Enhancing Student Learning in Marketing Courses: An Exploration of Fundamental Principles for Website Platforms

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Abstract

The design of a course has potential to help marketing students achieve their learning objectives. Marketing courses are increasingly turning to technology to facilitate teaching and learning, and pedagogical tools such as Blackboard, WebCT, and e-Learning Commons are essential to the design of a course. Here, the authors investigate the research discussing the sources of satisfaction in web design and apply these concepts to website platforms used in traditional classes. The purpose of the study is to enhance student learning by identifying fundamental principles to be used when designing website platforms. Our study includes in-depth interviews with graduate and undergraduate students. Among both student groups, our analysis reveals five fundamental pedagogical principles for enhancing student learning through the use of technology: (a) student-to-student connectivity, (b) instructor-to-student interactivity, (c) goal efficiency, (d) quality content, and (e) student appeal. The authors discuss the importance of the presence of the five pedagogical principles and offer useful implications for marketing faculty and suggestions for future research.

Keywords

website platforms, classroom technology, marketing courses, student satisfaction, learning

Pedagogical innovation through the use of technology has the potential to increase student engagement, collaboration, flexibility, and learning (Granitz & Hugstad, 2004; Neill & Etheridge, 2008). As predicted by Celsi and Wolfinbarger (2002), marketing education has moved through three stages of technological pedagogy, and is currently in its third stage, characterized by unique technological applications that extend the classroom to become a more current, active, and interactive learning environment. Research illustrates how technology can support and augment traditional classroom teaching and improve learning through the use of random selection technology tools (Allred & Swenson, 2006), new communication tools (Neilson, 2009), netnographic research applications (O'Reilly, Rahinel, Foster, & Patterson, 2007), bar code technology (Kaplan, Piskin, & Bol, 2010), blogging (Sprague & Dahl, 2010), podcasting (Zahay & Fredricks, 2009), and clicker technology (Jae & Cowling, 2008). Our study seeks to extend previous research by exploring the role of web design for pedagogical tools such as Blackboard, WebCT, and e-Learning Commons (hereafter referred to as website platforms). Students rate both their competency and perceived learning higher when web-based instructional tools are integrated into marketing courses (Strauss & Hill, 2007).

For marketing faculty, it is important to understand how website platforms should be designed as research shows that

the delivery of marketing education is rapidly shifting toward a pedagogy rich in experiential learning and strongly supported with educational technology (Young, Klemz, & Murphy, 2003). Research suggests that faculty should shift their teaching style from a teacher-centered paradigm to a learner-centered paradigm to promote student satisfaction when using technology (Chang & Smith, 2008; Rogers, Finley, & Patterson, 2006). Studies show that student satisfaction is directly related to learning outcomes (Gunawardena, Linder-VanBerschot, LaPointe, & Rao, 2010) and, more important, that learning is hindered when satisfaction is not present (Biner, Dean, & Mellinger, 1994). The purpose of our study is to enhance student learning by identifying fundamental principles to be used when designing website platforms. Our aim is that the principles identified in this study will help faculty deliver more satisfying experiences by maximizing student learning through the use of website platforms. Our research questions include the following: (a) What design

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features contribute to satisfaction when using website platforms in traditional classrooms? (b) How can website platforms be used to improve student learning? (c) What are the implications for marketing faculty?

To address our research questions, we integrate e-marketing concepts derived from the web design literature to better understand the design of website platforms. For customers, the design of a website enhances service delivery options, customer attraction, word-of-mouth marketing, communication exchanges, and transaction services (Song & Zinkhan, 2008). In addition, web design is considered an important factor contributing to site quality (Wolfinbarger & Gilly, 2003) satisfaction (Evanschitzky, Iyer, Hessea, & Ahlerta, 2004; Szymanski & Hise, 2000), e-loyalty (Srinivasan, Anderson, & Ponnavolu, 2002), and repeat visits (Palmer, 2002). Research examines web design as an antecedent of various website objectives (e.g., generating repurchase, creating and reinforcing positive images, enhancing loyalty) and as a measure of website quality. For example, a well-organized layout is an antecedent of site satisfaction or repurchase intention (Evanschitzky et al., 2004) and easy navigation is an important design feature stimulating customers' positive attitude toward a website (Childers, Carr, Peck, & Carson, 2001). Website design has the potential to stimulate positive reactions from customers (Childers et al., 2001; Eroglu, Machleit, & Davis, 2003; Koernig, 2003; Mathwick, Malhotra, & Rigdon, 2001; Vilnai-Yavetz & Rafaeli, 2006), and we posit that website platforms may have similar attributes in terms of engaging students and stimulating positive learning experiences.

Our study organizes the research on web design according to Bitner, Brown, and Meuter's (2000) sources of satisfaction when using technology: (a) customization and flexibility, (b) effective service recovery, and (c) spontaneous delight. Researchers have found that viewing students as customers and guaranteeing their satisfaction with regard to their course-learning experiences has positive outcomes (Conant, Brown, & Mokwa, 1985; McCollough & Gremler, 1999). Research suggests, when students enroll in a course, fulfilled student expectations predict student satisfaction (Appleton-Knapp & Krentler, 2006). Therefore, Bitner et al.'s (2000) sources of satisfaction make an excellent framework for evaluating website platforms since it is based on customer expectations and corresponding satisfaction in web-based service encounters.

During our review of the literature, we identified an additional source of satisfaction: trust. According to El-Khatib, Korba, Xu, and Yee (2003), student trust in online instruction has largely been ignored; privacy and security issues are important for students and should be an integral part of ensuring satisfaction when using e-learning technologies. In addition, one of the major drawbacks for website platform usage is technology failure and this is directly related to trust (Chang & Smith, 2008). In online collaborative environments, there must be a level of trust with the technology being used (Lee, 2010), as well as a general positive attitude related to trust in

order for students to work effectively and efficiently with one another (Smith, 2008). Other researchers also found trust is related to the student's ability to learn in a technology-mediated setting (Lin, Chiu, Joe, & Tsai, 2010), and therefore, we add trust to our framework when investigating website platform usage in courses.

We develop a conceptual model that links fundamental pedagogical design principles (stimuli) to sources of satisfaction (cognitive and affective responses) and then to overall learning (outcome). Student satisfaction is indicative of successful courses and should be taken into account to achieve learning objectives (Bharadwaj, Futrell, & Kantak, 1993; Chang & Smith, 2008). Therefore, we relate satisfaction to learning as studies show that when perceived learning objectives are met, students report higher levels of satisfaction (Arbaugh & Duray, 2002; Maki & Maki, 2003).

We begin with a review of the sources of satisfaction for web design and follow with the method which includes in-depth interviews with 54 students. Using insights derived from the data, we present a model linking pedagogical design principles, sources of satisfaction, and learning. We discuss our findings and offer implications for marketing faculty.

Sources of Satisfaction for Web Design

Prior studies have applied e-marketing strategies to the implementation of online distance learning (Granitz & Greene, 2003) and, here, we review web design literatures to better understand design principles for website platforms. We use Bitner et al.'s (2000) sources of satisfaction with our addition of trust to organize the literature.

Customization and Flexibility

Customization and flexibility represent a service provider's ability to define the service more clearly and deliver it in a manner that offers consumers more personalized options (Bitner et al., 2000). Similarly, students appreciate a flexible course structure and customized features which can be adjusted and adapted to fit students' individual needs (Neill & Etheridge, 2008). The rapid development of information and communication technologies enables faculty to provide customized course offerings to suit individual student needs. Customized services are important in industry. For example, Amazon.com and Netflix provide personalized recommendations based on customers' past searches or purchase history. Other services allow customers to shape or design their own products including jewelry, bicycles, or shoes (Thomke & von Hippel, 2002). Example design features discussed in prior studies include search functions, site maps, link structures, speed, navigation, layout, personalized functions, and site structure. These same design features can be applied to designing web-based pedagogical tools.

Effective Service Recovery

Service recovery refers to the actions of a service provider in response to a service failure. When failures occur, customers demand and expect effective service recovery (Bitner et al., 2000). In some instances, successful service recoveries result in high customer satisfaction (Bitner, Booms, & Tetreault, 1990). Regarding course design, emerging technology can facilitate effective and immediate service recovery by involving students in service recovery efforts. Students may have suggestions or feedback which may lead to effective recovery (Swanson & Davis, 2000). Likewise, in industry, companies are involving customers in service recovery. For example, Dell involves customers in identifying service failures and solving service problems through the company website. Interactive web designs motivate customers to use the technology to recover services independently (Meuter, Ostrom, Roundtree, & Bitner, 2000). Design features that support effective service recovery include the following: customized information presentation, feedback functions, presentation style, content quality, and communication interface (e.g., chat room).

Spontaneous Delight

Firms can achieve effective e-service encounters by providing customers with unexpected, pleasing experiences. According to Bitner et al. (2000), these pleasant surprises can result in "spontaneous delight." Similarly, Mendelsohn (1966), who proposes mass entertainment theory, argues that television and other mass media perform a vital social function in terms of relaxing, entertaining, and delighting users. Finding unexpected sources of entertainment via the Internet is important in satisfying users. For example, Budweiser uses pictures and sounds that reinforce its renowned, humorous ads. When clicking on certain icons, a customer will be reminded of the singing Budweiser frogs. Marketing courses can provide hedonic pleasures such as fun, excitement, and playfulness through the use of blogging (Kaplan et al., 2010), netnographic research projects (O'Reilly et al., 2007), podcasting (Zahay & Fredricks, 2009), or other innovative forms of media which engage students. Example design features identified in the extant literature include attractive appearance, the use of audio and visual experiences, multimedia features, look-and-feel enhancements, colorful/creative designs, and the use of good graphics.

Trust

In reviewing the literature related to e-service encounters, a fourth source of satisfaction emerged: trust. According to El-Khatib et al. (2003), student trust in online instruction is given little attention; yet trust is an integral part of ensuring student satisfaction and learning. There are a number of existing trust-enhancing technologies including methods for network privacy, policy-based privacy/security management, and trust systems (see, El-Khatib et al., 2003). Trust leads to positive attitudes and behavioral intentions toward the website (Chen & Dibb, 2010). In a marketing context, trust refers to a customer's psychological state and "intentions to accept vulnerability" (Bart, Shankar, Sultan, & Urban, 2005; Schlosser, White, & Lloyd, 2006). Similarly, students must accept vulnerability by turning in assignments via the website platform versus turning in a hard copy during class or by chatting online with the instructor versus chatting in person after class. In an online environment, the object of trust is the website, the Internet, or the technology. The object of trust, as defined in this research, is the students' trust in the website platform used in the classroom. Website platform features such as privacy statements, a security seal, and a point of contact reinforce trust in the technology.

Furthermore, students' trust is strengthened when reassured that the instructor is knowledgeable in using the website platform (Abdous & Yen, 2010; Paechter, Maier, & Macher, 2010). For example, if a student submits an assignment via the website platform, will the instructor receive the assignment? Will the instructor be able to view the assignment? Will feedback be given on the assignment? Such questions stem from trust in the usability and reliability of the website platform.

This synthesis has summarized four sources of satisfaction in web design: (a) customization and flexibility, (b) effective service recovery, (c) spontaneous delight, and (d) trust. Next, we seek to identify web design principles that can be applied to website platforms to enhance student satisfaction and learning. In the following section, we describe our methodology.

Method

Interviews were conducted with 32 undergraduate and 22 graduate students at an AACSB (the Association to Advance Collegiate Schools of Business)–accredited university in the southeastern United States. Students were invited to participate in the study if they had used a website platform for a course during the most recent semester (e.g., interviewed during spring semester to discuss the preceding fall semester). All participants were business majors, 21 female and 33 male, ranging in age from 20 to 30 years. Thirty-eight of the participants were Caucasian, while 7 were African American, 5 were Asian, and 4 were of Hispanic descent. Participation was voluntary and all students were assured of anonymity. Volunteers for the study were recruited by instructors in marketing classes and through flyers posted in classrooms and on bulletin boards.

Data collection followed qualitative techniques outlined by prior studies (Hudson & Ozanne, 1988; Spiggle, 1994). We identified multiple sources of evidence from both graduate and undergraduate students. Throughout, our focus remained

on students' attitudes toward pedagogical technology tools. We investigated website platforms used in traditional classroom settings. We primarily discussed applications of e-Learning Commons (eLC; since this is the website platform supported by the university where students were interviewed); however, Blackboard and WebCT were also discussed on occasion. The interviews were characterized by a conversational quality in which the course of the interview dialogue was set largely by the participant. Interview questions for undergraduate students focused on a marketing course required for all business majors and/or marketing research and consumer behavior courses required for all marketing majors. For graduate students, interview questions focused on consumer behavior and marketing research courses. Interviews began with broad exploratory inquiries. These included the following: Tell me about the marketing course you took last semester where you used eLC, describe the website platform features that helped you learn the course material, Were you satisfied with the course and what role did the website platform play in terms of your level of satisfaction?, If you could change design features for the website platform, what would you change? As interviews progressed, more specific questions were asked such as the following: What specific things did your instructor do to make you feel comfortable using eLC? and How did you communicate with group members about group projects for the course?

We created a database of information and maintained a chain of evidence via ATLAS, a computer software program that simplified the process of organizing the data. We used an "emergent design" (Arnould & Price, 1993), in which "succeeding methodological steps are based on the steps already taken and imply the presence of a continuously interacting and interpreting investigator" (Price, Arnould, & Tierney, 1995, p. 88). We were involved in every part of the data collection process. In all, the study incorporated 22 months of interviewing. Data collection resulted in more than 900 pages of single-spaced text. Interviews lasting from 30 to 90 minutes in length were audiotaped and transcribed verbatim.

Data Analysis

We systematically compared interviews using an iterative process where preceding operations shape subsequent ones. "Iteration implies that investigators do not perform specific research stages in a sequential manner but move back and forth between stages" (Spiggle, 1994, p. 495). We tacked back and forth between theory (sources of satisfaction framework) and data analysis (interview transcripts). This process allowed us to identify five pedagogical design principles that contribute to the four sources of satisfaction. Table 1 is a summary of the results of our research.

Five design principles emerged through the course of specifying relationships and delineating core categories. We continued to group narrative data into core categories to account

for all the interviews. All narrative data were categorized and coded according to the five higher order principles, and through the process of grouping the data, no new categories emerged. As suggested by Spiggle (1994), coding involves moving to a higher level of abstraction and as such, we were able to delineate five principles (core categories) "around which the other categories and constructs revolve and that relates them to one another" (p. 495).

The use of ATLAS provided a means for the researchers to collaborate in coding and categorizing the data, and to compare insights between cases and across cases. To strengthen the validity of our findings, we conducted follow-up interviews with four undergraduate and two graduate students and found consensual validation. During the follow-up interviews, no new insights surfaced. We proceed by discussing the five design principles that emerged from our data analysis. We integrate direct quotes from our participants to illustrate core concepts.

Findings

We identified five web design principles when using pedagogical technology tools in marketing courses: (a) student-to-student (S2S) connectivity, (b) instructor-to-student (I2S) interactivity, (c) goal efficiency, (d) quality content, and (e) student appeal. Figure 1 illustrates how the five principles identified in this study contribute to the sources of satisfaction identified in Bitner et al.'s (2000) study. In Figure 1, we illustrate pedagogical technology principles that affect sources of satisfaction in marketing courses and, ultimately, learning among students.

All five principles were discussed by both graduate and undergraduate students. Table 2 illustrates a few subtle differences among the two groups of students. For graduate students, I2S interactivity, goal efficiency, and student appeal are discussed by every member. Whereas, every member of the undergraduate student sample discussed S2S connectivity, goal efficiency, and student appeal. The frequency of codes for each principle (including both graduate and undergraduates) demonstrates that S2S connectivity, I2S connectivity, and student appeal are discussed most often by participants overall. Here, we proceed to discuss the five principles by integrating direct quotes from our participants.

Pedagogical Design Principle 1: Student-to-Student Connectivity

Student-to-student or S2S connectivity refers to mechanisms or web tools that facilitate S2S communication about concepts discussed in the marketing course (e.g., student feedback, questions, recommendations). Students rely on S2S connectivity because it reduces the perceived threat of poor performance in the course. The most common S2S connectivity tool discussed by our participants was online discussion forums.

Table 1. Sources of Satisfaction and Example Design Features

Sources of Satisfaction	Examples of Specific Design Features Discussed by Participants	Related Web Design Literature	Emergent Design Principles
Design features that support customization and flexibility	Flexible course structure and customized features, search function, site map, customized calendars, link structure, speed, navigation, personalized functions (ability to upload personal pictures, create personal contact list), simple layout, well-organized design, structure for course assignments and activities, create and change/update list of assignments	Barnes and Vidgen (2001), Aladwani and Palvia (2002), Lynch, Kent, and Srinivasan (2001), McKinney, Yoon, and Zahedi (2002), Kim, Lee, Han, and Lee (2002), Wolfinbarger and Gilly (2003), Szymanski and Hise (2000), Liu and Arnett (2000), Huizingh (2000), Childers et al. (2001), Ranganathan and Ganapathy (2002), Palmer (2002)	Student-to-student (S2S) connectivity, instructor-to-student (I2S) interactivity, goal efficiency, quality content, student appeal
Design features that support service recovery	Customized information presentation, timely feedback functions, communication interface (e.g., chat room), continuous updates when experiencing technical difficulties, Establish a plan for students if the website platform is down	Kim et al. (2002), Liu and Arnett (2000), Huizingh (2000), Palmer (2002), Song and Zinkhan (2008)	S2S connectivity, I2S interactivity, quality content, student appeal
Design features that support spontaneous delight	Aesthetics (attractive appearance, audiovisual experience), multimedia features, look-and-feel, colorful and creative design, use of good pictures, blogging, live chat sessions	Barnes and Vidgen (2001), Aladwani and Palvia (2002), Huizingh (2000), Ranganathan and Ganapathy (2002)	S2S connectivity, I2S interactivity, student appeal
Design features that support trust	Timely responses to questions/comments, confirmation e-mails when assignments are submitted, privacy statement, security seal, site structure, menu/link system, contact us (if experiencing problems), third-party certification	Pan and Zinkhan (2006), Gefen, Karahanna, and Straub (2003), McKnight, Cummings, and Chervany (1998)	I2S interactivity, goal efficiency, quality content
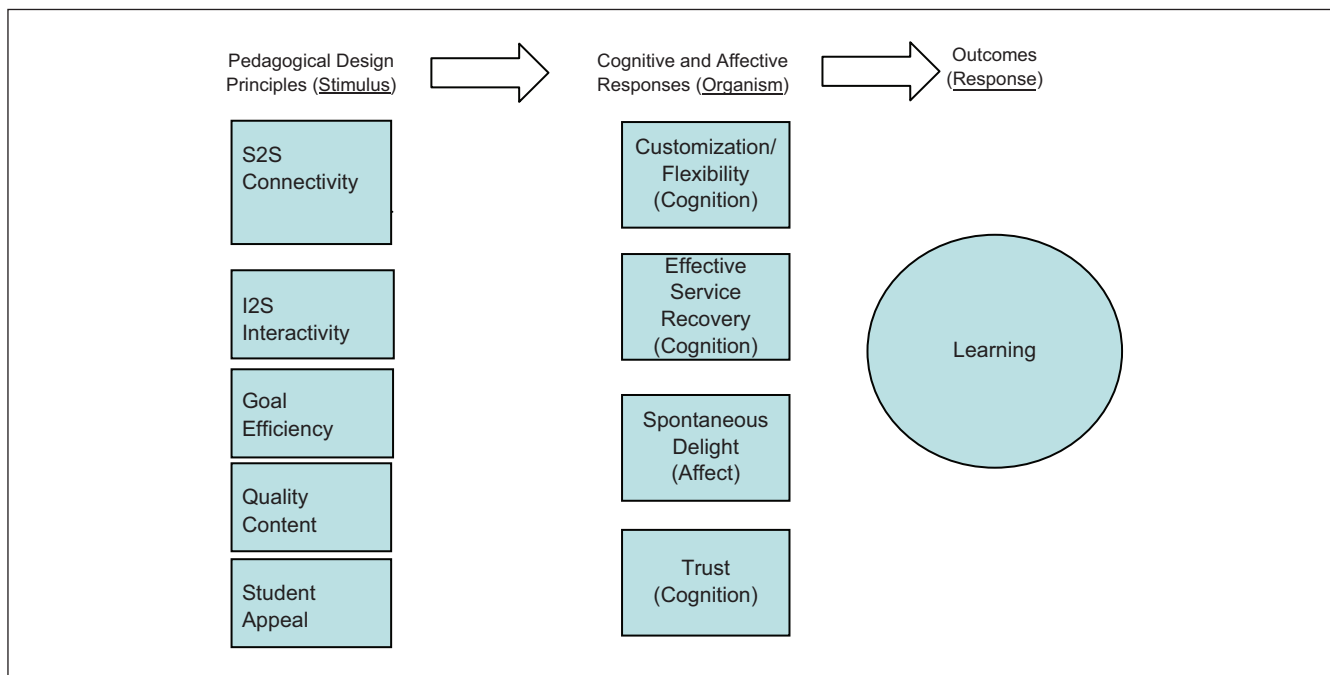
Figure 1. Conceptual model for enhancing student learning through the use of website platforms
Note: S2S = student-to-student; I2S = instructor-to-student.

Table 2. Number of Participants Who Discussed Each Principle During In-Depth Interviews and Frequency of Narrative Codes

Pedagogical Principle	Graduate Students	Undergraduate Students	Frequency of Codes
Student-to-student connectivity	20	32	624
Instructor-to-student interactivity	22	29	561
Goal efficiency	22	32	468
Quality content	19	30	441
Student appeal	22	32	540

Note: *N* = Fifty-four students at a large public university (22 graduate students and 32 undergraduate students).

Other forms of S2S connectivity may include student blogs, e-mail, roster contact information, live chats with other students, and assigned discussion groups. Our findings suggest that as website platforms allow students to integrate their own personal technologies, adoption and regular usage are more likely. For example, when students can set their course e-mails to forward to their personal e-mail accounts, they are more likely to routinely check e-mails and be more responsive. Likewise, when website platforms can be set to interface with texting, students will interact more frequently. In addition, when virtual calendars or updates are set to interface with smartphones, students are more likely to use such features.

S2S connectivity tools are growing in importance for students and website platforms will be used more frequently when specific features are compatible with the technologies that students are already using. Participants in this study conveyed that they rely on student feedback for understanding course materials, completing assignments, and preparing for exams. When website platforms are not user-friendly or compatible with personal technologies (e.g., texting, personal e-mail), students create their own means for communicating with peers outside class. For example, one group of students interviewed in this study created their own discussion group via Yahoo and another group said they used Facebook to communicate. In both cases, students sought an alternative means for communication due to the inconvenience and inaptness of the website platform used for the class. This is illustrative of the importance of S2S connectivity and the need for website platforms to be user-friendly and current with the technologies students use. It is clear from our research that students value feedback from their peers and, for several students, S2S connectivity is more powerful and influential than face-to-face communication:

> I like to connect with other students in preparing for exams. I really learn a lot through the online discussion forums. Questions that I have not thought of get discussed online. It really helps me integrate the material and get a macro view of things. (Graduate student, F, 26)

The online discussions are important for me because I don't always feel comfortable asking questions in class. But in an online setting it is not as intimidating. I can talk about my ideas or express my opinions and I don't feel like other students will judge me. The online environment gives me a sense of freedom that I don't have in the classroom. (Undergraduate student, F, 21)

By offering new ways to learn about course concepts via discussion outside the classroom, faculty can positively influence students' learning experiences. As stated above, students may feel more comfortable and "free" to discuss their idea and opinions in an online context. Students who use technology to communicate with friends and relatives on a daily basis may also find discussion about course topics more intriguing in an online context:

> I think discussing my ideas in an online discussion forum really helps me grasp the big picture. Sometimes I get bored just sitting in class and discussing things, but when we have access to an online discussion forum I'm more likely to sit and reflect on ideas. I can discuss the course from any location when it's online. I can be sitting in a coffee house or waiting on the bus and I can engage in discussion. It just seems more interesting to me when ideas are presented to me in that kind of format. (Undergraduate student, M, 20)

Faculty may be reluctant to include S2S connectivity tools as they empower students, and faculty may feel they have less control over how the content is perceived and understood. However, offering students S2S options outside the classroom will engage students and enable them to learn from the experiences of others. When instructors include S2S connectivity as part of the overall design for a course, it will likely increase the time students spend on course work outside the classroom. With the use of smartphones, students have continuous access and connectivity. By embracing new technologies, instructors can be creative and engage students in innovative ways.

Pedagogical Design Principle 2: Instructor-to-Student Interactivity

We define instructor-to-student or I2S interactivity as reciprocal communication between both parties. Our findings suggest that it is important for students to feel that they have easy access to the instructor throughout the duration of a course. Having access to the instructor provides students with a sense of stability. However, reciprocal communication does not need to resemble a dyadic relationship. Communication can involve the instructor using technology to interact with student groups or the class as a whole. The important aspects for faculty to consider are accessibility and ongoing interaction as noted below:

> When the instructor is available outside the classroom, it makes me feel like she feels I am important. I don't really want an office meeting. I'd rather just converse by email or IM. When instructors do that, I think they have a real connection with students. Being available to converse about ideas even through the online discussion boards is cool. It gives me an appreciation for the instructor. (Undergraduate student, F, 21)

When instructors have more information about their students, instructors can tailor their efforts to the interests and prior knowledge levels of the class. For example, class discussions in an online forum can become an integral part of the course work, and instructor accessibility may focus on participating in or monitoring online discussions:

> I had a course where the instructor regularly jumped in and talked with us about topics posted on the discussion board. I thought it was really neat that he cared about what we (the students) were talking about outside of class. And many times he would bring up the things we discussed on the discussion board in class. It just made the class more interesting because everyone was involved. (Undergraduate student, F, 20)

> Instructors that make an effort to communicate with the class on a regular basis whether it is by posting announcements or sending out reminders helps me feel organized and in control. It motivates me to stay on top of my assignments when I'm sent reminders about course assignments or upcoming due dates. (Graduate student, M, 27)

Feedback functions are features that facilitate I2S reciprocal communication (e.g., e-mail, chat room, bulletin board, Skype). In our study, participants emphasized the importance of supplying students with a primary means for contacting the instructor. "I like when instructors give me the best way to reach them" (Undergraduate student, M, 20). Our findings suggest that when instructors are interactive with students, the interactivity enhances student engagement and interest in the course. As students continue to interact with the instructor, the ongoing interactions will likely increase commitment to the course.

Pedagogical Design Principle 3: Goal Efficiency

Efficiency is the third principle and is defined as the relation between (a) the accuracy and completeness with which students achieve certain goals and (b) the resources expended to achieve those goals (Teo, Oh, Liu, & Wei, 2003). Even though pedagogical technological tools may provide functions that students need, students will not achieve efficiency unless those functions are also easy to use (Goodwin, 1987) and working properly:

> It is so frustrating when I'm not able to find an article or assignment that is supposed to be posted on eLC. And it is even more frustrating when I have trouble submitting assignments. (Graduate student, F, 28)

> The course should be set up so that it is simple and easy to find the materials needed to do the assignments. I have had courses in the past where the instructor seemed to post things on WebCT randomly. Some things were online and others were not. We (the students) never knew where to find things. (Undergraduate student, M, 19)

Participants used the following terms to describe efficient pedagogical technological tools: *easy to use*, *easy to submit assignments*, *easy to contact the instructor*, *ease of navigation*, *organized course design*, and *freedom from malfunction*. According to the technology acceptance model (Davis, 1989), perceived usefulness and ease of use are important predictors of system use. Therefore, it is important to design website platforms that have useful information for students, easy navigation, and simplified organization.

Research shows that increasing the level of interface consistency in a computer system or website results in reduction of task completion time and errors, and subsequently increases user satisfaction (Nielsen, 1993; Ozok & Salvendy, 2000; Tanaka, Eberts, & Salvendy, 1991). According to our participants, in order to enhance learning experiences, the website platform needs to be designed in a manner "that adds value to the course as a whole and supports students efforts" (Graduate student, F, 26). Efficient website platforms allow for easy navigation, provide organization or categorization of content, and minimize the amount of time students expend on searching for information.

Pedagogical Design Principle 4: Quality Content

Quality content refers to the accuracy and validity of a course's content. Quality content is the extent to which the information on a website is perceived as (a) valid and (b) dependable (Parasuraman, Zeithaml, & Berry, 1985). According to the framing theory (Puto, 1987), decision making is influenced by how something is presented ("framed"). Examples of framing techniques include the uses of metaphor, stories, slogans, catchphrases, and contrast. Similarly, when pedagogical technology tools are designed using vivid, memorable, and familiar contexts, the framing of the material influences students' thoughts, emotions, and behaviors:

> I really like how my instructor used eLC to get students involved. The content discussed on eLC was always relevant to the lecture given that week and, because it was relevant I was motivated to log on and check it out every week. I go back and read lots of posts even when it's just for fun because I can relate to other classmates' stories or experiences. I feel like I get to know my classmates on a whole new level and it adds to my overall enjoyment of the class. (Graduate student, M, 31)

> Using eLC should be beneficial for students. Some instructors use eLC just because they think they should and it just seems like just another task to do. I am most benefited when instructors really use eLC to enhance the course work and the information found there makes sense to me. I also like the inspirational quotes that one professor posts every day. It motivates me to log on every day. (Undergraduate student, F, 21)

Participants stated during interviews that their primary reasons for using pedagogical technology tools are for in-depth understanding, information search, and exchange of ideas. According to our participants, the importance of including technology in marketing courses is derived from a subjective, contextual perspective. Information has value when it meets a specific need. In other words, the integration of technology needs to be seamless from the students' perspective. Information does not have inherent value merely by existing on an eLC course site. It is the usefulness of the information and the way in which it affects the student that produces value.

Pedagogical Design Principle 5: Student Appeal

Our fifth principle of student appeal refers to the presentation, attractiveness, and display consistency of a website platform. This principle is related to the visual experience of using platforms such as Blackboard, WebCT, or eLC. Information presentation is defined as the extent to which text and writing style are readable, logical, and concise enough to inform students properly of course contents (Nielsen, 2000). Participants used the following terms to describe how information should be presented: *use good writing style*, *make information readable*, *use a logical order*, *provide concise information*, and *avoid redundancy*. According to our participants, students are concerned with the way in which information is conveyed:

> One time my professor misspelled a word on a post and it made me think he was in a hurry and did not really want to respond to my question on the discussion forum. (Undergraduate student, F, 19)

> Instructors should consider the look of their online courses. It gives students an impression of the course and an impression of the instructor. (Graduate student, F, 23)

The concern for the manner in which information is transmitted is expressed in the information presentation concept. According to Nielsen and Tahir (2002), web designers should develop or revise content specifically for web use and involve real users in the design process. To make web pages readable, businesses and organizations need to consider not only how users read the content of a page but also with which languages, fonts, and colors users are most familiar. Similarly, students desire appealing features and can be involved in the design process:

> My instructor involved us in the design of the eLC site and it made students more interested in the course and it made us want to go to the eLC site. (Graduate student, M, 24)

> I had a marketing course that was really fun and it was also reflected through WebCT as a fun course because the colors were bright and cheerful. (Undergraduate student, M, 20)

Using the notions of simplicity (Pothos & Chater, 2002), people learn concepts or categories by inducing the simplest category consistent with a given example object. In other words, it is much easier to understand the information that is organized under a single theme. In many cases, students can become confused with too much information on a single page. Therefore, using a limited number of links and information, and/or categorizing the information in a user-friendly format helps students understand and navigate through the contents on website platforms.

Discussion

Drawing on insights revealed through web design literatures and in-depth interviews with both graduate and undergraduate

students, data analysis revealed five fundamental pedagogical technology principles that enhance student learning: (a) S2S connectivity, (b) I2S interactivity, (c) goal efficiency, (d) quality content, and (e) student appeal. The five principles identified in this study can help marketing faculty create a rich learning experience for students by increasing satisfaction and learning (see Figure 1). Our findings extend prior research by providing faculty with a practical guide when using website platforms, as prior research has shown that student satisfaction is an antecedent to learning outcomes (Gunawardena et al., 2010). Our study is unique in that we apply web design and Bitner et al.'s (2000) sources of satisfaction to designing website platforms. We view students as customers using technology in a service encounter. Studies show that viewing students as customers results in positive learning outcomes (Conant et al., 1985; McCollough & Gremler, 1999).

In addition, our study examined website platforms used in traditional courses. To date, most studies that address website platform usage are situated in a context where the course is delivered fully online. Our study shows that although a website platform is used in a blended course where students get some interaction with faculty, blended courses are not exempt from the same drawbacks noted in distance education (e.g., deficient I2S and S2S interactions, technology failures, lack of clear goals and objectives). In both cases, faculty must adopt a learner-centered paradigm to facilitate better learning environments and promote student satisfaction. For blended courses, as well as fully online courses, the design of website platforms play a critical role in engaging students and managing an effective course where students achieve their learning objectives. Faculty must focus on the learners' needs when incorporating technology, and use technology with proper training and knowledge.

Learner-Centered Website Platforms

Marketing education is shifting toward a pedagogy which uses educational technologies (Young, Klemz, & Murphy, 2003), and this study shows that blended courses must follow similar standards as distance education to engage students and increase students' overall learning. For instance, although faculty may interact with students on a weekly "in-class" basis, it is still important for faculty to interact with students via the website platform to increase system usage and trust (Chang & Smith, 2008). Similarly, although students interact with one another during class, students also desire interaction outside the classroom via the website platform using innovative technologies (e.g., blogs, text, e-mail).

Furthermore, when designing website platforms, our study suggests that the absence of the five design principles leads to negative responses (dissatisfaction). When instructors implement website platforms with little effort, training, or planning, our findings suggest that students are less satisfied, and this could have a negative impact on the course as a whole (Gunawardena et al., 2010). Students' negative attitude toward a website platform creates indelible impressions which could hinder their course satisfaction and learning. For example, students may get frustrated when they encounter problems submitting an assignment using the website platform (e.g., service failure, no clear instructions, no contact information, no privacy claims), or they may avoid communicating via the website platform if the technology is difficult to use or outdated. Dissatisfaction could lead to lack of student involvement, avoidance behaviors, negative word of mouth, or negative attitudes, all of which hinder learning (Bharadwaj et al., 1993; Chang & Smith, 2008). As participants discussed dissatisfying experiences, in all instances, we found that the dissatisfaction was due to the absence of one of the five principles.

Faculty Implications

Our study shows that several of the same issues important in designing websites for firms can be applied to designing website platforms for courses, however the implications are very different. The goal for marketers is to sell a product, whereas the goal for instructors is to enhance student learning. This study offers several implications useful in accomplishing the instructor's goal. First, S2S connectivity can be incorporated in the design of website platforms by offering ways for students to interact outside class. For example, students can be assigned to discussion groups or blogs and this could be a graded assignment. A roster including student names, pictures, and e-mail addresses could be accessed through the platform. Making website platforms compatible with smartphones and texting will promote more usage. In addition, participants conveyed that communication via website platforms must be easy to use with quick response time to ensure usage. Otherwise, students will develop their own ways of communicating that circumnavigate the website platform.

Second, I2S interactivity allows students to connect with faculty via the website platform. Faculty should encourage students to interact with them via the platform and be available and responsive to students. Faculty could provide individualized feedback to students via the website platform and this also serves as a way to record I2S discussions (the instructor has electronic notes regarding the date, time, and information discussed with students). To provide uniqueness, faculty could incorporate personal blogs, podcasts, live chat sessions and live streaming video. Participants conveyed that they like to interact with faculty in multiple ways as it makes them feel more connected. For instance, providing a personal blog could allow students to learn from faculty in a new and interesting way. In addition, making S2S interactions a graded assignment will allow faculty to monitor and participate in online discussions among student groups.

Faculty can enhance students' trust through confirmation e-mails when assignments are submitted or through timely

feedback regarding assignments. Likewise, instructors can review website platform usage and provide instructions for assignments in the classroom to enhance students' confidence in using technology outside class. Students' trust will be strengthened as the instructor works to reinforce "classroom" environmental cues (e.g., providing instructions, reviewing usage, discussing assignments in class). In addition, website platforms can aid instructors in providing organization and structure to course offerings and serve as "online" environmental cues. For example, assignments can be posted at the beginning of a semester with weekly or monthly reminders to help students plan ahead. Virtual calendars can be updated regularly with classroom activities and instructors can be available at designated times during the semester for live chat discussions. Such features for courses can serve as online environmental cues that prompt students' usage of the technology.

Third, goal efficiency is organizing the information on the website platform to ensure ease of use (e.g., easy to submit assignments, easy to contact the instructor, ease of navigation, organized course design, and freedom from malfunction). Faculty should clearly link the information found on the website platform to course goals and learning objectives. For instance, organize information according to topics or dates and keep a calendar current with upcoming events and assignments. Students can be sent a reminder about forthcoming due dates and notified when assignments are received and graded. Perceived usefulness and ease of use are important predictors of system use.

Fourth, quality content requires that faculty provide information that is valid and dependable. In essence, reduce the amount of clutter on the website platform by including relevant information that is directly related to course goals and learning objectives. If necessary, designate an area to share outside resources, but make sure students know the purpose of the information being posted. Include an action plan for service failure, a contact number for students experiencing problems, and privacy statements. For example, if the website platform is down University-wide, continuous updates can be sent to students to inform them of the progress of service recovery efforts and an estimated timeline can inform students when the technology will be available for regular use. In addition, students can participate in identifying service failures by reporting problems early and by engaging in live chats to resolve technology problems. Information technology departments can identify problems early by collaborating with students and faculty to understand technology issues experienced firsthand.

Fifth, to achieve student appeal, faculty must make the website platform visually appealing. When designing the course, faculty should use a consistent pattern of background color, font sizes that are easy to read, and pictures that are appropriate in terms of the amount and the content. Avoid the overuse of graphics, pictures, sounds, or too much information on a single page. Website platforms should follow the notions of simplicity with information organized according to single themes.

Future Research

Our study's findings might inform future research in designing website platforms. First, the figure we created is a simplified depiction focused on identifying general principles that should be adhered to when developing website platforms. Future research could compare the relative importance of the five pedagogical technology principles to determine differences that may exist between graduate and undergraduate students. A follow-up quantitative study could measure the relative importance of design features for graduate students as compared with undergraduate students.

Likewise, based on the sample for this study, one difference among the two groups is that all graduate students discussed I2S interactivity and all undergraduate students discussed S2S connectivity (see Table 2). Future research could further examine the subtle differences among the two groups of students. For example, do graduate students deem I2S interactivity more important than S2S connectivity and, is the contrary true for undergraduate students? The differences noted in Table 2 could be tested with a larger, randomized sample of students.

Another opportunity for future research includes testing the conceptual model in Figure 1. Future research could determine how the five pedagogical technology principles affect the four sources of satisfaction. For example, a quantitative study could determine if S2S connectivity contributes equally to customization/flexibility, effective service recovery, spontaneous delight, and trust. Likewise, does I2S interactivity affect these factors in a different way than S2S connectivity? Continued work in this area could measure the impact of each principle in relation to the sources of satisfaction and determine the overall impact on student learning.

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