support package usage, (f) team discussion and responses to thinklets (problems posed in class) using a problem-based learning approach, (g) group discussion with the professor to address sub-par performance concerns during scaffolding sessions at the end of each class period, (h) co-creation of value using the operand resources (marketing decision support packages) and student knowledge, skills and notebook computers (operant resources). Out-of-class engagement measures include (a) timely bi-weekly online decision entry prior to preset decision deadlines and subsequent results retrieval, (b) graphics package usage, (c) timely submission of weekly writing assignments, (d) server log statistics of daily, weekly, and semester team activity, (e) website tracking of visitor activity, visitor paths, page views, time spent, keywords used, marketing dss package downloads, exit pages, visitor location, and number of sessions by page, and (f) responses to an online student engagement survey on the value added to the learning experience by the initial, intermediate and final debriefing phases of the course.

First, a review of the literature on student engagement includes (a) Handelsman, Briggs, Sullivan, and Towler (2005) development of the Student Engagement Questionnaire (SCEQ) and identification of four distinct and reliable dimensions of college student engagement, and (b) Dweck and Leggett (1988), Dweck (1999), and Molden and Dweck (2000) social-cognitive model based on a motivational pattern of mastery.

Next, several attempts to develop student engagement scales and survey instruments are summarized. These surveys elicit responses on (a) cognitive, affective and behavioral engagement (Hoover & Whitehead, 1975), (b) the amount of time and energy students put into their education and related activities, and (c) how institutions use resources to encourage students to engage in activities that increase the student's learning experience, in order to assess college quality by National Survey of Student Engagement (NSSE). Other survey instruments elicit responses on (a) the level of performance at the class level (Hu & Wolniak, 2013), (b) student work engagement adapted from the Utrecht employee work engagement survey (Schaefer & Bakker, 2004), and (c) work engagement at the employee level to align with Kahn's (1990) physical, cognitive, and emotional engagement that result in active, full performance (Rich, LePine, & Crawford, 2010). Further, an effort to develop an engagement survey instrument and elicit responses on four components of student engagement: (a) student in-class and out-of-class cognitive engagement, (b) physical (behavioral) engagement, and (c) emotional (affective) engagement, as well as four learning outcome components: (a) deep learning

### EXHIBIT 1 Academic Engagement



Learning Environment: affects engagement through decisions on (a) how material is presented, (b) which learning activities are used, (c) what kinds of feedback are provided.

Effective engagement: needs to address underlying psychological variables such as the needs for (a) autonomy, (b) relatedness, and (c) competence (National Research Council 2003).

Demand Control Support Model (Karasek 1979) postulates that psychological strain results from the joint effects of (a) the demands of the work situation, (b) the range of the decision-making freedom to face those demands, and (c) the amount of support provided.

Job demands are psychological stressors such as (a) time pressure, (b) heavy work load, (c) ambiguity, and (d) role conflict.

Job control concerns individual's potential control over work tasks and is composed of (a) decision authority, and (b) skill discretion.

Degree of (a) autonomy, (b) flexibility and (c) discretion in choosing the timing and methods for performing the tasks as well as the variety and creativity in skill usage affect the degree of job control.

Perceived Competence: by students in their ability to accomplish some behavior.

Role Overload: the degree to which individuals are overtaxed as a result of (a) being under time pressure, and (b) having too many commitments and responsibilities (Jones et al. 2007)

Source:

Adapted from: Young, M.R. (2010). The art and science of fostering engaged learning. *Academy of Educational Leadership Journal*, 14 (Special Issue), 1-18.

integrative/reflective learning, (b) deep learning higher order learning, (c) persistence with difficult tasks, and (d) development as global citizens was used to test the hypothesis that experiential learning activities lead to engagement which in turn leads to student learning outcomes (Burch, Heller, & Freed, 2014).

Finally, based on the Handelsman, Briggs, Sullivan, and Towler (2005) and Burch, Heller, & Freed (2014) student engagement classifications, this paper provides evidence of sustained (a) observed participation/interaction in-class cognitive engagement, (b) monitored skills out-of-class cognitive engagement, (c) emotional affective engagement, and (d) performance/physical behavioral engagement among competing simulation team members. Open-ended responses to online surveys on the value of each phase of the phased debriefing process employed indicate that participants are engaged.

## STUDENT ENGAGEMENT

Young (2010) reviews the definition and measurement of academic engagement and investigates environmental antecedents that foster or discourage each of the dimensions of engagement (see exhibit 1). Curricular engagement represents engagement towards targets or objects related to teaching and learning pedagogies, while extra-curricular engagement refers to engagement towards targets or objects outside the classroom, such as student clubs, athletics, and musical events. Curricular engagement refers to the intensity and emotional quality of students' involvement in nurturing and carrying out learning activities (Skinner, 1991). This definition recognizes both the affective (emotional) and behavioral components of engagement.

Affective engagement refers to students' emotional reactions to the learning task, the content, and/or the learning context (Skinner & Belmont, 1993), as well as identification with school (Voelkl, 1997) and the liking or disliking of school (Epstein & McPartland, 1976). Behavioral engagement represents the effort, attention and persistence of performing various learning activity behaviors such as class discussion, debate, role-playing, and short written exercises (Young, 2010).

A third component of engagement includes students' use of cognitive and self-regulatory strategies to monitor and guide learning (Pintrich & De Groot, 1990). This cognitive engagement accounts for the mental effort and psychological investment directed toward comprehending and mastering the academic task (Wehlage, Rutter, Smith, Lesko, & Fernandez, 1989). Accordingly, engagement is a multidimensional concept with affective, behavioral and cognitive components. Fredricks, Blumefeld, & Paris, (2004) review the engagement literature and suggest that the antecedents and outcomes of engagement need to be specified.

### Engagement and Experiential Learning

Active student engagement is fostered through experiential learning. Experiential learning involves learning through experience via cognitive and affective involvement of the whole person (Hoover, 1974). It is the result of cognitive, affective and behavioral engagement (Hoover & Whitehead, 1975). In addition, it is "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (Kolb, 1984). Experiential learning is an active form of learning that requires student engagement and leads to student learning outcomes (Burch, Heller, & Freed, 2014).

Experiential learning theory (Kolb, 1984) proposes that experiential learning has six main characteristics. First, learning is best conceived as a process, not in terms of outcomes. Second, learning is a continuous process grounded in experience. Third, learning requires the resolution of conflicts between opposed modes of adaptation to the world (learning is by its very nature full of tension). Fourth, learning is a holistic process of adaptation to the world. Fifth, learning involves transactions between the person and the environment. Sixth, learning is the process of creating knowledge that is the result of transaction between social knowledge and personal knowledge (Kolb, 1984). Further, in order to transform experience into knowledge, it is necessary to (a) involve the whole person (intellect, feelings, and senses) in learning, (b) use relevant life and learning experience, and (c) reflect on the learning experience (Kolb, 1984; Magnuson & Good 2017). Experiential learning requires self-initiative, an intention to learn, and an active phase of learning (Moon, 2004). In experiential learning, the individual is encouraged to (a) directly involve themselves in the experience, (b) reflect on their experience using analytical skills, (c) gain a better understanding of the new knowledge, and (d) retain the information for a longer time (Winsett, Foster, Dearing, & Burch, 2016).

Rahn (2009) suggests that student engagement is evident when there is a competitive team spirit, discussion and debate within the team. He asserts that the importance of student engagement in education is a function of the simulation and educational environment. In order to stimulate student engagement and augment experiential learning, instructors can provide students with goal oriented and engaging tools (Miller, 2013). Further engagement is strengthened when students are presented with focused goals, challenging tasks, an authentic and compelling story, and a degree of novelty. Students in simulation enhanced courses have identified goal setting, information processing, organization and interpersonal skills, sales forecasting, entrepreneurial skills, financial analysis, economic conceptualization, inventory management, mathematical modeling, hiring, training, motivation, enhanced creativity, communication skills, data analysis, strategic planning, and other skills as part of the learning experience (Wellington & Faria, 2006).

### Engagement Sources

Bowen (2005) suggests four sources of engagement. First, engagement with the learning process involves active learning pedagogies such as class discussion, debate, role-playing, and short written exercises (Bonwell & Eison, 1991). Second, engagement

with the subject matter involves activities such as field or laboratory experiences, rigorous case study, and complex simulations, referred to as experiential learning (Kolb, 1984). Third, engagement with the context in which subject of study is situated is accomplished using significant problem solving requiring perspectives from different disciplines typical of integrative business capstone courses. Fourth, engagement with the human condition incorporates social, cultural and civic dimensions common in service learning pedagogy that involves a cycle of action and reflection applied to community problems (Eyler & Giles, 1999; Petakus, 2000; Hagenbuch, 2006).

However, student engagement in the learning process based on these activities does not necessarily lead to learning. Kirschner, Sweller, and Clark (2006) suggest that students placed in unguided learning situations without some initial instruction and follow-up may leave learners less competent than when they began the activity. Trosset (1998) reports that students feel the purpose of class discussion is to defend their established views and convince others of them rather than to learn. Hence, student engagement in the learning process may be a necessary, but not sufficient condition for learning. Young (2010) conceptualizes curricular engagement as the affective, behavioral, and cognitive involvement towards one or more specified sources of engagement. Some researchers have studied cognitive engagement (Meece, Blumenfeld, & Hoyle, 1988), while others have focused on engagement in schools (Skinner & Belmont, 1993).

**Engagement Perspectives**

The engagement construct has been investigated from a university perspective, a student perspective and the instructor perspective (Winsett, Foster, Dearing, & Burch, 2016). First, from the university perspective, engagement is defined as “the time and energy students devote to educationally sound activities inside and outside of the classroom, and the policies and practices that institutions use to induce students to take part in these activities.” (Kuh, 2003). Kuh asserts that the more time a student spends studying a subject or putting the concept into use, the more the student will know about that subject. His work was instrumental in developing the National Survey of Student Engagement (NSSE) that was designed in 1999 to (a) systematically compare student engagement across colleges and universities, and (b) measure if student behaviors correlated highly with many desirable learning and personal development outcomes of college (Axelson & Flick, 2011). The NSSE instrument includes behaviors such as faculty-student contact, group work, number of hours per week spent on homework, and institutional features such as a supportive campus environment, and reflects the belief that student engagement in college activities determine student learning outcomes (Hu & Wolniak, 2010).

The National Survey of Student Engagement (NSSE) at Indiana University assesses the impact of an institution’s programs and practices on students’ activities, experiences and outcomes (NSSE 2000, 2002) based on student overall perceptions of active learning and other educational experiences (Handelsman, Briggs, Sullivan, & Towler 2005). The NSSE includes approximately 70 items that assess student engagement based upon the extent to which college students put time and energy toward educationally purposeful activities (Carini, Kuh, & Klein, 2006; Pike, 2013). However, some studies have questioned the validity and reliability of the NSSE survey (Campbell & Cabrera 2011; Gordon, Ludlum, & Hoey, 2008; Porter, 2011). Yet, other scholars have demonstrated the usefulness of NSSE benchmark scales in measuring exposure to experiences that predict student progress on important educational outcomes such as critical thinking (Pascarella, Seifert, & Blaich, 2010), retention, and graduation rates (Pike, 2013).

Second, from the student perspective, engagement primarily means active participation in class, comfort with the instructor,

**EXHIBIT 2**  
**Motivational Components and the Objectives Sought by Instruction**

and open	ARCS Component	Instructional Objectives
	Attention	Capture learner interest Stimulate curiosity Maintain learner attention
	Relevance	Address learner needs Provide appropriate choices and responsibilities for learners Tie instruction to learner’s experiences
	Confidence	Build positive expectation for success Support students’ beliefs in their competence Communicate that success is based on effort and ability
	Satisfaction	Provide meaningful opportunities for learners to use their newly acquired skills Reinforce learner successes Leave students with positive feeling for their success
Source: Keller, J.M. (1987). Strategies for stimulating the motivation to learn. <i>Performance and Instruction</i> , 26 (8), 1-7. Keller, J.M. (1987). The systematic process of motivational design. <i>Performance and Instruction</i> , 26 (9-10), 1-8.		

communication. Accordingly, students are concerned with both physical and emotional class components and associate engagement with active participation. Yet student engagement may not be realized if the student is not comfortable with the instructor, or if the instructor fails to communicate their expectations fairly and clearly (Winsett, Foster, Dearing, & Burch, 2016).

Third, from the instructor perspective, student engagement can be enhanced by altering the learning environment. Most instructors recognize that student motivation leads to student engagement, which in turn leads to academic learning and achievement. The ARCS management theory of learner motivation model developed by John Keller (1983) examines the motivational constructs of attention, relevance, confidence and satisfaction (see exhibit 2). The ARCS model represents the extent to which the course content (a) arouses student interest, (b) is relevant to learner needs, (c) builds students' confidence in their ability to achieve success, and (d) satisfies the learner. Keller (1987) identifies specific motivational objectives related to these constructs (see exhibit 1).

The ARCS model is based on the expectancy x value theory of motivation which suggests that in order to motivate students to learn, instructors must (a) help them to appreciate the value of academic activities, and (b) make sure they can achieve success on these activities if they apply reasonable effort (Brophy, 1987). The ARCS model asserts that careful instructional design can influence and improve student perceptions of value and expectancy for success. First, the student's attention has to be acquired, directed to the appropriate cues, and sustained. In addition, the instructor should stimulate an attitude of inquiry and generate student interest in the specific topic and the subject in general. Attention strategies include (a) use of incongruity and conflict in presenting issues, (b) using engaging instructional materials, (c) incorporating problem solving activities, and (d) providing students the opportunity to select projects or topics that reflect their interests (Fitzpatrick, McConnell, & Sasse, 2006).

Second, relevance to learner needs refers to the students' perceived importance of the subject matter to be learned. If students perceive the material or exercises to be relevant to their personal or educational needs, the level of effort expended will increase. Relevance strategies include linking course content or concepts to the students' (a) existing frame of reference, and (b) future goals, by using job-related examples or posing situations likely to be faced in future (Fitzpatrick, McConnell, & Sasse, 2006).

Third, confidence refers to the students' perception of their ability to successfully learn or perform the required concept or task. Challenging experiences that require thought and effort to succeed facilitate learning. On the other hand, vague or unstructured experiences, or those that are challenging to the degree of serious anxiety do not facilitate student motivation and learning. High confidence leads to students maintaining effort associated with performing a task, while low confidence leads to blocks that prevent students from beginning or engaging in learning activities (Smith & Ragan, 1993). Confidence strategies vary with course level and objectives. Advanced courses lend themselves to experiences or exercises with higher levels of uncertainty and challenge.

Finally, satisfaction occurs when students connect the achievement of learning goals with their individual effort. These connections can be made during or at the end of the course. Satisfaction is achieved when students are stimulated to maintain or increase efforts because of challenge or accomplishment. Satisfaction strategies include providing students the opportunity to compare their performance with stated expectations and see how their efforts have led to achievement of course goals. At the end of the course, satisfaction can be enhanced when students see how they are now able to perform significant or comprehensive activities that they did not have the skills for at the beginning of the course. This enhanced confidence and resulting satisfaction can enhance a continued motivation to learn and/or transfer their new skills to their professional work environment. Personal attention, consistent feedback, and avoidance of negative comparisons can increase feelings of positive challenge or accomplishment (Fitzpatrick, McConnell, & Sasse, 2006).

## **Student Engagement**

Accordingly, student engagement is viewed as a multidimensional meta-construct, consisting of three types of engagement – behavioral, emotional, and cognitive (Axelson & Flick, 2011). Yet, the observable part of engagement may not be valid indicator of true student engagement. Students who appear to be curious about or interested in a subject or who display other outward signs of engagement may not acquire knowledge about the subject. Other students who do not display signs of physical engagement may still be learning (Winsett, Foster, Dearing, & Burch, 2016).

Engagement is a multi-dimensional phenomenon that includes behavioral and affective components. It includes "initiation of action, effort, and persistence in schoolwork, as well as ambient emotional states during learning activities" (Handelsman, Briggs, Sullivan & Towler, 2005; Skinner, Wellborn, & Connell, 1990). In addition, it "is grounded in the cognitive and affective systems of learners and readers" (Mosenthal, 1999; Handelsman, Briggs, Sullivan & Towler, 2005; Hoover & Whitehead, 1975). Some scholars note that engagement has an interpersonal component, given that interactions with teachers and other students can be an important part of the classroom experience (Connell & Wellborn, 1991; Deci, Connell & Ryan, 1985; Guthrie & Anderson, 1999; Handelsman, Briggs, Sullivan & Towler, 2005; Skinner & Belmont, 1993). In addition, social interaction patterns in the classroom can amplify or constrict students' intrinsic motivations, their use of self-regulated strategies, and their attainment of deep conceptual knowledge (Guthrie & Anderson, 1999; Handelsman, Briggs, Sullivan & Towler, 2005; Winsett, Foster, Dearing, & Burch, 2016).

Social learning, also called "collaborative" or "cooperative" learning is defined as acquiring knowledge as a group (Bandura, 1977). It involves observing how others in the group act, observing consequences, and acting to modify individual behavior. The role models observed by learners are extremely influential in this process (Bandura, 1977). Students must be active learners first, in order to take advantage of social learning: both active learning and social learning are more student-driven than traditional college lectures (Perkins, 1999).

Winsett, Foster, Dearing, and Burch (2016) demonstrated a positive relationship between group experiential learning activities and student engagement. Their research supports the use of Social Learning Theory to facilitate classroom engagement. Individuals in a group setting observe others in the same group, noting specifically how they act and the resultant consequences associated with it, and then modify their own behavior, thus increasing their own level of engagement. Their research results reveal that group discussions drive physical engagement, group projects drive emotional engagement and having a variety of group work drives cognitive out of class engagement in addition to emotional engagement.

Student engagement can facilitate authentic learning and personal development outcome, and enhance the development of skills, habits and rituals that augment the capacity for continuous learning and personal development. In addition, student engagement factors such as level of academic challenge, active and collaborative learning, student-faculty interactions, and supportive campus climate are significantly correlated with GPAs (Carini, Kuh, and Klein, 2006; Luthans, Luthans, & Palmer, 2016).

Geddes, Cannon, Cannon, and Feinstein (2015) and Geddes, Cannon, and Cannon (2017) draw on service-dominant logic (Vargo & Lusch, 2004, 2014) to conceptualize co-creative strategies in experiential learning. Co-creation of value in experiential education via the combination of diverse (a) course operant resources such as lectures, and/or in-class or out-of-class exercises, (b) teacher and administrator operant resources such as emotional energy and attitude, and (c) student willingness to apply or withhold their operant resources (such as notebook computers) can lead to a range of potential educational outcomes.

### ENGAGEMENT CLASSIFICATIONS AND SCALES

Several attempts have been made to develop student engagement scales (Burch, Heller, & Freed, 2014). Hoover and Whitehead (1975) believed that experiential learning is the result of cognitive, affective, and behavioral engagement. Student satisfaction survey questions include items “I felt active and involved,” “I felt the course required me to exercise independent judgment in evaluating textbook theories,” and “I felt the course challenged me” (Hoover & Whitehead, 1975).

Handelsman, Briggs, Sullivan, and Towler (2005) developed and explored the validity of a measure of student engagement, the Student Engagement Questionnaire (SEQ). First, they validated their measure of student engagement with three other measures in order to provide indications of convergent and discriminant validity. These were (a) student self-reported levels of absolute engagement (in the present course) and relative engagement (relative to engagement in other courses), (b) students who held an incremental theory of learning instead of an entity theory of learning (Dweck, 1999; Dweck & Leggett, 1988), and (c) student motivation with a learning goal orientation instead of a performance goal orientation (Dweck & Leggett, 1988; Dweck, 1999; Molden and Dweck, 2000).

The incremental theory of learning holds that the capacity for learning can be extended, while the students who subscribe to the entity theory of learning believe that they have a predetermined capacity for learning which needs to be actualized but not extended. Accordingly, Handelsman, Briggs, Sullivan, and Towler (2005) hypothesized that student engagement is related positively to incremental theory because students who are engaged presumably believe that the engagement will increase their learning capacity.

### EXHIBIT 3 Handelsman et al. (2005) Student Engagement Classification

Skills Engagement	Emotional Engagement	Participation/Interaction	Performance Engagement
Engagement through practicing skills	Emotional involvement with the material	Participation in class & Interactions with prof & other students	Engagement through levels of performance in class
Study on regular basis	Make course material relevant to life	Raising hand in class	Getting a good grade
Putting forth effort	Apply course material to life	Asking ?s to improve understanding	Doing well on the tests
Doing homework	Make course interesting	Having fun in class	Being confident of learning and doing well in class
Staying up on readings	Think about material outside class	Participating actively In small group discussions	
Looking over class notes	Really desiring to learn material	Going to prof’s off hours to review assignments ?s	
Desiring to learn material		Helping fellow students	
General learning strategies	Consistent with affective engagement	Consistent with active & collaborative learning	Similar to performance goals (not learning/mastery goals)
Handelsman, M.M., Briggs, W.L., Sullivan, N., & Towler, A. (2005). A measure of college student course engagement. <i>Journal of Educational Research</i> , 98 (3), 184-191.			

The association between student engagement and motivational goals is on the belief that students approach tasks with differing levels and types of motivation. Dweck and Leggett (1988), Dweck (1999), and Molden and Dweck (2000) proposed a social-cognitive model that based on a motivational pattern of mastery. Students that set learning goals related to increased competence are intrinsically motivated, seek challenging tasks, and maintain effective striving after they experience failure. Other students that adopt performance goals that focus on gaining favorable competence judgments are more concerned with proving their ability and are extrinsically motivated. Accordingly, Handelsman, Briggs, Sullivan, and Towler (2005) hypothesized that students with a learning goal orientation would be more engaged than students with a performance goal orientation.

Later, they used exploratory factor analysis to identify four dimensions of college student engagement that were distinct and reliable (see exhibit 3). These four dimensions are skills engagement, participation/interaction engagement, emotional engagement and performance engagement (Handelsman, Briggs, Sullivan, & Towler 2005). The first factor labeled skills engagement, which represents student engagement through practicing skills, consists of nine items: making sure to study on a regular basis, putting forth effort, doing all the homework problems, staying up on the readings, looking over class notes between classes to make sure material is understood, being organized, taking notes in class, listening carefully in class, and coming to class every day. These items appear to reflect general learning strategies.

The second factor labeled emotional engagement, which represents student engagement through emotional involvement with the class material, consists of five items: finding ways to make the course material relevant to my life, applying course material to my life, finding ways to make the course interesting to me, thinking about the course between class meetings, and really desiring to learn the material. The emotional engagement factor is consistent with the findings of an affective component to engagement by other researchers (Mosenthal, 1999; Skinner, Wellborn & Connell, 1990). However, all the items of emotional engagement are invisible and cannot be observed in the classroom. Requiring papers in which students relate course concepts to their lives may improve their visibility.

The third factor labeled participation/interaction engagement, which represents student engagement through participation in class and interactions with instructors and other students, consists of six items: raising my hand in class, asking questions when I don't understand the instructor, having fun in class, participating actively in small group discussions, going to the professor's office hours to review assignments or tests or to ask questions, and helping fellow students. These participation/interaction engagement items converge with the NSSE (2000, 2002) category of faculty interaction. The two items participating in small group discussions and helping fellow students correspond to the NSSE category of active and collaborative learning (see exhibit 4).

### EXHIBIT 4

**Handelsman et al. (2005) Factor Structure of Student Course Engagement Questionnaire**

Skills Engagement	Emotional Engagement	Participation/Interaction	Performance Engagement
Making sure to study on a regular basis .64	Finding ways to make the course material relevant to my life .86	Raising my hand in class .82	Getting a good grade .77
Putting forth effort .59	Applying course material to my life .86	Asking questions when I don't understand the instructor .64	Doing well on the tests .68
Doing all the homework problems .57	Finding ways to make the course interesting to me .54	Having fun in class .57	Being confident that I can learn and do well in the class .64
Staying up on the readings .55	Thinking about the class between class meetings .46	Participating actively in small group discussions .55	
Looking over class notes between classes to make sure I understand the material .53	Really desiring to learn the material .43	Going to the professor's office hours to review assignments or test or to ask questions .50	
Being organized .53		Helping fellow students .45	
Taking notes in class .53			
Listening carefully in class .51			
Coming to class everyday .47			

Note: Factor loadings less than .40 are not displayed

Handelsman, M.M., Briggs, W.L., Sullivan, N., & Towler, A. (2005). A measure of college student course engagement. *Journal of Educational Research*, 98 (3), 184-191.

The fourth factor labeled performance engagement, which represents student engagement through levels of performance in the class, consists of three items: getting a good grade, doing well on the tests, and being confident that I can learn and do well in the class. These performance engagement items are similar to performance goals rather than learning or mastery goals (Molden & Dweck, 2000).

Student engagement can also be promoted by action-based learning or project-based learning (Blumenfeld, Soloway, Marx, Krajcik, Guzdial, & Palinesar, 1991). Project-based learning is an experiential learning method with both high potential and high difficulty (Bransford, Brown, & Cocking, 2000). Action learning based on authentic and current business problems, can promote active engagement, teach problem-solving, critical thinking, and teamwork skills (Bos, Naab, & Gordon, 2005).

National Survey of Student Engagement (NSSE) funded by the Pew Charitable Trusts was developed by the National Center for Higher Education Management Systems (NCHEMS) to determine (a) the amount of time and energy students put into their education and related activities, and (b) how institutions use resources to encourage students to engage in activities that increase the student’s learning experience, in order to assess college quality. Some NSSE questions are linked to student deep learning which includes higher order learning, reflective learning, and integrative learning (Nelson, Laird, Shoup, & Kuh, 2005). Yet, the NSSE survey is not a student engagement survey based on engagement theory (Burch, Heller & Freed, 2014)

Hu and Wolniak (2013) developed an academic engagement survey to determine the level of performance at the class level, but this survey does not address the dimensions of student engagement that lead to performance. The Utrecht Work Engagement Survey for Students is an adaptation from the Utrecht employee engagement survey used in many organizational behavior studies (Schaefeli & Bakker, 2004).

Rich, LePine, and Crawford (2010) modified the Utrecht Work Engagement survey at the employee level to align with Kahn’s (1990) physical, cognitive, and emotional engagement that result in active, full performance (see exhibit 5). Yet, in order to satisfy AACSB Standard 13, this survey needs to be modified to (a) evaluate student engagement in and out of class, (b) address the cognitive differences between classes/courses, (c) assess whether students give appropriate attention and dedication to the learning materials and maintain their engagement with these materials even when challenged by difficult learning activities, and (d) assess whether students are able to connect academic and professional experiences in meaningful ways (Burch et al., 2014).

**Exhibit 5  
Work Engagement Classification**

Type of Engagement		
Cognitive	Affective	Behavioral
Cognitive	Emotional Engagement	Physical Engagement
At work, my mind is focused on my job	I am enthusiastic in my job	I work with intensity on my job
At work, I pay a lot of attention to my job	I feel energetic in my job	I exert my full effort to my job
At work, I focus a great deal of attention on my job	I am interested in my job	I devote a lot of energy to my job
At work, I am absorbed by my job	I am proud of my job	I try my hardest to perform well on my job
At work, I concentrate on my job	I feel positive about my job	I strive as hard as I can to complete my job
At work, I devote a lot of attention to my job	I am excited about my job	I exert a lot of energy on my job
Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work, <i>Academy of Management Journal</i> , 33, 692-724. – (Engagement defined, includes physical, cognitive & emotional engagement)		
Rich, B.I., LePine, J.A., & Crawford, E.R. (2010). Job engagement: Antecedents and effects on job performance. <i>Academy of Management Journal</i> , 53, 617-635. – modified Utrecht survey at employee level to align with definition of engagement by Kahn (1990).		
Reported in: Burch, G.F., Heller, N.A. & Freed, R. (2014). Back to basics: Developing a student engagement survey to evaluate the role of experiential learning on student engagement. <i>Developments in Business Simulation and Experiential Learning</i> , 41, 204-213.		

Burch et al. (2014) propose that experiential learning leads to engagement which leads to student learning outcomes, and discuss the development of a student engagement survey that measures the dimensions of student engagement and the associated learning outcome measures. They focus on (a) the relationship between active or passive learning activities and learning engagement, and (b) the resulting learning outcomes associated with those learning activities. They concentrate on deep learning outcomes which include higher order learning, reflective learning, and integrative learning. They cover physical (behavioral), emotional (affective)



and both in-class and outside-class (cognitive) engagement. They assess convergent and discriminant validity among similar and dissimilar constructs respectively.

Lectures, seminar discussion, and library research are considered low-level experiential learning activities. Problem-solving, laboratory and experiential exercises, case discussions, study group discussions, and individual case reports are considered moderate-level experiential learning activities. Group case assignments, simulation games, descriptive field activities/projects, consultative field projects are considered high-level experiential learning activities (Burch et al., 2014).

Learning outcomes are conceptualized as either general or concrete. General learning outcomes such as trying harder in class, coming to class on time, and discussing ideas outside class are triggered by student engagement. General learning outcomes are classified as deep learning outcomes (higher order learning, reflective learning, and integrative learning). Concrete learning outcomes such as communication, leadership, teamwork, decision making, and planning skills are acquired during the learning process (Hoover, Giambatista, Sorenson, & Bommer, 2010). General mental ability is predicted to be related to higher-order learning outcomes but not related to student engagement (Burch et al., 2014).

Burch et al. (2014) used exploratory factor to develop a 25 item scale designed to measure four components of student engagement - student in-class (cognitive), student out-of-class (cognitive), physical (behavioral) and emotional (affective), and four learning outcome components (deep learning integrative/reflective learning, deep learning higher order learning, persistence with difficult tasks, and development as global citizens (see exhibit 6).

**Exhibit 6**  
**Burch et al. (2014) Factor Structure of Student Course Engagement Questionnaire**

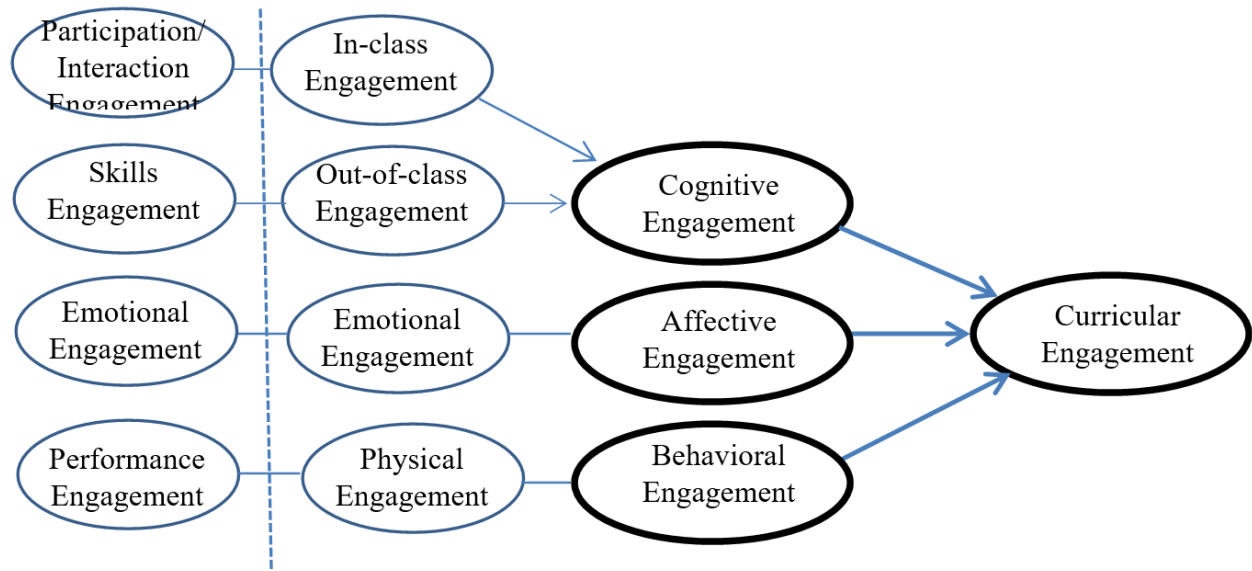
Cognitive In-Class	Cognitive Out-of-Class	Emotional Engagement	Physical Engagement
When I am in the classroom for this class/course, I pay a lot of attention to class discussion and activities. .821	I summarized what I learned in class or from course materials in this class/course. .546	This class/course helped me speak clearly and effectively. .730	I try my hardest to perform well for this class/course. .817
When I am in the classroom for this class/course, I concentrate on class discussion and activities. .809	I reviewed my notes after class in this class/course. .489	I reached conclusions based on my own analysis of numerical information (numbers, graphs, statistics, etc.) in this class/course. .727	I exert my full effort towards this class/course. .799
When I am in the classroom for this class / course, I focus a great deal of attention on class discussion and activities. .807	I discuss ideas from the readings and class/course discussion with friends and family outside of class. .474	This class/course helped me write clearly and effectively. .700	I devote a lot of energy towards this class/course. .796
Burch, G.F., Heller, N.A. & Freed, R. (2014). Back to basics: Developing a student engagement survey to evaluate the role of experiential learning on student engagement. <i>Developments in Business Simulation and Experiential Learning</i> , 41, 204-213.			

Curricular engagement, a component of academic engagement (see exhibit1), consists of cognitive, affective and behavioral engagement. Cognitive engagement consists of participation/interaction engagement and skills management based on the Handelsman et al. (2005) engagement classification. Alternatively, cognitive engagement consists of in-class engagement and out-of-class engagement based on the Burch et al. (2014) engagement classification. Affective engagement is referred to as emotional engagement in both the Handelsman et al. (2005) and Burch et al. (2014) engagement classifications. Further Behavioral engagement is referred to as performance engagement based on the Handelsman et al. (2005) engagement classification, and as physical engagement based on the Burch et al (2014) engagement classification (see exhibit 7).

## ENGAGEMENT SETTING

Based on the above classifications of student engagement, this study (a) reports on the learning activities, student engagement and student learning outcomes observed at various stages in a capstone marketing course, and (b) provides evidence of participation/interaction in-class and skills out-of-class cognitive engagement, emotional engagement and performance/physical behavioral engagement. Phased intermediate and final simulation debriefing stimulates participant engagement and enhances learning. Final simulation debriefing, the culmination of the participant learning experience, follows phased intermediate briefing using a problem-based learning approach on marketing concepts, performance determinants, and marketing decision support system (DSS) package usage. Competing participant teams use marketing decision support packages to monitor and analyze team

## EXHIBIT 7 Curricular Engagement



Handelsman et al., 2005.      Burch et al., 2014.

- Participation/Interaction Engagement:** refers to participation in class & interactions with professor and students. It includes (a) raising hand in class, (b) asking questions to improve understanding, (c) having fun in class, (d) participating actively in small group discussions, (e) going to prof's office hours to review assignments / ?s, and (f) helping fellow students, and is consistent with active collaborative learning.
- Skills Engagement:** refers to engagement through practicing skills. It includes (a) studying on a regular basis, (b) putting forth effort, (c) doing homework, (d) staying up on readings, (e) looking over class notes, (f) desiring to learn material, and is consistent with using general learning strategies.
- Emotional Engagement:** refers to emotional involvement with the material. It includes (a) making course material relevant to life, (b) applying course material in life, (c) making course interesting, (d) thinking about material outside class, (e) desiring to learn material, and is consistent with Affective Engagement.
- Performance Engagement:** refers to engagement through levels of performance in class. It includes (a) getting a good grade, (b) doing well on tests, (c) being confident of learning and doing well in class, and is similar to setting performance goals (not learning / mastery goals).
- Cognitive In-class Engagement:** includes (a) paying attention to, (b) concentrating on, and (c) focusing attention on, class discussion & activities.
- Cognitive Out-of-class Engagement:** includes (a) summarizing in-class learning and course materials, (b) reviewing notes after class, and (c) discussing ideas from readings and class discussion with friends & family outside class.
- Emotional Engagement:** includes (a) feeling that course helps with speaking clearly and effectively, (b) reaching conclusions based on analysis of information (numbers, graphs, statistics) provided.
- Physical Engagement:** includes (a) trying hard to perform well in class, (b) exerting full effort toward course/class, and (c) devoting a lot of energy toward class/course.

Sources:

- Handelsman, M.M., Briggs, W.L., Sullivan, N., & Towler, A. (2005). A measure of college student course engagement. *Journal of Educational Research*, 98 (3), 184-191.
- Burch, G.F., Heller, N.A. & Freed, R. (2014). Back to basics: Developing a student engagement survey to evaluate the role of experiential learning on student engagement. *Developments in Business Simulation and Experiential Learning*, 41, 204-213.

performance, identify and understand reasons for sub-par performance, and make better-informed decisions.

### Problem Based Learning

Problem based learning (PBL) pedagogy, founded on the premise that answers flow from problems, prompts students to recognize their knowledge limitations and motivates them to learn. The learning process begins by presenting the learner with an engaging problem. As students explore the problem, they discover how course concepts provide the means for resolving the problem (Anderson & Lawton, 2004). PBL provides students with opportunities to (a) examine the experiment with what they already know; (b) discover what they need to learn; (c) develop the people skills they need for improving their performance in a team setting; (d) improve their writing and speaking abilities by learning to state and defend with sound arguments and evidence their own ideas, and (e) become more flexible in their approach to problems. It gives students the opportunity to identify the ideas and skills they need to work through the problems they confront (Spence, 2001). A PBL problem should (a) engage student interest, and (b) require

students to develop and implement the principle concepts of the course in order to successfully solve the problem (Duch, Gron, & Allen, 2001).

Business simulations engage students' interest and are preferred by students when compared to cases and lectures in order to learn course concepts (Wolfe, 1985; Washbush & Gosenpud, 1991). In addition, they have been used to apply course concepts (Anderson & Lawton, 1997; Green & Faria 1995; Hemmasi & Graf 1992; Miller, Schumann, Anderson & Scott, 1998; Schellenberger, Hill, & Keusch, 1989; Teach & Govahi, 1998; Wolfe, 1990). Simulations have been used to (a) present concepts, and (b) provide students with an opportunity to experiment with and apply those concepts (Keys & Wolfe 1990). Consequently, simulations provide the opportunity to use PBL to illustrate and apply important concepts in business courses. Yet, instructors need to consider the scope of the simulation, the student level of preparation as they begin the course, and the objective in using the simulation prior to using a PBL approach (Anderson & Lawton, 2004, 2005).

### **Marketing Strategies (Writing Intensive) Capstone Course**

The undergraduate functional capstone writing-intensive Marketing Strategies course is a response to a call from the local business community to develop the analytical and communication skills of our graduates. The mission of the course is to learn and apply strategic market planning and marketing management skills to optimize overall company performance while maintaining cash in balance. The writing-intensive course designation stresses learning through writing and requires frequent writing with quality individual feedback. Phased debriefing reduces uncertainty, improves understanding of underlying performance determinants, builds confidence and engagement, and motivates teamwork to identify problems, take corrective action, and exercise marketing control.

At the end of the semester, each participant submits a quality 10-page (narrative) Strategic Market Plan report (30% of course grade) based on performance in the COMPETE marketing simulation (Faria 2006), marketing DSS package usage, and external research. In addition, each company makes a one-hour long team presentation (10% of course grade) that is divided into two equal parts. The first 30-minute company report covers (a) the presentation agenda, (b) company and brand name justification, and logo explanation, (c) mission statement, (d) organizational structure selected with individual responsibilities, (e) performance analysis, (f) strategic, tactical and forecasting errors made and lessons learned, and (g) sales forecast model using multiple regression analysis with forecast made and forecast error experienced. The second 30-minute company marketing plan covers (a) strategic analysis based on the Aaker framework (Aaker, 2014; Aaker & Moorman, 2018), (b) positioning analysis and strategy using VALS psycho-geo-demographic segmentation data and product positioning maps based on simulation performance data, (c) strategic market plan via SBU portfolio analysis using the BCG growth share and growth gain matrices based on simulation performance data, (d) recommended evaluation and control mechanisms (reports required and marketing control measures), and (e) conclusion with research references. In addition, each team submits a team presentation handout (10% of course grade) with DSS packages and external references used.

First, during each decision period, the competing teams receive cumulative team performance rankings on the above 18 performance measures for their own company. However, they do not receive competitor rankings on cumulative profit, cumulative market share, end-of-period quality, end-of-period unit cost of production, or cumulative efficiency, based on which the cumulative rankings are determined. This confidential information is released to them (a) at the end of the four trial decision periods prior to the start of simulation competition, in order to facilitate preliminary cause-effect analyses and intermediate simulation debriefing, as well as to establish credibility in the ranking system, and (b) at the end of each year (4 quarterly decisions) of simulation competition for intermediate debriefing purposes.

Next, at the end of each year (four quarterly decision periods) of operations, the competing teams can access cumulative team performance rankings on the same 18 performance criteria for all competing companies. These annual reports are uploaded to the COMPETE Portal (server) and can be viewed and downloaded by all participants. They reveal the rankings of all competing teams on each of the 18 performance criteria as well as the overall and adjusted rankings for each of the competing firms. They do not reveal any confidential information on competitor performance measures based on which the cumulative rankings are determined.

Then, at the end of the trial decision period, and subsequently, at the end of competition, the competing teams can access the cumulative End Game Performance Package which consists of 11 charts and 3 worksheets. Charts include (1) cumulative team performance ranking, (2) cumulative team performance ratios, (3) cumulative team profitability measures, (4) cumulative market share, (5) end-of-game quality, (6) end-of-game cost of production, (7) cumulative efficiency, (8) cumulative efficiency measures, (9) sales revenue by period, (10) advertising expense by period, and (11) salesforce expense by period.

Finally, at the end of competition (3 years of operation consisting of 12 quarterly decision periods), the simulation participants can access the End Game Performance Package to (a) analyze the simulation competition results, (b) prepare their individual strategic market plan reports, and (c) prepare their team presentation at the end of the semester.

### **COMPETE Marketing Simulation**

COMPETE (Faria, 2006) is a marketing simulation designed to provide students with marketing strategy development and decision-making experience. Competing student teams are placed in a complex, dynamic, and uncertain environment. The participants experience the excitement and uncertainty of competitive events and are motivated to be active seekers of knowledge.

They learn the need for, and usefulness of, mastering an underlying set of decision-making principles.

Competing student teams plan, implement, and control a marketing program for three high-tech products in three regions Region 1 (R1), Region 2 (R2) and Region 3 (R3) within the United States. These three products are a Total Spectrum Television (TST), a Computerized DVD/Video Editor (CVE) and a Safe Shot Laser (SSL). The features and benefits of each product and the characteristics of consumers in each region are described in the student manual. Based on a marketing opportunity analysis, a mission statement is generated, specific and measurable company goals are set, and marketing strategies are formulated to achieve these goals. Constant monitoring and analysis of their own and competitive performance helps the teams better understand their markets and improve their decisions.

Each decision period (quarter), the competing teams make a total of 74 marketing decisions with regard to marketing their three brands in the three regional markets. These 74 decisions include nine pricing decisions, nine shipment decisions, three sales force size decisions, nine sales force time allocation decisions, one sales force salary decision, one sales force commission decision, twenty-seven advertising media decisions, nine advertising content decisions, three quality-improvement R&D decisions, and three cost-reduction R&D decisions. Successful planning, implementation, and control of their respective marketing programs require that each company constantly monitor trends in its own and competitive decision variables and resulting performance. The teams use the recently launched and upgraded COMPETE Portal, which has replaced the COMPETE Online Decision Entry System (CODES) (Palia, Mak, & Roussos, 2000) to enter their decisions, retrieve their results, and download and use a wide array of marketing DSS packages.

In order to facilitate marketing control, the COMPETE simulation (Faria, 2006) is used together with web-based strategic market planning (Palia, 1991, 1995; Palia, De Ryck, & Mak, 2002) and positioning (Palia, De Ryck, & Mak, 2003; Palia & De Ryck, 2013) graphic packages, and a diverse array of Excel target profit pricing (Palia, 2008), competitor analysis (Palia & De Ryck, 2015), forecast error impact (Palia, 2011), marketing mix analysis, multiple regression analysis (Palia, 2004), ratios analysis, strategic business unit (SBU) analysis (Palia, 2009), portfolio normative consistency analysis (Palia, 2012), target portfolio analysis (Palia, 2017), cash flow analysis (Palia, 2010), profitability analysis (Palia & De Ryck, 2014), cumulative team performance (Palia 2005), cost of production analysis (Palia & De Ryck, 2016), and marketing efficiency analysis (Palia, 2018) workbooks that auto-extract and present relevant data from the simulation results and facilitate subsequent analysis and decision-making. These marketing DSS packages enable them to make better informed decisions such as target profit pricing, forecasting, market segmentation and positioning, market mix analysis, competitor analysis, forecast error impact analysis, ratios analysis, cash flow analysis, and strategic market planning, that are introduced to them progressively during the simulation competition.

The comprehensive Online Cumulative Simulation Team Performance Package provides feedback on competing participant team rankings on their cumulative company profitability, market share by product, quality by product, cost of production by product, and efficiency based on simulation results for each decision period (Palia, 2005). The End Game Performance package presents, in addition, graphic feedback on (a) cumulative profits, (b) profitability ratios (Earnings per Share, Return on Total Assets, Net Profit Margin, Sales-to-Asset Turnover, Return on Equity, Retained Income), (c) market share, (d) sales volume, (e) quality, (f) cost of production, (g) efficiency (Sales-to-Advertising, Sales-to-Salesforce expense, and Sales to Promotional Expense) ratios tied to the simulation results (Palia, 2019).

### **Phased Debriefing Process**

Palia (2019) suggests a phased approach to simulation debriefing based on insights derived from a review of the literature on experiential learning, business simulations and experiential exercises/games. This augmented approach to debriefing draws on (a) Kolb's model of experiential learning (Kolb, 1984), (b) Bloom's taxonomy of educational objectives (Bloom, 1956), (c) Lederman's work on debriefing (Lederman, 1992), (d) Peters and Vissers classification model for debriefing simulation games (Peters & Vissers, 2004), (e) Argyris' Organizational Development Intervention Model (Argyris, 1970), (f) Hoover's treatise on recent trends in complexity avoidance and narcissism (Hoover, 2011), (g) Hoover, Giambattista and Tribble's (2016) organizational approach to experiential learning (Hoover et al., 2016), and (h) Hogan and Pressley's work on scaffolding (Hogan & Pressley, 1997).

The comprehensive phased debriefing approach relies on the usage of dss packages that are directly tied to the course mission, learning objectives and outcomes, and the computer simulation decisions and results. The semester is divided into 4 phases of differing length. The first 3-week long "Prepare to Compete" phase, is followed by a 7-week long "Compete" phase," a 5-week long "Individual Report and Team Presentation Preparation" phase, and a one-class period Wrap-Up phase.. During the first three weeks of the semester, the competing participant teams are prepared to compete. They are given a comprehensive in-class introduction to (a) decisions, markets and products in the COMPETE marketing simulation, (b) eighteen cumulative team performance criteria, (c) simulation financial statements (income statement, three regional income contribution statements, balance sheet, and underlying cash flow analysis), (d) other simulation reports including market research reports and trade association bulletin, (e) determinants of profitability, market share, quality, cost of production and efficiency, (f) the importance of accurate forecasting, (f) the elements and dimensions of strategy, and (g) alternative strategic thrusts, and the strategic analysis framework (Aaker, 2014; Aaker & Moorman, 2018). They enter four sets of quarterly trial decisions and access the quarterly simulation results via the online COMPETE Portal during the second and third week of the semester. The cumulative team results for each of the four quarterly trial decision periods include the team ranking on the eighteen performance criteria in the End Game Performance package. At the end of the four trial decision periods, they download their decisions, simulation results and access the End Game Performance package. During this 'Prepare to Compete' phase, based on the recommendation of prior participants, each competing team meets

with the professor/administrator to go over their results, ask questions, and seek clarification of underlying concepts. In addition, the entire class is exposed to an example of the final team presentation at the end of the semester. The simulation is reset, with the company and product names submitted to the professor/administrator along with their company profit, market share, quality, cost of production, and efficiency goals, in preparation for the simulation competition.

During the next seven weeks of the semester, the competing participant teams enter the second 'Compete' phase. They make twelve sets of quarterly decisions over a three-year operating period, and access the simulation results. Topics covered during this seven-week period include market segmentation, positioning, values and lifestyle analysis, sales forecasting, sales forecast model building, and strategic market planning. Based on the suggestion of prior participants, they are shown relevant sections of prior team presentations on each topic covered. In addition, they are progressively introduced to web-based product positioning map graphics package and Excel-based marketing DSS packages on (a) target profit pricing, (b) forecasting, (c) market segmentation and positioning, (d) market mix analysis, (e) competitor analysis, (f) forecast error impact analysis, (g) ratios analysis, (h) cash flow analysis, and (i) strategic market planning in the computer lab hands-on sessions. These marketing DSS packages (a) auto-extract accurate, timely and relevant data from the simulation results, (b) facilitate analysis, and (c) enable them to make better informed decisions. During the competition, stimulators such as increased production costs, increased sales force transfer expenses, and new competition are periodically introduced to affect the simulation parameters. The simulation message center is used to inform the competing teams about the stimulators before they take effect. Competing participant teams adjust their marketing strategies in response to the resulting changes in the marketing environment and/or simulation parameters. The teams are permitted to (a) work on their decisions, (b) ask questions, and (c) seek clarification during the last fifteen minutes of each class period. This intermediate simulation debriefing employs a problem-based learning scaffolding approach to help participants understand the underlying reasons for bankruptcy, low profitability, weak market share and other sub-par performance. Based on this enhanced understanding, participants take corrective action in order to improve team performance. At the end of competition, they access the End Game Performance package via the COMPETE Portal and correlate their strategies and decisions with the final results.

This progressive intermediate debriefing strategy turbocharges participant engagement, and heightens participant interest, motivation, confidence and understanding. Indeed, based on participant demand, the Marketing Strategies course is scheduled in the computer lab starting Spring 2019. This enables the participants to use the desktop computers in the computer lab (instead of their Mac notebooks) when working with marketing DSS packages that have macros (.xlsm program files) and Excel Add-Ins (Statpak and VBA Statpak) for use in multiple regression analysis. Participants use (a) the online Product Positioning Map (PPM) graphics package to generate product positioning maps for each of their nine SBUs based on the simulation results for each decision period, and (b) the online Strategic Market Planning - Product Portfolio Analysis (PPA) graphics package to generate the Boston Consulting Group (BCG) Growth Share Matrix (GSM) and Growth Gain Matrix (GGM) for their own company and for each of their competitors based on the simulation results.

During the next five weeks of the semester, the competing participant teams enter the third 'Report & Present' phase. Hands-On sessions in the computer lab enable simulation participants to use all the marketing DSS packages to prepare their individual 'Strategic Market Plan' reports, team presentations and team presentation handouts. The professor/administrator demonstrates the relevant graphics and marketing DSS packages, guides the participants, clarifies concepts, and answers questions from individual participants that often benefit the entire class. The individual 'Strategic Market Plan' report is a 10-page (narrative) report that covers the six-step BCG strategic market planning process and includes the BCG graphics, relevant Excel-based marketing DSS packages, and external research references. The comprehensive one-hour team presentation includes the company marketing report (thirty minutes) and proposed marketing plan (thirty minutes). The company marketing report includes the company and brand name justification, company mission, company organization, performance analysis, errors made and lessons learned, and a sales forecast model using multiple regression analysis. The proposed marketing plan includes a strategic analysis (customer, competitor, market, and environmental analyses; performance and portfolio analyses; and closing the strategic gap), positioning analysis, strategic market planning (BCG product portfolio analysis), and evaluation and control mechanisms. During the one-hour team presentations, the professor periodically interrupts each presentation briefly to point out significant errors for the benefit of future teams and the entire class. After each team presentation, the team fields questions from their competitors as well as the administrator/professor. Questions frequently posed by the professor /administrator include (a) what the team would do differently if they were to relive or restart the simulation experience, (b) how the team responded to the stimulator on increased production costs, the consequent results, and lessons learned, (c) how the team responded to the stimulator on increased salesforce expenses, the consequent results, and lessons learned, and (d) how the team responded to the stimulator on entry of new competition at lower prices, the consequent results, and lessons learned.

The final debriefing phase occurs during the last class period at the end of the semester. A departmental Marketing Knowledge Assessment test is followed by performance feedback based on the End Game Performance package, the scored earned by each of the competing participant teams, and a review of alternative responses to the simulation stimulators. The professor/administrator reviews (a) the elements of strategy, (b) the situation analysis, planning, implementation and control phases of the marketing strategy process, and (c) the skills and knowledge of foundation disciplines that facilitate effective marketing.

## **ENGAGEMENT EVIDENCE**

Evidence of sustained (a) observed in-class skills (cognitive), emotional (affective), participation/interaction and performance (behavioral) engagement among competing simulation team members is monitored on a continuing basis. Both subjective and objective measures of in-class and out-of-class engagement at the individual- team- and class-levels are currently

monitored.

In-class engagement measures include recorded levels of (a) attendance, (b) classroom focus and energy, (c) questions raised, (d) discussion quality, (e) decision support package usage, (f) team discussion and responses to thinklets (problems posed in class) using a problem-based learning approach, (g) group discussion with the professor to address sub-par performance concerns during scaffolding sessions at the end of each class period, (h) co-creation of value using the operand resources (marketing decision support packages) and student knowledge, skills and notebook computers (operand resources).

Out-of-class engagement measures include (a) timely bi-weekly online decision entry prior to preset decision deadlines and subsequent results retrieval, (b) graphics package usage, (c) timely submission of weekly writing assignments, (d) server log statistics of daily, weekly, and semester team activity, (e) website tracking of visitor activity, visitor paths, page views, time spent, keywords used, marketing dss package downloads, exit pages, visitor location, and number of sessions by page, and (f) responses to an online student engagement survey on the value added to the learning experience by the initial, intermediate and final debriefing phases of the course.

### **Phased Simulation Debriefing Survey**

In order to provide evidence of student engagement, heightened motivation and enhanced learning via phased simulation debriefing, an online survey of the phased simulation debriefing process was developed and deployed. This survey explores the perceived benefit of elements used in each of the four simulation debriefing phases: (a) initial briefing during the first 'Prepare to Compete' phase, (b) intermediate debriefing during the second 'Compete' phase, (c) intermediate debriefing during the third 'Report & Present' phase, and (d) final debriefing during the fourth 'Wrap-Up' phase to better understand the COMPETE simulation, simulation performance, and strategic market planning, management & control respectively. Open-ended participant comments on the value of each debriefing phase augment and amplify the survey responses.

This phased simulation debriefing survey was posted online during the final weeks of the Fall 2018 semester when students are busy completing reports, preparing presentations, completing course assignments and preparing for final examinations. The nine responses received from the first section of 19 participants (max. class size is 20 students for this capstone writing-intensive course) provides evidence on the value of phased simulation debriefing.

### **Open-ended Survey Responses**

The phased simulation debriefing survey consists of open-ended responses by participants on each of phases. The open-ended comments on the value of the initial simulation briefing 'Prepare to Compete' phase clearly indicate substantial perceived value in understanding the COMPETE simulation (see exhibit 8).

Next, the open-ended comments on the value of the second intermediate simulation briefing 'Compete' phase clearly indicate substantial perceived value in understanding COMPETE simulation performance (see exhibit 9).

The open-ended comments on the value of the third intermediate simulation briefing 'Compete' phase clearly indicate substantial perceived value in understanding strategic market planning, management & control (see exhibit 10).

Lastly, the open-ended comments on the value of the final simulation briefing 'Wrap-up' phase clearly indicate substantial perceived value in understanding strategic market planning, management & control (see exhibit 11).

Based on the above open-ended responses, the students perceive (a) the initial simulation briefing 'Prepare to Compete' phase, (b) the second intermediate simulation briefing 'Compete' phase, (c) the third intermediate simulation briefing 'Compete' phase, and (d) the final simulation briefing 'Wrap-up' phase to be of "substantial" value. In their words, the initial simulation briefing aided in their understanding of the simulation, helped answer questions and ease uncertainties, and was beneficial in understanding how the simulation operated. The scaffolding sessions at the end of each class during the second intermediate simulation briefing 'Compete' phase helped them have their immediate questions answered, get their thoughts together prior to entering their decisions, seek clarification, and directly address their current problems.

The intermediate simulation briefing 'Report and Present' phase enabled them to better understand the results of their decisions, to keep them on track, learn from their competitors presentations, have errors corrected and doubts clarified by the professor, and to learn how to improve their presentation. Lastly, participants believed that the final simulation debriefing 'Wrap-up' phase highlighted the important factors of Marketing, provided a gateway to entering real world experiences and moving forward to their career goals, summarized and reviewed key strategic concepts, and allowed them to reflect on what they had learned and apply it to real-life situations such as their marketing internships and potential job situations.

### **COMPETE Portal Web Server Log**

Evidence of participant engagement by team, by day, week, and semester is captured in the COMPETE Portal server log (see exhibit 12). During Fall 2019, till Friday October 4<sup>th</sup>, teams C1 (4 members), C2 (4 members), C3 (4 members) and C4 (5 members) recorded 215, 179, 217, and 240 logins respectively. Team members use a team ID and password to login to their team

## EXHIBIT 8 Initial Simulation Briefing During 'Prepare to Compete' Phase - Comments

Page 5: Phased Simulation Debriefing Experience ▼

Q5 Save As ▼

Please comment on the value of the Initial Briefing of the simulation competition during the 'Prepare to Compete' phase (trial decisions 1 - 4).

Answered: 6 Skipped: 3

**RESPONSES (6)** WORD CLOUD TAGS (0)

Apply to Selected ▼ Filter by tag ▼  🔍

Showing 6 responses

- I feel the 'Prepare to Compete' stage was very important to aid in my understanding of what was expected from us during the actual simulation. There were still many things that I was unsure of or didn't understand, and it still took me a while to figure it out even during the simulation.  
12/11/2018 2:09 PM [View respondent's answers](#) [Add tags ▼](#)
- I thought it was substantial, but since there was such a high volume of things to grasp so early in the semester, I found it difficult. There should have been more encouragement to experiment.  
12/9/2018 10:46 PM [View respondent's answers](#) [Add tags ▼](#)
- Initial debriefing helped during the trial decisions because it helped answer any questions and ease any uncertainties going into the competition. Being able to understand what the competition was about and get any questions answered helped.  
12/9/2018 10:11 PM [View respondent's answers](#) [Add tags ▼](#)
- There could have been more explanation of what to do.  
12/7/2018 10:58 AM [View respondent's answers](#) [Add tags ▼](#)
- This helped gain an understanding of what to expect during the actual decision periods so I think this should be kept as part of the course. I found it beneficial to learn from our mistakes before getting penalized during the actual competition.  
12/6/2018 5:55 PM [View respondent's answers](#) [Add tags ▼](#)
- These were extremely beneficial in understanding how the simulation operated.  
12/6/2018 1:33 PM [View respondent's answers](#) [Add tags ▼](#)

## EXHIBIT 9 Intermediate Simulation Debriefing During 'Compete' Phase - Comments

Q6 Save As ▼

Please comment on the value of the Intermediate Debriefing of the simulation competition during the 'Compete' phase (end-of-class 15 min. team discussion and performance diagnostic sessions).

Answered: 6 Skipped: 3

---

**RESPONSES (6)** WORD CLOUD TAGS (0)

---

Apply to Selected ▼ Filter by tag ▼  🔍

---

Showing 6 responses

These really helped my group to ask any immediate questions that we had during our decision making. We met twice a week during the entire simulation for each decision period, but the 15 minute team discussion really helped us answer any questions or issues prior to making our decisions.

12/11/2018 2:09 PM [View respondent's answers](#) [Add tags ▼](#)

It was incredibly helpful, my only suggestion would be to increase the time so that we get more one-on-one time.

12/9/2018 10:46 PM [View respondent's answers](#) [Add tags ▼](#)

Being able to meet with the team to discuss decisions for the next period helped get our thoughts together. It also helped that we could ask questions during these last 15 minutes before making a decision.

12/9/2018 10:11 PM [View respondent's answers](#) [Add tags ▼](#)

Very valuable. We had the ability to ask our professor questions, as well as plan with our group.

12/7/2018 10:58 AM [View respondent's answers](#) [Add tags ▼](#)

I believe having the last 15 minutes of class to discuss with team members allowed for clarification as well as what our next steps were going into the next decision period. Also having the professor there to answer any questions helped as well.

12/6/2018 5:55 PM [View respondent's answers](#) [Add tags ▼](#)

This allotted time to talk to team members and ask the professor about aspects we were unsure of was valuable. Our problems were directly addressed through this.

12/6/2018 1:33 PM [View respondent's answers](#) [Add tags ▼](#)



## EXHIBIT 10 Intermediate Simulation Debriefing During 'Report & Present' Phase - Comments

Q7

Save As ▾

Please comment on the value of the Intermediate Debriefing of the simulation competition during the 'Report & Present' phase.

Answered: 4 Skipped: 5

RESPONSES (4) WORD CLOUD TAGS (0)



Apply to Selected ▾

Filter by tag ▾

Search responses



Showing 4 responses



The Intermedia Debriefing allowed us to understand more of the results of our decisions. The simulation goes by so quickly, sometimes you lose track of time and the Intermedia Debriefing helped to keep us on track and remind us to continue to think logically about our decisions.

12/11/2018 2:09 PM

[View respondent's answers](#)

[Add tags ▾](#)



I wish that we had spent more time talking about our individual progress rather than general reporting and presenting.

12/9/2018 10:46 PM

[View respondent's answers](#)

[Add tags ▾](#)



This was valuable in terms of hearing what the other group members presented on what went on the entire simulation. And having the professor correct the team if something was unclear made it clearer as to what he was looking for in the presentation and the report.

12/6/2018 5:55 PM

[View respondent's answers](#)

[Add tags ▾](#)



This valuable to understanding how to better our presentation.

12/6/2018 1:33 PM

[View respondent's answers](#)

[Add tags ▾](#)

## EXHIBIT 11 Final Simulation Debriefing During 'Wrap-Up' Phase - Comments

Q8 Save As ▾

Please comment on the value of the Final Debriefing at the end of the semester (after team presentations).

Answered: 6 Skipped: 3

---

RESPONSES (6) WORD CLOUD TAGS (0)

---

Apply to Selected ▾ Filter by tag ▾ Search responses 🔍

---

Showing 6 responses

Without a Final Debriefing, it's hard to understand why you worked so hard throughout the semester. It was an interesting discussion, highlighting all the important factors of Marketing that everything boils down to. I feel the Final Debriefing was the gateway into entering real world experiences.

12/11/2018 2:09 PM [View respondent's answers](#) [Add tags ▾](#)

I wish there was more clarity on how we could have succeeded.

12/9/2018 10:46 PM [View respondent's answers](#) [Add tags ▾](#)

The questions at the end of each presentation helped wrap up the competition and get an understanding of everybody's thoughts from different companies.

12/9/2018 10:11 PM [View respondent's answers](#) [Add tags ▾](#)

It was valuable to learn what strategies are out there.

12/7/2018 10:58 AM [View respondent's answers](#) [Add tags ▾](#)

I believe it wrapped everything up for the semester and found it insightful moving forward to our career goals.

12/6/2018 5:55 PM [View respondent's answers](#) [Add tags ▾](#)

This was a great summary and refresher for everything we covered in the course. It allowed me to reflect on what we learned and to apply it to real-life situations such as my marketing internships and potential job situations.

12/6/2018 1:33 PM [View respondent's answers](#) [Add tags ▾](#)

account in order to: (a) enter decisions, (b) view results, (c) access course website (schedule and handouts repository), (d) submit weekly writing assignments (e) download and use marketing dss packages, and (e) generate server-generated performance-based product positioning maps. The most intensively used performance-based BCG growth share and growth gain matrices (used in both the individual strategic market plan report and team presentation) will only become available after two years of operating results on Friday October 11, 2019. Subsequently, website activity will increase as participants work with the marketing dss packages to prepare their individual Strategic Market Plan reports and their one-hour team presentation.

## EXHIBIT 12 COMPETE Portal Server Login Statistics (September 4, 2019)

### COMPETE Portal

#### Login Statistics

MKT\_391\_INDY\_C
View

Last 7 Days		Semester	Company 1	Company 2	Company 3	Company 4	Company 5	Total
Logins for Sat, 2019-10-05		202010	0	0	0	0	0	0
Logins for Fri, 2019-10-04		202010	8	2	7	5	0	22
Logins for Thu, 2019-10-03		202010	12	2	6	9	0	29
Logins for Wed, 2019-10-02		202010	3	1	1	2	0	7
Logins for Tue, 2019-10-01		202010	7	7	11	15	0	40
Logins for Mon, 2019-09-30		202010	2	2	3	5	0	12
Logins for Sun, 2019-09-29		202010	5	2	1	0	0	8

Last 4 Weeks		Semester	Company 1	Company 2	Company 3	Company 4	Company 5	Total
Logins for week 40		202010	32	14	28	36	0	110
Logins for week 39		202010	27	25	40	31	0	123
Logins for week 38		202010	44	29	55	51	0	179
Logins for week 37		202010	40	48	44	50	0	182

This Semester		Semester	Company 1	Company 2	Company 3	Company 4	Company 5	Total
Logins for Fall 2019		202010	215	178	217	240	0	850

#### COMPETE Portal Website Tracking

Further evidence of individual participant engagement is based on tracking of visitors to the COMPETE Portal website. A 4-week summary of daily page views, sessions and visitors from Monday September 9 to Friday October 4, 2019 indicates an average of 77.7 daily page views, 23.2 average daily sessions, and 15.5 average daily visitors (see exhibit 13). Again, website activity is expected to increase substantially after October 11, 2019 as participants generate product positioning maps, BCG growth share and growth gain matrices and work with the marketing dss packages to prepare their individual Strategic Market Plan reports and team presentations.

Moreover, website tracking of the COMPETE Portal server registered a total of 2020 page views, in a total of 604 sessions, by a total of 404 visitors during a four-week period from September 9 to October 4, 2019 (see exhibit 14).

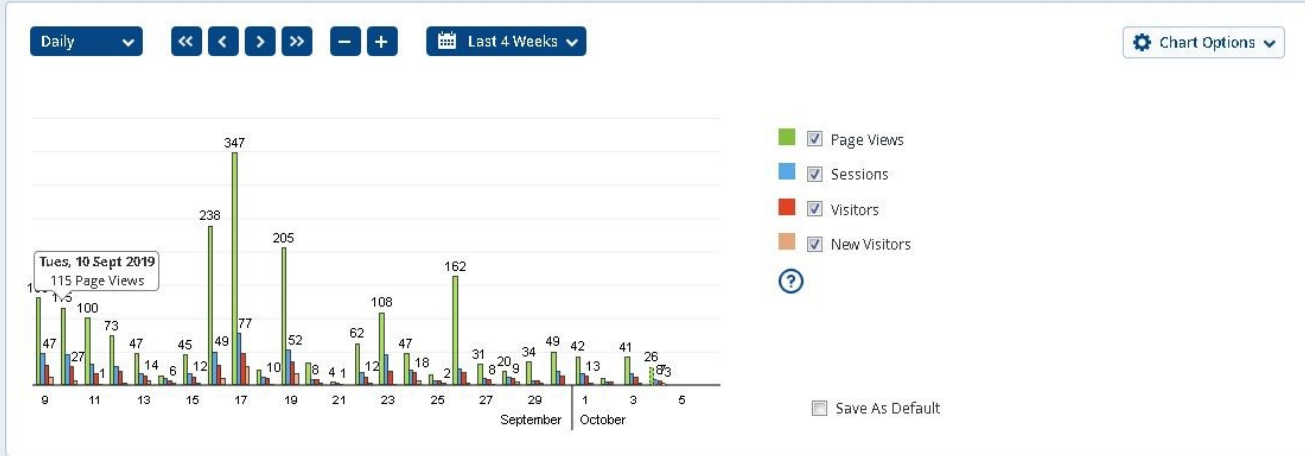
Website activity tracked includes visitor paths, page view activity, keyword activity, came from activity, download activity, exit link activity, and visitor location and number of sessions by page. Visitor activity tracked includes page views, exit date and time, visit length, resolution, operating system, total visits, location, IP address, referring URL and visit page.

Twenty-two participants in both sections of the Marketing Strategies course during Fall 2019 have executed a total of 424 downloads of marketing dss packages during the period from August 29 to October 1, 2019 (see exhibit 15). This activity has taken place during the first half (six quarterly decision periods) of competition. Online activity is expected to increase during the second half of the competition as we approach the submission deadlines for both the individual Strategic Market Plan (SMP) report and team presentation. Both final deliverables (individual report and team presentation) require the inclusion and explanation of the online strategic market planning and positioning graphics packages as well as the marketing dss packages used.

In addition, the navigation paths of individual visitors to the COMPETE Portal server website are tracked (see exhibit 16).

## EXHIBIT 13 Statcounter Statistics of COMPETE Server Website (4-Week Summary)

### Summary Stats ?



Average Daily Page Views	Average Daily Sessions	Average Daily Visitors	Average Daily New Visitors	<a href="#">Export</a>
<b>77.7</b>	<b>23.2</b>	<b>15.5</b>	<b>4.7</b>	
	Page Views	Sessions	Visitors	New Visitors
Fri, 4 Oct 2019	26	8	7	3
Thur, 3 Oct 2019	41	16	11	2
Wed, 2 Oct 2019	9	5	5	0
Tues, 1 Oct 2019	42	17	13	3
Mon, 30 Sept 2019	49	21	13	0
Sun, 29 Sept 2019	34	7	7	2
Sat, 28 Sept 2019	20	11	9	5
Fri, 27 Sept 2019	31	10	8	1
<b>Total</b>	<b>2,020</b>	<b>604</b>	<b>404</b>	<b>122</b>

**EXHIBIT 14**  
**Statcounter Statistics of COMPETE Server Website (4-Week Summary)**

<b>Statcounter Tracking of http://compete.hawaii.edu</b>					
<b>MKT 391(1 &amp; 2) - Marketing Strategies</b>					
<b>(N = 22 participants)</b>					
<b>Fall 2019</b>					
<b>Day</b>	<b>Date</b>	<b>PageViews</b>	<b>Sessions</b>	<b>Visitors</b>	<b>NewVisitors</b>
Monday	9/9/2019	130	47	30	12
Tuesday	9/10/2019	115	46	27	7
Wednesday	9/11/2019	100	31	17	1
Thursday	9/12/2019	73	28	20	3
Friday	9/13/2019	47	16	14	7
Saturday	9/14/2019	14	10	6	2
Sunday	9/15/2019	45	16	12	2
Monday	9/16/2019	238	49	30	10
Tuesday	9/17/2019	347	77	47	28
Wednesday	9/18/2019	23	11	10	1
Thursday	9/19/2019	205	52	34	16
Friday	9/20/2019	33	8	8	2
Saturday	9/21/2019	4	2	1	0
Sunday	9/22/2019	62	18	12	3
Monday	9/23/2019	108	45	20	1
Tuesday	9/24/2019	47	22	18	6
Wednesday	9/25/2019	15	7	7	2
Thursday	9/26/2019	162	24	18	3
Friday	9/27/2019	31	10	8	1
Saturday	9/28/2019	20	11	9	5
Sunday	9/29/2019	34	7	7	2
Monday	9/30/2019	49	21	13	0
Tuesday	10/1/2019	42	17	13	3
Wednesday	10/2/2019	9	5	5	0
Thursday	10/3/2019	41	16	11	2
Friday	10/4/2019	26	8	7	3
<b>4-Week Total</b>		<b>2020</b>	<b>604</b>	<b>404</b>	<b>122</b>

This example shows that the participant tracked visited the course website homepage, the weekly writing assignments webpage, the individual strategic market plan webpage, the COMPETE performance worksheets webpage, the COMPETE analysis worksheets webpage, and visited the breakeven analysis dss package, the Performance Profit analysis dss package, the cost of production dss analysis package, my ABSEL 2014 paper on profitability analysis, and the forecast error impact dss package at the times indicated on September 28 and 29, 2019.

Furthermore, the COMPETE Portal website activity of a single visitor is magnified and tracked (see exhibit 17). This example indicates that the user tracked on the COMPETE Portal website visited the Marketing Strategies course schedule webpage, the course homepage, the BCG product portfolio analysis webpage, the COMPETE performance worksheets webpage, the COMPETE analysis worksheets webpage, the SBU analysis webpage, the profitability analysis webpage, the weekly writing assignments webpage, and the individual SMP report webpage.

In summary, the open-ended responses to the online Phased Debriefing Survey indicate the students are positively disposed to the learning experience and assign substantial value to each of the four briefing/debriefing phases

All the above tracking exhibits indicate considerable student cognitive, affective and behavioral engagement out-of-class. In addition, timely submission of decisions and weekly writing assignments by the respective deadlines, near-perfect attendance, active participation in thinklets (small group discussion on problems posed by the instructor), continued discussion among groups at the end of each class period, team meetings with the instructor both in-class and out-of-class, in order to monitor, identify and resolve problems in performance, use of notebook computers, and giving and receiving constructive feedback provides clear evidence of value co-creation and active student engagement.

## **LIMITATIONS AND FUTURE DIRECTION**

Small class size precludes use of experimental design to test hypotheses on alternative treatments of the relationship between curricular engagement, academic engagement, learning and academic achievement. While the COMPETE Portal server log is limited strictly to the competing participant team logins, tracking on the COMPETE Portal website may include external traffic. Yet, external visitors to the COMPETE Portal are relatively few and can be identified by their location, IP numbers, and pages visited.

A hybrid student engagement survey based on (a) the Handelsman et al. (2005) student engagement classification (see exhibit 3) and factor structures of student course engagement questionnaire (see exhibit 4), as well as (b) the Burch et al. (2014) factor structure of Student Course Engagement Questionnaire (see exhibit 6) will be developed and deployed. Suggestions on the scales and survey instrument by the ABSEL membership are welcomed, as we strive to establish the value of experiential learning pedagogy at educational institutions.

## **CONCLUSION**

Based on a review of the engagement and experiential learning literature, this paper presents evidence of sustained (a) observed in-class skills (cognitive), emotional (affective), participation/interaction and performance (behavioral) engagement among competing simulation team members. Subjective and objective measures of in-class and out-of-class engagement at the individual-team- and class-levels are provided. In-class engagement measures include recorded levels of (a) attendance, (b) classroom focus and energy, (c) questions raised, (d) discussion quality, (e) decision support package usage, (f) team discussion and responses to thinklets (problems posed in class) using a problem-based learning approach, (g) group discussion with the professor to address sub-par performance concerns during scaffolding sessions at the end of each class period, (h) co-creation of value using the operand resources (marketing decision support packages) and student knowledge, skills and notebook computers (operand resources). Out-of-class engagement measures include (a) bi-weekly online decision entry and results retrieval, (b) graphics package usage, (c) weekly writing assignments, (d) server log statistics of daily, weekly, and semester team activity, (e) website tracking of visitor activity, visitor paths, page views, time spent, keywords used, marketing dss package downloads, exit pages, visitor location, and number of sessions by page, and (f) responses to an online student engagement survey on the value added to the learning experience by the initial, intermediate and final debriefing phases of the course.

Competing participant teams demonstrated heightened in-class engagement and motivation via near-perfect attendance, palpable classroom energy level, questions, active discussion, and usage of decision support packages. Sustained outside-class team engagement, captured via the simulation server log, correlated with team performance. In addition, sustained outside-class student engagement was captured via website tracking of visitor activity on simulation and course webpages, time spent, paths used, and download activity monitored during the semester. Further, peer-evaluated one-hour team presentations that demonstrate usage of the decision support packages, seven individual weekly writing assignments on sections of the individual Strategic Market Plan, and the one-hour team presentation, foster engagement and learning. Survey responses on the value of the initial-, intermediate- and final-simulation debriefing confirm that students are actively engaged.

The phased debriefing strategy enhances participant engagement early in the semester, and heightens interest, motivation, confidence and understanding among simulation participants. Given the significance of engagement, experiential learning and simulation debriefing, and the enhanced engagement and motivation of past and current participants that has resulted from recent use

**COMPETE Server Website (MKT dss Package Download Activity)  
Exhibit 15**

<b>MKT 391 (1&amp;2) - Marketing Strategies, Fall 2019</b>		
<b>COMPETE Portal Website (<a href="http://compete.hawaii.edu">http://compete.hawaii.edu</a>) Tracking MKT dss PackageDownload Activity</b>		
<b>424 Downloads from 8-29-19 to 10-1-19</b>		
<b>Date</b>	<b>Time</b>	<b>MKT dss Package Download</b>
10/1/2019	6:04:47	<a href="http://compete.hawaii.edu/asy/CAP/PROD1A.xls">http://compete.hawaii.edu/asy/CAP/PROD1A.xls</a>
10/1/2019	6:04:28	<a href="http://compete.hawaii.edu/asy/CAP/PROD1B.xls">http://compete.hawaii.edu/asy/CAP/PROD1B.xls</a>
10/1/2019	5:59:52	<a href="http://compete.hawaii.edu/asy/CAP/PROD1A.xls">http://compete.hawaii.edu/asy/CAP/PROD1A.xls</a>
10/1/2019	5:59:38	<a href="http://compete.hawaii.edu/asy/CAP/PROD2A.xls">http://compete.hawaii.edu/asy/CAP/PROD2A.xls</a>
10/1/2019	5:59:10	<a href="http://compete.hawaii.edu/asy/CAP/PROD3A.xls">http://compete.hawaii.edu/asy/CAP/PROD3A.xls</a>
9/29/2019	11:26:03	<a href="http://compete.hawaii.edu/asy/INNOVATE/Proforma 12.zip">http://compete.hawaii.edu/asy/INNOVATE/Proforma 12.zip</a>
9/29/2019	11:25:53	<a href="http://compete.hawaii.edu/asy/INNOVATE/Breakeven 12.zip">http://compete.hawaii.edu/asy/INNOVATE/Breakeven 12.zip</a>
9/29/2019	11:24:28	<a href="http://compete.hawaii.edu/asy/Perform/Profitability C.zip">http://compete.hawaii.edu/asy/Perform/Profitability C.zip</a>
9/29/2019	11:20:04	<a href="http://compete.hawaii.edu/asy/INNOVATE/Forecast Error Impact.zip">http://compete.hawaii.edu/asy/INNOVATE/Forecast Error Impact.zip</a>
9/29/2019	11:18:24	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip</a>
9/29/2019	11:18:18	<a href="http://compete.hawaii.edu/asy/INNOVATE/ABSEL 2014 Profitability Analysis.pdf">http://compete.hawaii.edu/asy/INNOVATE/ABSEL 2014 Profitability Analysis.pdf</a>
9/29/2019	11:16:21	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Cost of Production.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Cost of Production.zip</a>
9/29/2019	11:15:25	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip</a>
9/29/2019	11:11:34	<a href="http://compete.hawaii.edu/asy/INNOVATE/Breakeven 12.zip">http://compete.hawaii.edu/asy/INNOVATE/Breakeven 12.zip</a>
9/27/2019	13:53:07	<a href="http://compete.hawaii.edu/asy/INNOVATE/Sources and Uses of Cash.zip">http://compete.hawaii.edu/asy/INNOVATE/Sources and Uses of Cash.zip</a>
9/27/2019	13:51:04	<a href="http://compete.hawaii.edu/asy/INNOVATE/Mkt Mix 3.zip">http://compete.hawaii.edu/asy/INNOVATE/Mkt Mix 3.zip</a>
9/27/2019	13:47:56	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Market Share.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Market Share.zip</a>
9/27/2019	6:39:19	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip</a>
9/27/2019	6:38:17	<a href="http://compete.hawaii.edu/asy/INNOVATE/Proforma 2.zip">http://compete.hawaii.edu/asy/INNOVATE/Proforma 2.zip</a>
9/27/2019	6:35:51	<a href="http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 2.zip">http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 2.zip</a>
9/27/2019	6:34:37	<a href="http://compete.hawaii.edu/asy/INNOVATE/Forecast Error Impact.zip">http://compete.hawaii.edu/asy/INNOVATE/Forecast Error Impact.zip</a>
9/27/2019	6:34:33	<a href="http://compete.hawaii.edu/asy/INNOVATE/Forecast Error.zip">http://compete.hawaii.edu/asy/INNOVATE/Forecast Error.zip</a>
9/26/2019	13:13:09	<a href="http://compete.hawaii.edu/asy/INNOVATE/Forecast Error.zip">http://compete.hawaii.edu/asy/INNOVATE/Forecast Error.zip</a>
9/26/2019	12:51:20	<a href="http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip">http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip</a>
9/26/2019	12:48:10	<a href="http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip">http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip</a>
9/26/2019	11:43:22	<a href="http://compete.hawaii.edu/asy/INNOVATE/Forecast Error Impact.zip">http://compete.hawaii.edu/asy/INNOVATE/Forecast Error Impact.zip</a>
9/26/2019	11:40:24	<a href="http://compete.hawaii.edu/asy/INNOVATE/Forecast Error.zip">http://compete.hawaii.edu/asy/INNOVATE/Forecast Error.zip</a>
9/26/2019	11:31:52	<a href="http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip">http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip</a>
9/26/2019	11:31:45	<a href="http://compete.hawaii.edu/asy/INNOVATE/ABSEL 2009 SBU Analysis.pdf">http://compete.hawaii.edu/asy/INNOVATE/ABSEL 2009 SBU Analysis.pdf</a>
9/26/2019	11:31:23	<a href="http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip">http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip</a>
9/26/2019	11:30:23	<a href="http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 12.zip">http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 12.zip</a>
9/26/2019	11:28:50	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Market Share.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Market Share.zip</a>
9/26/2019	11:28:49	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Market Share.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Market Share.zip</a>
9/26/2019	11:28:43	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip</a>
9/26/2019	11:28:25	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip</a>
9/26/2019	11:28:20	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip</a>
9/26/2019	11:28:09	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip</a>
9/26/2019	11:28:07	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Market Share.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Market Share.zip</a>
9/26/2019	11:27:57	<a href="http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip">http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip</a>
9/26/2019	11:25:48	<a href="http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip">http://compete.hawaii.edu/asy/INNOVATE/Performance Profit.zip</a>
9/26/2019	11:24:55	<a href="http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip">http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip</a>
9/26/2019	11:24:47	<a href="http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip">http://compete.hawaii.edu/asy/INNOVATE/SBU Analysis 3.zip</a>

**COMPETE Server Website (Visitor Navigation Path)  
Exhibit 16**

## Navigation Path

Date	Time	WebPage
		(No referring link)
28 Sep	20:34:24	compete.hawaii.edu/aspy/mkt391.htm <a href="#">↗</a>
28 Sep	20:34:34	compete.hawaii.edu/aspy/mkt391.htm <a href="#">↗</a> compete.hawaii.edu/aspy/Mkt391ismp.htm#Weekly+Writing+Assignment <a href="#">↗</a>
28 Sep	20:45:00	(No referring link) compete.hawaii.edu/aspy/Mkt391ismp.htm#Weekly+Writing+Assignment <a href="#">↗</a>
29 Sep	11:10:39	(No referring link) compete.hawaii.edu/aspy/Mkt391ismp.htm#Weekly+Writing+Assignment <a href="#">↗</a>
29 Sep	11:10:43	compete.hawaii.edu/aspy/Mkt391ismp.htm <a href="#">↗</a> compete.hawaii.edu/aspy/Mkt391ismp.htm <a href="#">↗</a>
29 Sep	11:10:51	(No referring link) compete.hawaii.edu/aspy/mkt391.htm <a href="#">↗</a>
29 Sep	11:10:56	compete.hawaii.edu/aspy/mkt391.htm <a href="#">↗</a> compete.hawaii.edu/aspy/mkt391pw.htm <a href="#">↗</a>
29 Sep	11:11:03	(No referring link) compete.hawaii.edu/aspy/mkt391.htm <a href="#">↗</a>
29 Sep	11:11:05	compete.hawaii.edu/aspy/mkt391.htm <a href="#">↗</a> compete.hawaii.edu/aspy/mkt391aw.htm <a href="#">↗</a>
29 Sep	11:11:34	compete.hawaii.edu/aspy/INNOVATE/Breakeven+12.zip <b>(Download)</b> <a href="#">↗</a>
29 Sep	11:15:13	compete.hawaii.edu/imanalysis.asp <a href="#">↗</a> compete.hawaii.edu/aspy/mkt391pw.htm <a href="#">↗</a>
29 Sep	11:15:25	compete.hawaii.edu/aspy/INNOVATE/Performance+Profit.zip <b>(Download)</b> <a href="#">↗</a>
29 Sep	11:16:21	compete.hawaii.edu/aspy/INNOVATE/Performance+Cost+of+Production.zip <b>(Download)</b> <a href="#">↗</a>
29 Sep	11:18:18	compete.hawaii.edu/aspy/INNOVATE/ABSEL+2014+Profitability+Analysis.pdf <b>(Download)</b> <a href="#">↗</a>
29 Sep	11:18:24	compete.hawaii.edu/aspy/INNOVATE/Performance+Profit.zip <b>(Download)</b> <a href="#">↗</a>
29 Sep	11:19:58	compete.hawaii.edu/imanalysis.asp <a href="#">↗</a> compete.hawaii.edu/aspy/mkt391aw.htm <a href="#">↗</a>
29 Sep	11:20:04	compete.hawaii.edu/aspy/INNOVATE/Forecast+Error+Impact.zip <b>(Download)</b> <a href="#">↗</a> (No referring link)



**COMPETE Server Website (Visitor Page Navigation Tracking)  
Exhibit 17**

<b>MKT 391 (1&amp;2) - Marketing Strategies</b>			
<b>Fall 2019</b>			
<b>COMPETE Portal Website (<a href="http://compete.hawaii.edu">http://compete.hawaii.edu</a>) Visitor Page Magnification Tracking</b>			
<b>Date</b>	<b>Url</b>		
9/26/2019 11:24	<a href="http://compete.hawaii.edu/asp/mkt391cs.htm">http://compete.hawaii.edu/asp/mkt391cs.htm</a>		
9/26/2019 11:25	<a href="http://compete.hawaii.edu/asp/mkt391.htm">http://compete.hawaii.edu/asp/mkt391.htm</a>		
9/26/2019 11:25	<a href="http://compete.hawaii.edu/asp/ppagraph.htm">http://compete.hawaii.edu/asp/ppagraph.htm</a>		
9/26/2019 11:25	<a href="http://compete.hawaii.edu/asp/mkt391pw.htm">http://compete.hawaii.edu/asp/mkt391pw.htm</a>		
9/26/2019 11:26	<a href="http://compete.hawaii.edu/asp/mkt391aw.htm">http://compete.hawaii.edu/asp/mkt391aw.htm</a>		
9/26/2019 11:27			
9/26/2019 11:31			
9/27/2019 0:13	<a href="http://compete.hawaii.edu/asp/mkt391aw.htm#SBU Analysis">http://compete.hawaii.edu/asp/mkt391aw.htm#SBU Analysis</a>		
9/27/2019 13:52	<a href="http://compete.hawaii.edu/asp/mkt391aw.htm#SBU Analysis Guidelines">http://compete.hawaii.edu/asp/mkt391aw.htm#SBU Analysis Guidelines</a>		
9/27/2019 13:52	<a href="http://compete.hawaii.edu/asp/mkt391cs.htm">http://compete.hawaii.edu/asp/mkt391cs.htm</a>		
9/27/2019 13:53	<a href="http://compete.hawaii.edu/asp/mkt391ca.htm">http://compete.hawaii.edu/asp/mkt391ca.htm</a>		
9/27/2019 13:53	<a href="http://compete.hawaii.edu/asp/mkt391aw.htm">http://compete.hawaii.edu/asp/mkt391aw.htm</a>		
9/28/2019 12:49	<a href="http://compete.hawaii.edu/asp/mkt391pw.htm#Profitability Analysis">http://compete.hawaii.edu/asp/mkt391pw.htm#Profitability Analysis</a>		
9/28/2019 12:49	<a href="http://compete.hawaii.edu/asp/mkt391ismp.htm#Weekly Writing Assignment">http://compete.hawaii.edu/asp/mkt391ismp.htm#Weekly Writing Assignment</a>		
10/2/2019 15:22	<a href="http://compete.hawaii.edu/asp/Mkt391ismp.htm">http://compete.hawaii.edu/asp/Mkt391ismp.htm</a>		

of the phased debriefing process, ABSEL may wish to refocus on improving and streamlining the simulation debriefing process. A best-practices simulation debriefing workshop, and/or an ABSEL Simulation Competition during which ABSEL member participants explore and evaluate alternative debriefing strategies, may help in this regard. Alternative proposed debriefing processes can be tested and evaluated, and suggestions for improvement provided.

Given that the AACSB International bases for evaluating student engagement, when reviewing business school accreditation applications, include (a) students give the appropriate attention and dedication to the learning materials, and (b) maintain their engagement with these materials even when challenged by difficult learning activities, as well as (c) the curricula include approaches that actively engage and include all students in learning, and their recognition that (d) pedagogical approaches suitable for challenging students in this way include problem-based learning projects and simulations (AACSB International, 2013), ABSEL can play a leading role in developing new approaches to foster and enhance student engagement.

Finally, as AACSB International recommends that educational institutions applying for accreditation document (a) curricula approaches that actively engage and include students in academic learning, and (b) outcomes of the learning process in the form of projects, papers, presentation, examination performances, and other demonstrations of learning, in order to demonstrate clear evidence of active student engagement in learning (AACSB International 2013), ABSEL can play a leading role in developing new approaches to measure and document academic engagement and learning outcomes.

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