# GAMIFICATION: A STUDY OF BUSINESS TEACHER EDUCATORS' KNOWLEDGE OF, ATTITUDES TOWARD, AND EXPERIENCES WITH THE GAMIFICATION OF ACTIVITIES IN THE CLASSROOM

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Abstract

***Background:*** *Gamification is a learning approach that is becoming more popular and prevalent in business and education and is a viable alternative to many of the existing educational delivery methods.* ***Purpose:*** *The purpose of this study was to explore the current knowledge of, attitudes toward, and experiences with the gamification of activities in the classroom.* ***Method:*** *A quantitative, descriptive research design was used to determine the knowledge, attitudes, and experiences of a group of national business teacher educators with gamification. The survey response rate was 39% with a usable rate of 30%.* ***Conclusion:*** *Many of the teachers surveyed felt that gamification is an interesting teaching strategy but most were not familiar with the concepts. Further study into the use of gamification in business education courses is needed.* ***Keywords:*** *business education, gamification, educational games, gaming activities, game elements, game mechanics, gamify, motivation, achievement, competition, play, instructional strategy, technology*

## Introduction

With recruitment and retention being hot topics for most business education programs, business education teachers may want to consider incorporating gamification into their teaching. In its simplest form, gamification is defined as "the use of gameplay mechanics for non-game applications" (Van Grove, 2011, para. 2). Adding elements of games to non-gaming activities in order to encourage participation adds excitement and creativity to what we are doing (McGonigal, 2012). Game mechanics include compelling, appealing, social activities that gamers problem solve to advance and gain points, badges, trophies, etc. According to a Pew Internet Report (Anderson, 2012), gamification works to increase people's competitive nature and offers rewards to continue playing. Zichermann (2011)

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adds that at its core, gamification offers points, badges, levels, leaderboards, and challenges to increase motivation. All of these signify some type of achievement and help encourage the gamer to continue playing. Awards can also include free gifts and discounts as well as online status indicators like re-tweets, leaderboards, and the ability to level up (Anderson, 2012). By gamifying experiences within the classroom setting, educators may see increased social contact, mastery, acceptance, curiosity, cooperation & healthy competition between students.

According to Matthew Farber (2013) of Edutopia, gamification works best when educators learn to think of themselves as game designers. Gamification includes goals, challenges, collaboration and competition, just like games do. Gamification is going to become more important as Generation Y learns that behavior is related to reward, and as they assimilate into the workforce, they will also see that achievement is linked to incentive. Teenagers are interested in "how games could make them a better work force" (Marczewski, 2013, Chapter 4, Section 2, para. 2).

The theory of constructivism provides a theoretical framework in which to examine gamification. "The first 'level' or 'mission' is typically a constructivist tutorial" (Farber, 2013, para. 8). Games are engaging and collaborative which fit into the constructivist-learning model (Prensky, 2007). There is usually a tutorial level that teaches new players the game rules, then the challenges scaffold as the levels become more difficult. At the end of a level, there is usually some type of "Boss" where everything the gamer has learned is put to use to win or to be successful at that mission. Gamers construct meaning as they actively move through the mission and level. Scott Noon from Connected University designates "Techno-constructivist" educators as those who integrate technology to complement and redefine the curriculum. These teachers realize the power technology has to help students build on their own experiences, construct their own meanings, and solve problems (McKenzie, 2012). Constructivist models are student-centered and focus on keeping students engaged in the construction of knowledge. The choices within the gamification context give students the opportunity to look at problems from multiple perspectives.

Large publishing companies like Pearson are investing time and resources into gamification. Alleyoop is a start-up company backed by Pearson that is combining adaptive learning with elements of gamification. Pearson hopes Alleyoop can better prepare high school students for college and therefore increase college graduation rates. Alleyoop's goal is to assist kids with an assortment of subject matter using games. Middle and high school students earn Yoops (a virtual currency like badges and trophies) while in the Alleyoop program, that they can spend towards online tutoring time and specific video content (Empson, 2012).

According to Collins and Halverson (2009), games can raise critical questions about specific strategies and problem-solving techniques. Children who play games develop communication skills by playing with others in virtual worlds. Gamers want to be engaged and to be rewarded by something evoking positive

emotions (Chatfield, 2010). The emphasis is to take real problems and real world applications and introduce game ideas and game mechanics to create something more fun. Most of us work on various tasks we find mundane, but we set goals and rewards for ourselves. The concept of gamification is not new but the name is.

More families are playing games online than ever before. Some play the same game together in guilds or apart from various geographic locations. Some families use online games as a way to interact and stay in touch. Intergenerational gaming is becoming a way families learn from each other by working on quests and leading teams. All of their shared experiences and accomplishments help motivate each other and bring them closer (Thomas & Brown, 2011). Educators are adding the reward structures of games like badges and points into their lessons. When learning occurs in social contexts that are important and realistic, it encourages students to take ownership of learning.

According to an article in Educause (August 2011) entitled *7 Things You Should Know About Gamification,* game components provide real benefits to students through the use of simulations. Using simulations can help students sharpen an ability to work out a solution.

Scenarios within simulations allow students the opportunity to practice and make difficult choices without dire real-world consequences. The decisions students make help prepare them to become leaders in the future, because the situations are based on real-life events and subjects. Some examples include Roger Schank's genetics simulation, Paul Horwitz's Bioligicka, and Chris Dede's River City. All of these games involve problems that scaffold over the course of the simulation. Tasks become increasingly more difficult the further the student advances within the simulation. These missions help students increase knowledge and cognitive reasoning (Collins & Halverson, 2009). Good games create a cognitive flow by giving goals, rules, delivering timely feedback, and keeping players focused (Baron, 2012).

Van Grove (2011) writes that analysts predict by 2015 more than 50% of businesses will gamify their innovative activities and experiences. According to Gabe Zichermann, author of *Game Based Marketing*, one of the reasons that companies are using gamifying for marketing and sales is because the younger generation is more acclimated to playing games. Gamification helps this process because it is engaging and gives rewards to those that play and accomplish goals and objectives. Zichermann (2011) has worked for several years developing gamification ideas and plans with start-ups to Fortune 500 companies. Zichermann (2011) has 6 rules for gamification design that he recommends:

1. Understand what constitutes a "win" for the organization/sponsor
2. Unpack the player's intrinsic motivation and progress to mastery
3. Design for the emotional human, not the rational human
4. Develop scalable, meaningful intrinsic and extrinsic rewards
5. Use one of the leading platform vendors to scale your project
6. Most interactions are boring: make everything a little more fun (para. 2).

> In Daley's (2011) e-book, *Education Gamification Survival Kit* (2012), a list of what makes video games fun includes options for players, player control, rewards, acknowledgement, attainable levels, experience points, perks and powerups, challenging quests, surprises, compelling narratives, and fantasy characters. Of course, these categories are not in every game and each does not have to be present to make a good game. Play is part of who we are. We enjoy play. By using gamification to infuse fun and motivation, productivity will improve (Marczewski, 2012).

When creating a gamification experience for students, always put the gamer first. If there is a narrative, make sure it is sincere and relevant. Look at the games students are playing and spend some time playing some of those games on your own. Collaborative games with common goals build character, create ethical dilemmas, and focus on teamwork. All achievements must be relevant to the student. Start slow and provide challenges that stimulate cognitive processes (Jensen, 2012). As a faculty member there are benefits to gamifying activities. These include a more engaged class, students inspired to do outside research, and increased interest in the subject matter. Technology can help the educator keep track of accomplishments, leaderboards, points and results.

## Purpose of Study

The purpose of this study was to explore the current knowledge of and attitudes toward the gamification of activities in the classroom. A second purpose of the study was to provide validity and reliability evidence to support a researcher-constructed instrument designed to elicit business teacher educators' knowledge of and attitudes toward gaming in the classroom.

Research Questions

The following questions were answered:

1. Are business teacher educators familiar with the term gamification?
2. What do business teacher educators report about the application of the basic elements of game design to activities in their classrooms?
3. What are business teacher educators' attitudes toward and beliefs about gamification?
4. What are the differences, if any, between male and female business teacher educators' attitudes toward gamification?
5. Is there a relationship between business teacher educators who played games as a child and the use of gamification strategies in their classrooms?

## Limitations

This study was limited as follows:

1. The survey methodology imposed limitations inherent in that method

of research. The study was limited by participants' understanding and truthfulness when responding to the survey.

2. The study was also limited to institutional representatives of the National Association of Business Teacher Education (NABTE).

## Methodology

The research design, population, survey instrument, and procedures for conducting the study are discussed in the following sections.

**Research design** A quantitative, descriptive research design was conducted to determine the current knowledge of, attitudes toward, and experiences with gamification activities in the classroom.

**Population** A current roster of NABTE member institutions from 70 universities in 31 states throughout the United States and 2 provinces in Canada was obtained from the National Business Education Association. The list provided NABTE institutional representatives' names and contact information. The population consisted of 70 higher education business education faculty whose institutions are members of NABTE. Twenty-seven (39%) of the 70 NABTE representatives surveyed responded to the survey and 26 (37%) of the responses were usable. Two follow-up emails were sent to non-respondents in an effort to gain a greater response rate. Additionally, the Mississippi Business Education Association (MBEA) provided a roster of membership to use for the pilot study.

**Survey instrument** A researcher-created survey instrument was used to collect data from subjects for this study. The instrument was pilot tested and validated by 17 business education faculty who are members of the Mississippi Business Education Association (MBEA). The faculty made no suggestions for improving the instrument. In order to establish the internal consistency of the instrument, the researcher used SPSS to conduct a reliability test on the attitude and experience scales of the instrument. SPSS calculated a Cronbach's alpha of .774 for the attitude scale and a Cronbach's alpha of .748 for the experience scale showing internal consistency for both scales. The 29-item survey consisted of six sections. Section one was designed to determine knowledge of gamification. Section two described attitudes toward gamification while experiences with gamification were targeted in section three. Sections four through six offered the opportunity for respondents to provide demographic information such as gender, years of university teaching experience, and a description of the type of institution where they were currently employed. Using a five-point Likert scale, respondents were asked to select the best answer that most closely aligned with their level of agreement with the question. The scale consisted of Strongly Disagree (SD) – 1, Disagree (D) – 2, Undecided (UD) – 3, Agree (A) – 4, and Strongly Agree (SA) – 5.

**Procedures** Approval from the researcher's Institutional Review Board was obtained to conduct this study. The consent form and survey instrument were distributed to the population using Qualtrics.

# Findings

## Demographics

Table 1 shows the demographic profile of the population. Thirteen (50.00%) of the respondents have more than 20 years of university teaching experience. The respondents indicated they teach in rural public and urban public institutions with 12 (46.15%) employed in rural public institutions and 12 (46.15%) employed in urban public institutions. Most of the respondents were female (72.73%).

**Table 1**

***Demographic Profile of Population***

| Variable | n | Percentage |
|---|---|---|
| Gender | | |
| Female | 16 | 72.73 |
| Male | 6 | 27.27 |
| Total | 22 | |
| Years of University Teaching Experience | | |
| Less than 5 | 0 | 0.00 |
| 5-9 | 4 | 15.38 |
| 10-14 | 7 | 26.92 |
| 15-19 | 2 | 7.69 |
| More than 20 | 13 | 50.00 |
| Total | 26 | |
| Types of Institution Currently Employed | | |
| Rural Public | 12 | 46.15 |
| Urban Public | 12 | 46.15 |
| Rural Private | 1 | 3.85 |
| Urban Private | 0 | 0.00 |
| Other | 1 | 3.85 |
| Total | 21 | |

Note: n = 26. Some responses are missing for the Gender variable.

### Knowledge of Gamification

The knowledge of gamification section consisted of nine questions and contained a ranking scale of 1-5 with 1 = Strongly Agree (SA), 2 = Agree (A),

3 = Undecided (U), 4 = Disagree (D), and 5 = Strongly Disagree (SD). Table 2 presents NABTE representatives' knowledge of gamification. The descriptive statistics indicate the highest mean showing agreement for Question 1, "I am familiar with the term gamification" with 58% of the educators strongly agreeing or agreeing that they are familiar with the term. The lowest mean showing agreement of 2 (A) was reported on Question 2, "Gamification is the same as playing games in a classroom." Thirty-eight percent were undecided and 50% disagreed with question 2. Forty-six percent of the respondents were undecided if there is a difference in gamification and gaming in education. When asked if using games is a more effective instructional strategy than classroom lectures, 46% of the educators were undecided. However, 85% stated that games are a useful strategy to increase student learning.

The survey reflected a clear answer to research question 1, *Are business teacher educators familiar with the term gamification?* with the majority (58%) stating that they were. In response to research question 2, *What do business teacher educators report about the application of the basic elements of game design to activities in their classrooms?* 42% of the educators reported that they knew how to apply basic elements of game design to activities in their classroom, 19% were unsure, and 39% did not know how. The knowledge scale is correlated with both attitude and experience meaning the greater the knowledge, the greater the experience or attitude. Correlations are moderate (between .3 and .6) and statistically significant ($p < .05$).

**Table 2**
***Knowledge of Gamification***

| Survey Question | Rank | Frequency n* = 26 | Percent | Mean | Standard Deviation |
|---|---|---|---|---|---|
| 1. I am familiar with the term gamification. | SA | 4 | 15 | | |
| | A | 11 | 43 | | |
| | UD | 2 | 8 | 3.23 | 1.37 |
| | D | 5 | 19 | | |
| | SD | 4 | 15 | | |
| 2. Gamification is the same as playing games in a classroom. | SA | 0 | 0 | | |
| | A | 2 | 8 | | |
| | UD | 10 | 40 | 2.40 | 0.87 |
| | D | 9 | 36 | | |
| | SD | 4 | 16 | | |

**Table 2** *(continued)*
***Knowledge of Gamification***

| Survey Question | Rank | Frequency n* = 26 | Percent | Mean | Standard Deviation |
|---|---|---|---|---|---|
| 3. Board games are not examples of gamification. | SA | 1 | 4 | | |
| | A | 3 | 12 | | |
| | UD | 10 | 38 | 2.65 | 0.94 |
| | D | 10 | 38 | | |
| | SD | 2 | 8 | | |
| 4. I do not know what the term gamification means. | SA | 4 | 15 | | |
| | A | 7 | 27 | | |
| | UD | 2 | 8 | 2.88 | 1.42 |
| | D | 8 | 31 | | |
| | SD | 5 | 19 | | |
| 5. There are differences in gamification and gaming in education. | SA | 1 | 4 | | |
| | A | 11 | 42 | | |
| | UD | 12 | 46 | 3.38 | 0.80 |
| | D | 1 | 4 | | |
| | SD | 1 | 4 | | |
| 6. Building websites is an example of gamification. | SA | 0 | 0 | | |
| | A | 3 | 12 | | |
| | UD | 9 | 34 | 2.50 | 0.81 |
| | D | 12 | 46 | | |
| | SD | 2 | 8 | | |
| 7. Playing math skill games in the classroom is an example of gamification. | SA | 2 | 8 | | |
| | A | 12 | 46 | | |
| | UD | 7 | 27 | 3.42 | 0.90 |
| | D | 5 | 19 | | |
| | SD | 0 | 0 | | |
| 8. Computerized reading tests are not an example of gamification. | SA | 4 | 15 | | |
| | A | 9 | 35 | | |
| | UD | 11 | 42 | 3.58 | 0.86 |
| | D | 2 | 8 | | |
| | SD | 0 | 0 | | |

**Table 2** *(continued)*
***Knowledge of Gamification***

| Survey Question | Rank | Frequency n* = 26 | Percent | Mean | Standard Deviation |
|---|---|---|---|---|---|
| 9. I know how to apply the basic elements of game design to activities in the classroom. | SA | 2 | 8 | | |
| | A | 9 | 35 | | |
| | UD | 5 | 19 | 2.96 | 1.25 |
| | D | 6 | 23 | | |
| | SD | 4 | 15 | | |

n* = 25 on question 2.

Attitudes Toward Gamification

The attitudes toward gamification section presented the attitudes of business teacher educators on ten gamification questions. As reflected in Table 3, most teachers (62%) either agreed or strongly agreed that gamification increases motivation for learning. None of the respondents reported that technology scared them and 85% either disagreed or strongly disagreed that they were afraid of using games in the classroom or that gamification is only appropriate in technology classrooms. The majority (85%) stated that games did not negatively influence student behavior in the classroom.

The survey revealed that 85% of the teachers thought that games are a useful strategy to increase student learning. However, 46% were undecided if using games is a more effective instructional strategy than classroom lectures. Even though the responses to the attitude survey section are mixed, some of the attitudes could be influenced by experience. The more experience one has with gamification, the higher the attitude. The correlation between the attitude scale and the experience scale is moderate (between .3 and .6); it is statistically significant ($p < .05$). The survey provided favorable attitudes and beliefs for research question 3, *What are business teacher educators' attitudes toward and beliefs about gamification?*

**Table 3**
***Attitudes toward Gamification***

| Survey Question | Rank | Frequency n = 25 | Percent | Mean | Standard Deviation |
|---|---|---|---|---|---|
| 1. Gamification reduces the amount of time for real instruction in the classroom. | SA | 1 | 4 | | |
| | A | 1 | 4 | | |
| | UD | 8 | 32 | 2.36 | 0.95 |
| | D | 11 | 44 | | |
| | SD | 4 | 16 | | |

**Table 3** *(continued)*
***Attitudes toward Gamification***

| Survey Question | Rank | Frequency n = 25 | Percent | Mean | Standard Deviation |
|---|---|---|---|---|---|
| 2. Technology scares me. | SA | 0 | 0 | | |
| | A | 0 | 0 | | |
| | UD | 0 | 0 | 1.20 | 0.41 |
| | D | 5 | 20 | | |
| | SD | 20 | 80 | | |
| 3. Gamification increases motivation for learning. | SA | 4 | 16 | | |
| | A | 12 | 48 | | |
| | UD | 6 | 24 | 3.64 | 0.99 |
| | D | 2 | 8 | | |
| | SD | 1 | 4 | | |
| 4. Using games is a more effective instructional strategy than classroom lectures. | SA | 1 | 4 | | |
| | A | 7 | 28 | | |
| | UD | 12 | 48 | 3.12 | 0.88 |
| | D | 4 | 16 | | |
| | SD | 1 | 4 | | |
| 5. Competitiveness between classmates is increased with the use of gamification. | SA | 3 | 12 | | |
| | A | 13 | 52 | | |
| | UD | 6 | 24 | 3.64 | 0.86 |
| | D | 3 | 12 | | |
| | SD | 0 | 0 | | |
| 6. I am afraid of using games in my classroom. | SA | 0 | 0 | | |
| | A | 1 | 4 | | |
| | UD | 2 | 8 | 1.68 | 0.80 |
| | D | 10 | 40 | | |
| | SD | 12 | 48 | | |
| 7. Gamification is only appropriate in technology classrooms. | SA | 0 | 0 | | |
| | A | 1 | 4 | | |
| | UD | 3 | 12 | 1.72 | 0.84 |
| | D | 9 | 36 | | |
| | SD | 12 | 48 | | |

**Table 3** *(continued)*
***Attitudes toward Gamification***

| Survey Question | Rank | Frequency n = 25 | Percent | Mean | Standard Deviation |
|---|---|---|---|---|---|
| 8. Games are a way to play in the classroom. | SA | 1 | 4 | 2.92 | 1.15 |
| | A | 9 | 36 | | |
| | UD | 5 | 20 | | |
| | D | 7 | 28 | | |
| | SD | 3 | 12 | | |
| 9. Games are not a useful strategy to increase student learning. | SA | 0 | 0 | 1.68 | 0.80 |
| | A | 1 | 4 | | |
| | UD | 2 | 8 | | |
| | D | 10 | 40 | | |
| | SD | 12 | 48 | | |
| 10. Games negatively influence student behavior in the classroom. | SA | 1 | 4 | 1.96 | 0.84 |
| | A | 0 | 0 | | |
| | UD | 2 | 8 | | |
| | D | 16 | 64 | | |
| | SD | 6 | 24 | | |

Experiences with Gamification

Ten questions were asked in the experience section of the survey. Table 4 indicates that almost all (96%) of the respondents strongly agreed or agreed that assignments in their classroom required students to use technology. Eighty-eight percent either strongly agreed or agreed that they used various technologies on a daily basis. A majority (73%) stated they were interested in learning how to develop gaming techniques in their classroom. When educators were asked if they taught students how to use games as an instructional tool, 54% reported that they did, but 46% stated they did not.

The responses to research question 4, *Is there a relationship between business teacher educators who played games as a child and the use of gamification strategies in their classrooms?* revealed that there is no relationship between business teachers who played games as a child and the use of gamification strategies in their classrooms. The correlation between playing games as a child and the use of gamification strategies is low (between 0 and .3) and is not statistically significant ($p > .05$).

Research question 5 asked *What are the differences, if any, between male and female business teacher educators' attitudes toward gamification?* The research revealed the following:

Males' Mean = 3.68; Females' Mean = 3.82; t(20) = --.539, p = .596 meaning that there is no difference between male and female business teacher educators' attitudes toward gamification. An additional t-test compared the means between males' (3.36) and females' (3.16) experience in gamification. The results t(20) = .576, p = .571 showed no difference between male and female business teacher educators' experiences in gamification.

## Table 4

***Experiences with Gamification***

| Survey Question | Rank | Frequency n = 26 | Percent | Mean | Standard Deviation |
|---|---|---|---|---|---|
| 1. I use various technologies on a daily basis (i.e., cell phone, tablet, computers, etc.). | SA | 16 | 62 | | |
| | A | 7 | 26 | | |
| | UD | 0 | 0 | 4.31 | 1.19 |
| | D | 1 | 4 | | |
| | SD | 2 | 8 | | |
| 2. I often play games outside the classroom via technology. | SA | 3 | 12 | | |
| | A | 8 | 31 | | |
| | UD | 0 | 0 | 2.77 | 1.39 |
| | D | 10 | 38 | | |
| | SD | 5 | 19 | | |
| 3. I often play board games outside the classroom without the use of technology. | SA | 2 | 8 | | |
| | A | 6 | 23 | | |
| | UD | 1 | 4 | 2.50 | 1.30 |
| | D | 11 | 42 | | |
| | SD | 6 | 23 | | |
| 4. I often played video games as a child/adolescent. | SA | 2 | 8 | | |
| | A | 4 | 16 | | |
| | UD | 1 | 4 | 2.12 | 1.37 |
| | D | 7 | 26 | | |
| | SD | 12 | 46 | | |
| 5. I rarely played board games as a child/ adolescent. | SA | 4 | 16 | | |
| | A | 6 | 23 | | |
| | UD | 0 | 0 | 2.65 | 1.50 |
| | D | 9 | 35 | | |
| | SD | 7 | 26 | | |

**Table 4** *(continued)*
***Experiences with Gamification***

| Survey Question | Rank | Frequency n = 26 | Percent | Mean | Standard Deviation |
|---|---|---|---|---|---|
| 6. Playing games is a waste of time. | SA | 1 | 4 | | |
| | A | 1 | 4 | | |
| | UD | 3 | 12 | 1.88 | 1.03 |
| | D | 10 | 38 | | |
| | SD | 11 | 42 | | |
| 7. I regularly use games in the classroom. | SA | 2 | 8 | | |
| | A | 10 | 38 | | |
| | UD | 4 | 16 | 3.08 | 1.16 |
| | D | 8 | 30 | | |
| | SD | 2 | 8 | | |
| 8. I am interested in learning how to develop gaming techniques in my classroom. | SA | 7 | 26 | | |
| | A | 12 | 46 | | |
| | UD | 4 | 16 | 3.85 | 1.05 |
| | D | 2 | 8 | | |
| | SD | 1 | 4 | | |
| 9. Assignments in my classroom require students to use technology. | SA | 17 | 66 | | |
| | A | 8 | 30 | | |
| | UD | 0 | 0 | 4.58 | 0.70 |
| | D | 1 | 4 | | |
| | SD | 0 | 0 | | |
| 10. I teach students how to use games as an instructional tool. | SA | 5 | 19 | | |
| | A | 9 | 35 | | |
| | UD | 0 | 0 | 3.19 | 1.36 |
| | D | 10 | 38 | | |
| | SD | 2 | 8 | | |

Implications for Practice

Basic principles of using games in the classroom are that they relate to learning, establish a plan for competition or collaboration, expand learning, and feed learners' creativity. In order to implement gamification into the classroom, basic principles are used from games.

Using gamification allows teachers to design and encourage learners and literacy, to shape learning environments, to decipher meaning through participation

and immersion, and to generate outcomes that motivate work through learning. Gamification simply means improving the learning that occurs in an experience. The two variants of game play are intrinsic (internal), when motivation comes from being essentially rewarding, and extrinsic (external), which is driven by outside rewards such as fame, grades, or praise. Educational games provide benefits that exist both in terms of motivation and learning when intrinsic integration is used. Taking game elements and using them in learning makes learning an end in itself, not game play.

"Gamification of education is exactly what it sounds like; taking these games elements, from incentives, immediate feedback, rewards, and more to classroom instruction. It requires looking at the full package of instruction and changing the paradigm" (Miller, 2012, para. 2). Implementation of games means taking exciting characteristics of games and using them as tools to teach. It unifies educators and engages learners through a systematic approach coupled with formative assessment strategies to generate learner-based outcomes. Gamification allows teachers in business education and any other classroom to add game elements into their teaching.

## Summary

Business teacher educators were surveyed to provide insight into their attitudes, knowledge, and experiences with gamification. These educators had knowledge about gamification, but lacked a clear understanding between gamification and games. Also they did not know whether using games is a more effective instructional strategy than classroom lectures. Yet they overwhelmingly indicated that games are a useful strategy to increase student learning, whether they have the knowledge to do so or not. Educators use technology in their classrooms. They just need to know more about gamification and how to implement it into their teaching.

## Conclusion and Recommendations

Most educators play games outside of the classroom. They understand that games are useful in teaching strategies. Most of them even know about gamification, but they are not sure how to implement it into their classrooms. With educators being interested in learning how to develop gaming techniques in the classroom, methodology of basic principles of using games in the classroom must be provided to expand learning in the classroom. In addition, because students are engaged when using gamification, this technique can be used as a tool to recruit students to and retain them in business education programs.

Further study into the use of gamification in business education courses is needed. The authors are planning the next phase of research which will include student attitudes, knowledge, and experiences with gamification. Once this data is obtained, a comparison between the two groups will be made. This research

will help to inform changes that may be necessary to business teacher education methods' programs.

## References

Anderson, J. (2012, May 18). The future of gamification. *Pewinternet.org*. Retrieved from http://www.pewinternet.org/Reports/2012/Future-of-Gamification.aspx

Baron, S. (2012, March 22). Cognitive flow: The psychology of great game design. *Gamasutra.com*. Retrieved from http://www.gamasutra.com/view/feature/166972/cognitive_flow_the_psychology_of_.php

Chatfield, T. (2010, July). Tom Chatfield: 7 ways games reward the brain. [Video File]. Retrieved from http://www.ted.com/talks/tom_chatfield_7_ways_games_reward_the_brain.html

Collins, A., & Halverson, R. (2009). *Rethinking education in the age of technology: The digital revolution and schooling in America.* New York, NY: Teachers College Press.

Daley, H. (2011). *Education Gamification Survival Kit - Education 2.0.* [Kindle Version]. Retrieved from Amazon.com

Educause. (2011). 7 things you should know about gamification. Retrieved from http://www.educause.edu/library/resources/7-things-you-should-know-about-gamification

Empson, R. (2012, February 1). Pearson-incubated startup alleyoop launches to gamify adaptive learning. *Techcrunch.com*. Retrieved from http://techcrunch.com/2012/02/01/pearson-incubated-startup-alleyoop-launches-to-gamify-adaptive-learning/

Farber, M. (2013, May 2). Gamifying student engagement. *Edutopia.org*. Retrieved from http://www.edutopia.org/blog/gamifying-student-engagement-matthew-farber

Jensen, M. (2012). Engaging the learner: Gamification strives to keep the users [sic] interest. *ASTD.org*. Retrieved from http://www.astd.org/Publications/Magazines/TD/TD-Archive/2012/01/Engaging-the-Learner-Gamification-Strives-to-Keep-the-Users-Interest

Marczewski, A. (2013, February 21). Gamification: A simple introduction. [Kindle Version]. Retrieved from Amazon.com

McGonigal, J. (2012, June). Jane McGonigal: The game that can give you 10 extra years of life. [Video File]. Retrieved from http://www.ted.com/talks/jane_mcgonigal_the_game_that_can_give_you_10_extra_years_of_life.html

McKenzie, W. (2012, May 7). Are You a Techno-Constructivist? *EducationWorld.com*. Retrieved from http://www.educationworld.com/a_tech/tech/tech005.shtml

Miller, A. (January 2012). Gamification vs. game based learning in education

Retrieved from http://www.gamification.co/2012/01/13/gamification-vs-game-based-learning-in-education/

Prensky, M. (2007). *Digital game-based learning*. St. Paul, MN: Paragon House.

Thomas, D., & Brown, J. S. (2011). *A new culture of learning: Cultivating the imagination for a world of constant change.* Lexington, KY: CreateSpace Independent Publishing Platform.

Van Grove, J. (2011, July 28). Gamification: How competition is reinventing business, marketing & everyday life. *Mashable.com.* Retrieved from http://mashable.com/2011/07/28/gamification/

Zichermann, G. (2011, November 2011). The six rules of gamification. *Gamification.co.* Retrieved from http://www.gamification.co/2011/11/29/the-six-rules-of-gamification/