2014

Get Your Head in the Game: Using Gamification in Business Education to Connect with Generation Y

Sonja Martin Poole
University of San Francisco, smpoole@usfca.edu

Elyria Kemp

Lauri Patterson

Kimberly Williams

Recommended Citation

S. Poole, E. Kemp, L. Patterson & K. Williams ; "Get Your Head in the Game: Using Gamification in Business Education to Connect with Generation Y"; Journal for Excellence in Business Education; Vol 3, No 2 (2014)

Get Your Head in the Game:
Using Gamification in Business Education to Connect with Generation Y

Sonja Martin Poole, Ph.D.
University of San Francisco

Elyria Kemp, Ph.D.
University of New Orleans

Lauri Patterson
University of New Orleans

Kimberly Williams, Ph.D.
University of New Orleans

Abstract

Generation Y learners think and learn differently. They seek learning environments that are relaxed, flexible, interactive, and engaging. Gamification incorporates game mechanics to non-game contexts and has been found to motivate or incentivize students using rewards such as points, badges, and certificates. The purpose of this research is to investigate how utilizing gamification mechanics and customer engagement principles in college business courses can engage and foster learning among Generation Y students. Findings from this research suggest that using gamification techniques in the classroom can be an effective tool for enhancing student engagement and learning. Implications and future research are presented.

Introduction

A new breed of students has appeared in the classroom with greater expectations and different learning motivations. Generation Y, also known as the Millennial Generation, Echo Boomers, I Generation, Einstein Generation, and Google Generation (Yan, 2006) is the largest generation in history and accounts for more than 70 million people in the United States, almost three times the size of their immediate predecessors, Generation X (Huntley, 2006). They constitute those individuals born between 1977 and 2000. They have a strong desire to accomplish tasks with great enthusiasm (Gursoy, Maier & Chi, 2007), and they enjoy collaborations and prefer working in teams. At the same time, Generation Y can work independently, are self-confident, and self-expressive (Gursoy, Maier & Chi, 2007). Generation Y are highly educated and value institutionalized learning (Huntley, 2006). They are

technologically savvy, and they have never known a world without remote controls, CDs, cable and satellite TV and computers. The cell phone is an icon for this generation (Huntley, 2006). Overall, Generation Y is characterized by researchers as diverse, skilled, energetic, polite, positive, socially conscious, hopeful, sophisticated, and demanding (Eisner, 2005; Spiro, 2005; Cairncross & Buultjens, 2007).

While many studies have illuminated the traits of Generation Y, few studies have examined how Generation Y characteristics impact the teaching and learning process (Price, 2009). Studies have suggested that motivating and engaging Gen Y are major challenges for the United States educational system (Bridgeland et. al, 2006). Traditional teaching methods are not conducive to Gen Y learning and are labeled as dull and boring in comparison to their experience with digital technology (Woods et. al, 2011). Generation Y seeks learning environments that are relaxed, flexible, relevant, collaborative, interactive, and engaging. They favor learning environments that are team-oriented, fun, incorporate technology, and relevant to their culture. Most importantly, Generation Y prefer a variety of teaching methods and learning environments that are interactive and participatory (Price, 2009). Their ideal professors are enthusiastic, flexible, adaptable, caring, and approachable (Price, 2009).

Connecting with these students in the classroom is challenging, yet educators know that incorporating meaningful activities in lessons can achieve desired behaviors. Since half of Generation Y view their life as a video game and approximately. In fact, in one study 60% stated that winning is the slogan for their generation (Goetzl, 2014); game-like metaphors pervade most aspects of their lives Thus, it may be constructive to adopt game-like mechanics, or *gamification*, to connect to Gen Y as a pedagogical strategy.

Gamification, or the application of game playing elements (e.g., point scoring, fostering competition, incentivizing users for attaining goals, adding narrative or managing user progress on leaderboard, and rules of play) to non-game contexts to promote desired behaviors or actions, is typically used in business to encourage engagement with a product or service (Lee and Hammer, 2011). Many companies incorporate gamification frameworks into their marketing and human resource toolboxes to influence behavior and strengthen loyalty. Businesses have also come to rely on gamification applications to recruit, develop, and motivate employees to achieve organizational goals.

Industry analysts and stakeholders predict that the use of game mechanics, feedback loops, and rewards will become more embedded in daily life by 2020. They go on to suggest that the move to implement more game elements will aid communications in various sectors in society, including health, education, business and training (Pew Research Center 2012). Gartner (2011) predicted that by 2014 more than 70 percent of global organizations would have at least one "gamified" application and these applications would become as important as Facebook, eBay or Amazon.

Given the challenge of connecting with Gen Y and the apparent promise of gamification, it is a valuable exercise to examine whether implementing game playing in business courses also enhances Millienials' engagement, and ultimately performance. This research proposes that the same principles of gamification and customer engagement used by businesses can be incorporated into the classroom setting to motivate and engage Generation Y students.

There has been little academic attention in business education to what happens in the classroom when gamification is employed. We address this gap in the academic literature by investigating the impact of utilizing gamification techniques in the classroom to facilitate student engagement and learning. First, a discussion on gamification is presented. Next, a

conceptualization of customer engagement, along with its applicability to gamification is discussed. The study methodology employing gaming techniques in the classroom setting is then presented. Finally, the findings and implications for promoting student learning and engagement in the classroom are discussed.

Conceptual Background

Gamification is defined in the marketing and communications literature as "a process of enhancing services with (motivational) affordances in order to invoke gameful experiences and further behavioral outcomes" (Hamari, Koivisto & Sarsa, 2014, p.1). Although the term 'gamification' came into use in 2002, it did not gain traction until 2010 (Steele, 2013), and is often commonly used to refer to two related concepts: "the increasing adoption, institutionalization, and ubiquity of (video) games in everyday life (Deterding, et. al., 2011, p. 2); and making non-game products and services more enjoyable and engaging.

Industry experts maintain that gamification at minimum supports user engagement and enhances positive patterns in service use behavior including increasing user activity, social interaction or quality and productivity of actions (Hamari, Koivisto & Sarsa, 2014). Gamification is believed to work because it affords users positive, intrinsically motivating experiences.

Garter (2011) asserts that in order for gamification applications to be effective, three factors are required: motivation, momentum, and meaning. Motivation can be either intrinsic or extrinsic. Intrinsic motivation comes from within an individual and refers to a person's enjoyment or interest in a task. Extrinsic motivation involves external incentives, such as money and grades. Gamification, if applied correctly, can provide both intrinsic and extrinsic rewards to drive behavioral change. Momentum relies on sustained engagement by balancing the complexity of the challenges with the skill level of the users. A game that is too easy or too hard can frustrate the user. Gamified applications must employ mechanics such as challenges, rules, rewards, and badges that sustain engagement in the process. Meaning is derived from obtaining meaningful experiences by the user. The user must perceive the gamified application as a valued or achievable significant task. Incorporating these three elements into gamified contexts can truly engage an audience.

Within the context of marketing, gamification is believed to work because it positively impacts customer engagement. Customer engagement has been defined as the "intensity of customer participation with both representatives of the organization and with other customers in a collaborative knowledge exchange process" (Wagner & Majchrzak, 2007, p.20). Customer engagement manifests in an individual's participation in and connection with an organization's offerings and activities (Bowden, 2009; Van Doorn et al., 2012; Vivek et al., 2012). Bowden (2009) viewed customer engagement as a psychological process comprising cognitive and emotional aspects. Further, Bowden proposed that customer engagement is an iterative process, beginning with customer satisfaction, and culminating in customer loyalty.

Customer engagement may be manifested cognitively, affectively, behaviorally, or socially. The cognitive and affective elements of customer engagement incorporate the experiences and feelings of customers, and the behavioral and social elements include participation by current and potential customers, both within and outside of exchange situations (Vivek et al. 2012). Potential or current customers build experience-based relationships through intense participation with the brand by way of unique experiences they have with the offerings and activities of the organization (Vivek et al., 2012).

While the concept of gamification has raised a great deal of interest in both industry and academia (Zichermann & Cunningham, 2011; Huotari & Hamari, 2011), as of this writing few academic articles that examine gamification within a marketing context have been published. Academic acknowledgement of gamification as a topic worthy of investigation began in 2011 with a MindTrek conference paper tying it to co-creation of value literature from marketing (Huotari & Hamari, 2011). Empirical research to prove that there is a direct, positive relationship between gamification and desired market outcomes is practically non-existent. In a rigorous review of peer-reviewed empirical studies on gamification, Hamari, Koivisto and Sarsa (2014) found only three studies that were conducted in marketplace contexts ("commerce", "sustainable consumption", and "data gathering") and none were explicitly conducted in a marketing context. However, the researchers found that positive experiences in the form of engagement and enjoyment were reported in all of the studies reviewed. This finding supports industry belief that gamification produces positive effects and benefits.

As aforementioned, gamification is a tool that organizations may use to promote customer engagement. Because customer engagement involves eliciting cognitive, affective, social and behavioral responses from consumers, effective gamification efforts must be successful at engendering these same reactions. Vivek et al. (2012) suggested that participation and involvement are key requisites to customer engagement. Implicit in participation and involvement are cognitive, affective, social and behavioral components. Thus, this research suggests that both participation and involvement are essential components to successful gamification initiatives. Further, it proposes that gamification tools can not only be affective at engaging consumers in the business environment, but such tools can also be effective at creating student engagement in a business classroom. The study that follows investigates the efficacy of two instructional methods in creating student engagement, one in which gamification techniques were employed and the other in which a traditional lecture format was enlisted. The details regarding the design of the study, along with its findings, are discussed next.

Methodology

Two accounting classes in the college of business administration at a southern university were used to examine the effectiveness of applying gamification techniques in a classroom setting. The average age of the students (n=55) was 26. The participants were 36% male (n=20) and 64% female (n=35). Additionally, 25% were classified as juniors (n=14) and 75% were classified as seniors (n=41). Students in both classes were taught by the same instructor and exposed to the same content in a business course over a three-week period; however, the instruction methods differed. One class (n = 23) was instructed using traditional lectures with PowerPoint slides. This served as the control condition. The other class was instructed using game-like techniques (n = 31). Specifically, the instruction that students received was thematically and procedurally patterned after the game shows, "Jeopardy" and "Who Wants to be a Millionaire." Additionally, in this class, students were placed in teams by the instructor and teams competed against each other during each class. Each day, special prizes were awarded to incentivize students.

Before instruction in both courses commenced, students were given a baseline assessment to determine knowledge of the subject area. The baseline assessment included 15 questions in a multiple choice format. Instruction began following the assessment and continued for a total of three weeks. After the instruction period concluded, students in both classes were given a 15-

question exam (different from baseline assessment), which tested the students over the content presented in class.

Finally, in the class following the exam, students in both classes were asked to complete a short survey about their experience in the class over the course of the three weeks. Specifically, the survey measured students overall involvement in the class (Swineyard, 1993), their level of participation in the class, and their affective/emotional reaction to classroom activities. Involvement was measured using three items (Cronbach's Alpha = .91). Students were asked during the instruction period whether they felt," Uninvolved/Involved," "Not absorbed/Absorbed," "Not stimulated/Stimulated." These items were measured on a 7-point scale. Further, participation was measured using three items specifically developed for this research (Cronbach's Alpha = .92). Participants were asked the following: "I feel like I participate a lot in class," "I contribute to class discussions," and "I share my thoughts a lot about the topics discussed in class." Further, emotional reaction was measured with one item, "I feel emotionally drawn in by the type of instruction I receive in this class." All items for participation and emotional reaction were measured using a 7-point scale anchored by "very strongly disagree" and "very strongly agree." Finally, students were asked to provide comments regarding their experience in class.

Results

Scores from the students' baseline assessments were compiled and analyzed. Results indicated that there were no significant differences between students' knowledge of the content to be covered in the class, t(49)=1, p>.05. This helped to establish overall knowledge equivalence between the two classes. Next, student scores from the final assessment were gathered and analyzed. Results indicated that there was a significant difference in performance between the two classes t(49) = 7.34, p<.05. The class exposed to the gamification treatment (*M*=14.4) performed better on the final assessment than the class that received instruction via a traditional lecture format (*M*=8.2).

Further, findings from the survey that students completed at the conclusion of the instruction period indicated that there were significant differences between the classes on level of involvement [t (49) = 2.21], participation [t (49) = 3.65], and affective/emotional reaction [t (49) = 2.1]. Students exposed to the gamification treatment expressed higher levels of involvement (*M* = 6.81 and *M* = 6.23), more participation (*M* = 6.46 and *M* = 5.38) and greater positive emotional reactions (*M* = 6.41 and *M* = 5.65 during the instructional period than those in the class with the traditional lecture format.

Students exposed to the gamification treatment were also more likely to share additional thoughts and comments regarding their experience in the class. Following are comments from the students who were in the class where the gamification techniques were used.

I truly enjoyed playing games to learn the material as opposed to listening to a lecture. I would recommend this class to anyone.

I enjoyed this class. I learned a lot of things as well. I wouldn't mind taking a class taught by this instructor again. She made learning very understandable as well.

The past three weeks were very involved and engaging....I feel that the structure was consistent with the way I like to learn.

Discussion and Implications

This study investigated how the application of gamification techniques and customer engagement principles in the classroom can facilitate student engagement and foster learning among Generation Y college students. Given that Generation Y has considerably different experiences and expectations and that it even thinks and processes information differently than students of the past, it is important to discover and use pedagogical methods that are most effective with this unique group.

Results from this research suggest that using gamification techniques in business education can be an effective tool for enhancing student engagement and learning. The results show that Generation Y students exposed to the gamification method of instruction performed better on the final assessment tool as well as reported experiencing higher levels of involvement, participation and positive emotional responses to the instruction. Thus, the positive experiences that can occur by using gamification can manifest into not only more engaged customers, but more engaged students as well.

These findings contribute to the extant literature in several ways. First, we extend the work of previous studies that investigate the impact of using gamified approaches in the classroom. The positive results of this study further support the use of gamification applications in courses and demonstrate its effectiveness. It focused attention on an increasingly popular technique in business and education by combining the two fields into one study.

Additionally, our research goes beyond the majority of studies in education and marketing that focus on engagement only. While engagement is considered critical to influencing positive behavior and performance, it is an indirect measure. In order to truly understand the effect gamification has on skill/knowledge development, performance outcomes must be measured. In this case, we demonstrated a direct relationship between performance and gamified pedagogy. To our knowledge, this is the first time student engagement *and* performance has been examined within a gamified classroom context.

From a pedagogical perspective, this research offers useful insights into the drivers of performance for Gen Y students. Testing the effectiveness of gamified methods of instruction over traditional methods provides important information to faculty about what works. The results of this study may also encourage business faculty to consider incorporating gamification techniques into their teaching format. One simple way to do this is to include game-like elements such as quizzes or assignments that involve competition between individuals or teams, points, and leaderboards that display performance progress on an ongoing basis. For example, iClickers or other student response systems can be used to gamify courses. Students can be quizzed on course content while earning points and team performance results are displayed in real time with bar graphs or pie charts. The student response systems are particularly ideal for Generation Y since the devices incorporate technology into the course while providing immediate feedback to student responses in a non-threatening environment. Further, using these devices has an added bonus of being able to assess the understanding and comprehension of course material in a manner suitable to Generation Y learning preferences.

Since Generation Y are independent learners, programs offered by publishing companies may also be useful. They allow students to interactively read the text and apply game-like applications while exploring jobs in their industry of choice. Students take pre- and post-test to determine the mastery of content while completing various tasks along the way. Finally, learning management systems such as Moodle offer customizable certificates that can be incorporated into online learning. Online courses can be designed to offer certificates if certain

tasks or activities are completed while meeting pre-determined criteria such as a minimum score by a due date.   Thus, incorporating gamification techniques in online business courses may also sustain student engagement and participation.

Limitations and Future Research

Although this research offers insight into the effectiveness of gamification in learning environments, it is not without limitations. This research examined one mode of gamification by patterning in-class activities after game shows. Additionally, the sample for this study was drawn from one university. Future research might examine other gamification applications and extend studies across a number of universities in order to assess the influence of institutional context and student profile. Further, individual differences in students (e.g., self-efficacy, locus of control, etc.) might also be introduced in future studies as possible influencers of student performance and preference for gamification applications.

This study examined the impact of gamification techniques on Generation Y students only. However, multiple generations may in fact enroll in college courses simultaneously. Each generation may have varying learning motivations, expectations, and skill sets. This presents yet another challenge for educators. Future studies may examine which formats work best in these environments and if gamification is still effective in engaging and motivating students.

In addition, this study was conducted in a live course. With the increase of online options for students, future research may investigate how gamification mechanics impact student engagement and motivation in online courses.

References

Bowden, J. L.-H. (2009). The process of customer engagement: a conceptual framework. *The Journal of Marketing Theory and Practice*, *17(1)*, 63-74.

Bridgeland, J., Dilulio, J., & Morison, K. B. (2006). *The silent epidemic.* Seattle, WA: Gates Foundation.

Brodie, R. J., Ilic, A., Juric, B., Hollebeek, L. (2011). Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research*, *14(3)*, 252-271.

Cairncross, G., & Buultjens, J. (2007). *Generation Y and work in the tourism and hospitality industry: Problem? What problem?* (Occasional Paper No. 9). Southern Cross University, Australia: Centre for Enterprise Development and Research.

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011, September). From game design elements to gamefulness: defining gamification. In *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments* (pp. 9-15). ACM.

Deterding, S., Sicart, M., Nacke, L., O'Hara, K., & Dixon, D. (2011, May). Gamification. using game-design elements in non-gaming contexts. In *PART 2-----------Proceedings of the 2011 annual conference extended abstracts on Human factors in computing systems* (pp. 2425-2428). ACM.

Eisner, S. P. (2005). Managing generation Y. SAM Advanced Management Journal (07497075), *70(4)*, 4-15. Retrieved from EBSCOhost.

Gartner. (2011). *Gartner predicts over 70 percent of global 2000 organizations will have at least one gamified application by 2014*. Web. 17 Jan. 2014. Retrieved from http://www.gartner.com/newsroom/id/1844115.

Goetzl, David. (2014). Media post: MTV research: *It's (video) game time for marketers*

@MTVInsights." @*MTVInsights*. N.p., n.d. Web. 05 Jan. 2014. Retrieved from http://www.mediapost.com/publications/article/164789/mtv-research-its-video-game-time-for-marketers.html.

Gursoy, D., Maier, T., & Chi, C. (2007). Generational differences: An examination of work values and generational gaps in the hospitality workforce. *International Journal of Hospitality Management*, *27*, 448-458.

Huntley, R. (2006), *The world according to Y: Inside the new adult generation*, Crowsnest, Australia: Allen and Unwin.

Hamari, J., Koivisto, J., & Sarsa, H. (2014, January). Does Gamification Work?—A Literature Review of Empirical Studies on Gamification. In *Proceedings of the 47th Hawaii International Conference on System Sciences. HICSS*.

Huotari, K., & Hamari, J. (2011, May). Gamification from the perspective of service marketing. In *Proc. CHI 2011 Workshop Gamification*.

Kapp, K. M. (2012). *The gamification of learning and instruction: Case-based methods and strategies for training and education*. New York: Pfieffer: An Imprint of John Wiley & Sons.

Klem, A. and Connell, J. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health. 74 (7)*, 262-273.

Lee, J. & Hammer, J. (2011). Gamification in education: What, how, why bother? *Academic Exchange Quarterly, 15(2).*

Marks, H. M. (2000). Student engagement in instructional activity: patterns in the elementary, middle, and high school years. *Am Educ Res J.* 2000:*37(1)*, 153-184

Natriello, G. (1984). Problems in the evaluation of students and student disengagement from secondary schools. *Journal of Research and Development in Education 17 (4)*, 14-24.

Price, C. (2009).   Why don't my students think I'm groovy?: The new "R"s for engaging millennial learners. *Millennial Traits and Teaching*. N.p., n.d. Web. 2 Jan. 2014.

Spiro, C. (2006). *Generation Y in the workplace*. Defense AT&L, November-December, 2006. Retrieved March 1, 2011 from http://www.dau.mil/pubscats/PubsCats/atl/2006_11_12/11_12_2006_spi_nd06.pdf.

Steele, Ashton. (2013). *12 surprising gamification stats for 2013*. Get More Engagement 12 Surprising Gamification Stats for 2013 Comments. N.p., n.d. Web. 17 Jan. 2014. Retrieved from http://www.getmoreengagement.com/gamification/12-surprising-gamification-stats-for-2013.

Van Doorn, J., et al. (2010). Customer engagement behavior: theoretical foundations and research directions. *Journal of Service Research, 13(3)*: 253-266.

Vivek, S. D. (2009), *A scale of consumer engagement*, Doctor of Philosophy Dissertation, Department of Management &Marketing, Graduate School–The University of Alabama, UMI.

Vivek, S.D., Beatty, S.E., Morgan, R.M., (2012). Customer engagement: Exploring customer relationships beyond purchase. *Journal of Marketing Theory & Practice 20 (2)*, 122–146.

Wagner, C. & Majchrzak, A. (2007). Enabling customer-centricity using wikis and the wiki way. *Journal of Management Information Systems, 23(3)*: 17-43.

Woods, T., Wilson, T., & Walkovich, D. (2011). Targeting instructional strategies to address Gen Y learner characteristics. *The Journal of Physician Assistant Education*, *22(2)* 38-41.

Yan, S. (2006) Understanding generation Y. *The Oberlin Review*, December 8. Retrieved
    October 5, 2009 from
    http://www.oberlin.edu/stupub/ocreview/2006/12/08/features/Understanding_Generation_Y.html

Zichermann, G., & Cunningham, C. (2011). *Gamification by design: Implementing game
    mechanics in web and mobile apps*. O'Reilly Media, Inc.