Using Gamification to Enhance Second Language Learning

Jorge Francisco Figueroa Flores

jffigueroa@suagm.edu

Universidad del Este, Puerto Rico

Abstract

One major competence for learners in the 21st century is acquiring a second language (L2). Based on this, L2 instruction has integrated new concepts to motivate learners in their pursue of achieving fluency. A concept that is adaptable to digital natives and digital immigrants that are learning a L2 is Gamification. As a pedagogical strategy, Gamification is basically new, but it has been used successfully in the business world. Gamification not only uses game elements and game design techniques in non-game contexts (Werbach & Hunter, 2012), but also empowers and engages the learner with motivational skills towards a learning approach and sustaining a relax atmosphere. This personality factor as Brown (1994) addresses is fundamental in the teaching and learning of L2. This article covers aspects regarding language, second language learning methodology and approaches, an overview of the integration of technology towards L2 instruction, Gamification as a concept, motivational theory, educational implications for integrating the strategy effectively, and current applications used. It also calls for a necessity of empirical evidence and research in regards to the strategy.

Keywords

Gamification, Second Language Learning, Motivational Theory, Student Engagement

I. Introduction

The use of Gamification in educational settings toward L2 learning involves pedagogical approaches, methodologies, and strategies. All of these are part of the transition made by language learning instruction throughout generations. Several motivational strategies and approaches used in traditional pedagogy are also part of this transition. Including Behaviorism, Cognitivist approaches, along with social interaction and sociocultural theories.

As the 21st century moves forward, the field of second language learning and instruction has become more technology oriented. This adjustment in the teaching strategies is in accordance with the learners the educators are receiving in their classroom. Plenty of second language (L2) learners are part of a generation that Prensky (2001) describe as "Digital Natives". These learners process the information different and the educational system does not fit their needs. In addition more learners are aware of the benefits of the Internet and the strength of Connectivism as explained by Seimens (2005), where knowledge resides outside nodes of specialized information. At one point Computer Assisted Language Learning (CALL) was instrumental connecting with the L2 learner, also the integration of Web 2.0 move the L2 learning process away from the typical classroom setting. Both technology oriented strategies fit their purposes and where successful. But none of these two strategies worked directly with the psychological aspect of motivation. Brown (1994) sees motivation as a necessary personality factor that the learner needs in order to acquire a L2. Current L2 educators are well aware of the strategies suited for this time and that enhances motivation and engages learners in acquiring L2. From all the strategies that exist, Gamification is one that constantly promotes motivation. According to Werbach and Hunter (2012), is the use of game elements and game design techniques in non-game contexts In addition it deals with the two clusters of Intrinsic and Extrinsic motivation, which are necessary in the L2 learning experience. It also adapts to motivational work conducted in the field of L2 by Gardner and Lambert (1972), which mentions Instrumental and Integrative motivation, and Graham (1984) distinction of Assimilative motivation. In addition, research has found Educational Gamification in L2 learning is basically new but it success in other disciplines made it adaptable to the objectives towards the development second language acquisition (SLA) in learners.

II. Understanding Language and Second Language

Before moving forward to the use of Gamification and how it enhances L2 learning its necessary to understand the concept of language. This is sometimes a dilemma. Most of the time thanks in part to the abroad definitions of the concept. According to Brown (1994), the word language has many definitions in dictionaries and introductory textbooks. For that reason a L2 educator needs to see it as a composite definition. This type of definition will help the educator adapt it towards the L2 learner or even instructional mode. Brown (1994) presents it as a list:

1. Language is systematic and generative.
2. Language is a set of arbitrary symbols.
3. Those symbols are primarily vocal, but may also be visual.
4. The symbols have conventionalized meaning to which they refer.
5. Language is used for communication.
6. Language operates in a speech community or culture.

7. Language is essentially human, although possibly not limited to humans.
8. Language is acquired by all people in much the same way-language and language learning both has universal characteristics.

The teaching and learning process is necessary to be understood as a base for L2 learning and interaction. Based on Gage (1964), teaching cannot be defined apart from learning. At the same time teaching is guiding and facilitating learning, enabling the learner to learn, and setting the conditions for learning. If the educator understands the learner's process of acquiring knowledge, he or she will be able to develop a philosophy, a style, an approach, methods, and classroom techniques. According to Bruner (1966), in Brown (1994), listed that a theory of instruction needs to specify the following:

1. The experiences which most effective implant in the individual a predisposition toward learning.
2. The ways in which a body of knowledge should be structured so that the learner can most readily grasp it.
3. The most effective sequences in which to present the materials to be learned.
4. The nature and pacing of rewards and punishments in the process of learning and teaching and learning.

According to Kimble and Garmenzy (1963) and seen in Brown (1994), learning is a relatively permanent change in a behavioral tendency and is the result of reinforced practice. Based on this definition a list of learning domains for research and practice are presented:

1. Learning is acquisition or "getting".
2. Learning is retention of information or skill.
3. Retention implies storage systems, memory, and cognitive organization.
4. Learning involves active, conscious focus on and acting upon events outside or inside the organism.
5. Learning is relatively permanent but subject to forgetting.
6. Learning involves some form of practice, perhaps, reinforced practice.
7. Learning is a change in behavior.

a. Differences in first language learning and second language learning

It's impossible to continue without explaining basic concepts and definitions of SLA, differences between first language learning (L1) and L2, and presenting an overview of theories, methods, and instructional techniques used throughout the years. Such like the definition of language, there are many definitions on SLA and learning that tend to confuse. But perhaps what researchers have called the most important conceptualization in the field (Taylor, 1983) and supported by Brown (1994), is the distinction made by Stephen Krashen between language acquisition and language learning in his theory of SLA. According to Krashen (1982), acquisition is a subconscious process while learning is conscious. But instead of a philosophical approach towards the term, a definition by Gass and Selinker (2001) that establishes that SLA is the learning of a non-native language after learning of a native language has begun and occurring in the context in which the language is spoken. SLA and learning differs from Foreign Language Learning (FLL), because the environment is of one's native language.

According to Hart and Risley (1995), differences between L1 and L2 strives because L1 occurs naturally and perhaps without any formal instruction by children being constantly exposed to language rich environments over the course of many years. On the other hand L2 most of the time depends heavily on learning experiences in more constricted environments associated with the classroom or some other formal setting. In these settings, a major goal frequently is to formally teach children the elements of language that are learned much more informally in their native language. Consequently, assumptions regarding teaching and learning second languages are very different from assumptions about children learning their native language. But according to Malone (2012), a strong foundation in your mother tongue constitutes a strong "bridge" toward L2. In addition she expresses that without that characteristic any movement towards L2 could be in jeopardy or in danger of not achieving educational goals.

b. Theories in second language acquisition and learning

There have been several representative theories for SLA throughout the years. This includes: Behaviorism, Language Acquisition Device (LAD), Information Processing, Social Interaction and Sociocultural Theories. An overview of these theories is explained in the table below, which is adapted from Malone (2012):

Behaviorism	Typified by B.F. Skinner and impacted almost all areas of investigation. Human behavior could be learned through stimulus, response, and positive or negative reinforcement or S-R-R.
Language Acquisition Device (LAD)	Theorized by Noam Chomsky and breaks with S-R-R. "Argues that the stages of development that are required for children to develop their cognitive abilities do not apply to language learning. This new approach focused almost entirely in the deep structure of individuals' native language".
Information Processing	The Adaptive Control of Thought (ACT) was developed by Anderson (1983). "Intelligence is simply the gathering together and fine tuning of many small units of knowledge that in total produce complex thinking".
Social Interaction and Sociocultural theories	Theorized by Vygotsky and emphasizes in the role of social environment on children's learning. Swain (1985), argues that comprehensible output in meaningful conversations is necessary for success in SLA. Gass (2002), focus on the language learning context and how learners use their linguistic environment."

Table 1. Theories in SLA and Learning

c. Methods for second language instruction

In addition several methods for L2 instruction have been used throughout the years. It all started with the Grammar Translation Method back in the 19th century. According to Prator and Celce-Murcia (1979), the method for learning included teaching in the mother tongue with little active use of the target language, vocabulary lists, long and elaborate grammar explanations, little attention to content of text, no attention to pronunciation, everything explained using the mother tongue, and plenty of memorization. Then, linguists in America developed the Audiolingual Approach in the early 20th century. Prator and Celce-Murcia (1979), explain that this method follow an structural pattern with repetitive drills, plenty of tapes, language labs and visual aids, very little tongue by teachers is permitted, there is a great effort by learner to produce error free utterances, and grammar is taught following inductive analogy rather than deductive explanations. Another method used for SLA and learning is the Natural Approach developed by Krashen (1982) and based on his SLA Monitor Model, which included ideas, developed by Chomsky. Some of the characteristics of the Natural Approach includes a basic form or natural order of L2 learning and instruction, presents a difference between SLA and L2 learning, an affective filter plays a critical role and the approach has a silent period or phase. Moving forward, the appearance of the Communicative Approach integrated learners to real life situations in order to prepare them for the real world. Later, this became more a way of teaching than a method as explained by Brown (1994). It created a theoretical framework design around a set of classroom principles better know as Communicative Language Teaching (CLT). These principles are listed by Malone (2012), and include:

1. An emphasis on learning to communicate through interaction in target language.
2. The introduction of authentic texts into the learning situation.
3. An enhancement of the learner's own personal experiences as important contributing elements to classroom learning.
4. An attempt to link classroom language learning with language activities outside the classroom.

Other approaches later appeared based on the CLT perspective. These included Task Based Language Teaching (TBLT) and Content Based Instruction (CBI).

d. Teaching strategies in second language acquisition and learning

In order to be successful in SLA and L2 learning the selection of teaching strategies needs to be accurate. According to Brown (1994), these strategies will create the relaxed atmosphere necessary to comfort the L2 leaner. Some of the strategies are briefly mentioned and explained in the table below.

Total Physical Response	Promotes interactivity and is based on the silent period explained by Krashen (1982). Speaking is not necessary because comprehensible input is given. The instructor needs to provide a variety not to bore the students.
Cooperative Learning	This strategy follows the use of groups and pairs in order to achieve positive interaction. Plenty of strategies are presented through the peers.
Dialogue Journals	Promote written conversations between the teacher and learner. Reflexive journals are promoted. Good for assessing writing in a different and relax format.
Scaffolding	The advanced learners help their peers achieve success. It's part of Krashen (1982) comprehension input. Fluency is built thru positive reinforcement. This type of activity is not suited for virtual settings.

Table 2. Second Language Acquistion and Learning Strategies

III. Overview of Emergent Technologies in Second Language Learning

There is a strong bond between Gamification and emergent technologies. It all starts with it's definition which can be synthetized as the application of game mechanics in non-game related contexts (Deterding, Sicart, Nacke, and Nixon, 2011). The main objective of Gamification is to increase participation and motivate users through the use of game elements such as points, leaderboards, and immediate feedback among other things. This is similar to the strategy of using technologies in L2 learning. The use of technology in L2 learning and instruction has played an essential part throughout the years. This is in part based in Prensky's (2001), definition of the Digital Natives. In addition, the work of Ybarra and Green (2003), mentions that the use of technology plays and integral part in providing L2 learners a valuable language experience as they learn a second language. Most of all it contributes to the positive development of some personality factors like self-esteem, risk- taking and most of all motivation. Developing motivation in the L2 learner by using technology provides a common denominator between Gamification and L2 learning which results in enhancing this experience. In L2 learning, integrating technology has become essential and the integration of Computer Assisted Language Learning (CALL) has been instrumental for the development of teaching and learning. This is based on CALL established presence in academia and because it focuses on technology (Hubbard & Levy, 2006). According to Levy (1997), CALL is defined as the application of the computer in language teaching and learning. It is the evolution of Computer Assisted Instruction (CAI) and Technology Enhanced Language Learning (TELL). The use of CALL in L2 these days has move away from the Behavioristic CALL, which was a sub-component of CAI, of the 1950's and 60's. Behavioristic CALL focused on repetitive and extensive language drills and grammatical explanations along with translation tests. It is well remember in part by Plato, which was the tutorial of the time and ran on special software that needed a central computer and terminals. This was not user friendly and boring for the L2 learner. Then, the evolution continued to Communicative CALL, which followed cognitive theories during the 1970's and 1980's. Cognitive theorists focused on learning as a process of discovery, expression, and development. The type of strategy implemented focused on computer-based activities instead on using forms themselves. By the emergence of the PC other possibilities that

included the use of target language predominantly or exclusively, grammar was taught explicitly rather than implicitly. The use of text reconstruction programs and stimulations provided the L2 learners with the experience of working alone or in pairs. Finally, Integrative CALL appeared during the 1990's based on a socio-cognitive view and a focus on the use of language in authentic social contexts. This opened the door for a more diverse student centered use of technology in L2. An integration during the teaching and learning started working with task based projects, project based approaches, and content based approaches. Integrative CALL implemented an approach toward L2 learners by which listening, speaking, reading, and writing skills where use in combination with the learning of technology tools as an ongoing process for language learning. This type of CALL opened the door for the use of the Web 2.0 and social media as a strategy towards L2 learning. Nowadays, thanks to CALL, the L2 learner has become an active participant and language explorer. Also the students recognize that to do several tasks they need to use various tools that will help them learn L2 easily and effectively (Ybarra & Green, 2003). On the other hand educators had understood that they are not the only source for language information and the need for training in emergent technologies is necessary in order to use multimedia appropriately and accurately.

The use of the Web 2.0 changed the educational world and the L2 teaching and learning was not the exception. According to O'Reilly (2005), the Web 2.0 are web applications that facilitates interactive information for sharing, interoperability, user-centered design, and collaboration on the World Wide Web. They are the evolution of traditional technologies into web applications focusing on the user. This end user vision helped the teaching and learning process dramatically in L2 basically in part for giving the opportunity to the learning of interacting in social networking and web based communities, along with expressing their opinions in blogs, doing collaborative work with wikis, and developing oral language skills with podcasts. The strategy of using the Web 2.0 in L2 learning provided motivation for students who at a certain a period needed to empower their personality and sociocultural aspects in order to acquire fluency.

IV. What is Gamification?

The concept of Gamification is basically new, and according to Werbach and Hunter (2012), is the use of game elements and game design techniques in non-game contexts. It is based in the success of the gaming industry, social media, and decades of research in human psychology. Basically, any task, assignment, process or theoretical context can be gamified.
The main objectives focuses on increasing the participation of a person, which most of the time is called or mentioned as an "user", and motivate him/her by incorporating game elements and techniques, like leaderboards and immediate feedback. This creates in the users a sense of empowerment and engagement in the way they work thru processes and achieve tasks. In addition, understanding the basic concepts of the games becomes essential at the time of delineating and using Gamification as strategy. But even before thinking about the motivational aspects that this concept provides, is necessary to re-visit the four components of the definition which are: games, elements, design and non-game contexts.

These components are explained in the work of Sailer, Hense, Mandl, and Klevers (2013) as follows:

"The term game is usually understood to imply the following situational components: a goal, which has to be achieved; limiting rules which determine how to reach the goal; a feedback system which provides information about progress towards the goal; and the fact that participation is voluntary". The term element helps to distinguish the concept of gamification from serious games, which describe full-fledged games for non-entertainment purposes. Gamification on the other hand refers to the explicit use of particular elements of games in non-gaming contexts.

The term design refers to the use of game design instead of game-based technologies or practices of the wider game ecology. As stated before, the area of application of gamification is very broad. To take account of that and to prevent limiting the definition to certain contexts, the area of application is just described by the term non-game-contexts."

Those components are essential to be understood individually, and are explained in an abroad form. On the other hand the concept of Gamification takes an additional perspective when the components, perceived as key elements, become instrumental in the development of the concept and application of the concept. For example the concept will involve the concepts of game elements, game design, and non-game context. Also, Gamification is diverse and has different uses.

a. Game elements

The regular design of patterns that design the games are known as game elements. Some of these elements, sometimes described as components, are seen in most of the games nowadays, including: points, badges, leaderboards, progress bars/progression charts, performance graphs, quests, levels, avatars, social elements, and rewards. All these elements have different purposes and can be adapted to basically any work, business or education related environment. A brief definition of each element is provided in the table below:

Points	Numeric accumulation based on certain activities.
Badges	Visual representation of achievements for the use shown online.
Leaderboards	How the players are ranked based on success.
Progress bars/Progression	Shows the status of a player.
Performance graph	Shows player performance.
Quests	Some of the tasks players have to fulfill in a game.
Levels	A section or part of the game
Avatars	Visual representation of a player or alter ego.
Social elements	Relationships with other user through the game.
Rewards/reward system	System to motivate players that accomplish a quest.

Table 3. Game elements and definitions

Each game element used in Gamification enhances automatically the teaching and learning process of L2. Most of the games the public knows have these elements nowadays, but all of them follow a systematic plan. Every game integrates three basic elements: meta-centered activities, rewards, and progression (Dickey, 2005). This follows what is expressed by Smith- Robbins (2011), who mentions that all game activities are meta-centered and have activities of this kind because they are oriented towards a specific objective which ultimately focuses on winning by defeating obstacles and other conditions, in order to achieve or complete a quest. In addition, and depending on the context, each game employs a mechanism for the player to receive rewards or reward system. There are three principal categories, which include: leaders, prizes or awards, and achievements.
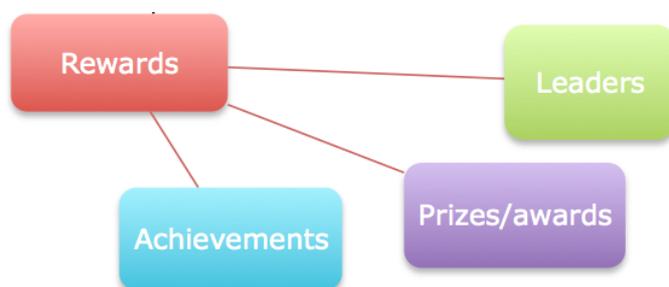

Image 1. Principal categories of game elements

The leaders are the users classified based on their game success. The same concept is used in sports and most of the time incorporates a leaderboard, which could serve as a strong motivator. This category is typically used in competitive activities, but is often employed by the business world to motivate teamwork. Another reward system includes prizes or awards. This type of reward occurs in games where the player is able to unblock additional activities or levels after successfully accomplishing the previous ones. Prizes/awards promote an additional commitment and engagement by the player (Glover, Campbell, Latig, Norris, Toner & Tse, 2012) and that is one aspect which is persisted in L2 learning. Finally, achievements are publicly shown icons, or the so-called badges, in the player's online profile. They are perceived as the integration or combination of the previously mentioned reward categories. The integration and use of badges, each with a different meaning, has grown tremendously in part to the development of game consoles and online gaming. For the L2 learner motivation arrives in the way of acceptance or blending in. If they receive the recognition they will me motivated to move to another level or reach an additional reward. The final basic element implemented in games is progression. According to Dickey (2005), progression is a very important element for games. Most of all for the level of engagement and motivation it gives to the player. Its main objective is to maintain the player informed on how much progress he or she has in the level. In addition it gives the player the necessary information about the goals that were completed and the necessary tasks to complete de level. It also represents the player's journey, which could be part of a series of small challenges embedded into a larger challenge (Werbach and Hunter (2012). In the L2 classroom the educator implements progression by systematically promoting healthy competition and showing the progress to the class. The L2 learner is able then to see his or her progress and becomes a risk taker while he is motivated to move on or continue.

b. Game design and non-game contexts

Another component in the definition of Gamification mentioned by Werbach and Hunter (2012) is game design. Basically, games are not only elements; games are design systemically and artistically for the purpose of fun but they need to be creative and focused. They need to provide originality and not merely be clones of others. Also, originality and character is necessary to provide depth and richness to the player's experience. Good game design is balanced and leaves the player with a feeling on how was the game experience overall. For example: Was it challenging? Was it hard? Was it easy? In addition, game design has an experiential aspect that involves the integration of current and novel approaches based on exploration and discovery that could be applied to Gamification and motivate the player.

Werbach and Hunter (2012) mentioned that Gamification is developed following a non-game context vision. What this means is that the target objectives won't be focused solely in having fun or enjoyment, both will be part of the experience. The vision of non-game contexts has been essential in the development and training of employees by many companies around the world. Pappas (2013) mentions that the use of game like strategies make training for the work environment more interesting, gratifying, and applicable than other techniques.

c. Current uses of Gamification

As the article indicates, the concept of Gamification is not new. Plenty of uses have been given before that fit the criteria. But, nowadays with the proliferous use of social media and the accessibility to the Internet, the concept is being applied to plenty of diverse uses. Some uses include: employee motivation, conceptualization of the concept of energy preservation, to beat and understand diseases, create healthy competition, to promote charitable donations, promote customer loyalty, education, language learning, among others. There are several Gamification projects that are currently been used and that move away from the typical check-ins to earn points or badges encouraged by the Foursquare app. The following are three examples that present the concept of Gamification with diverse purposes. In addition, Gamification is currently implemented with educational purposes as a strategy to foster student engagement in different content areas including L2 learning.

U.S. Army-America's Army

For many years the U.S. Army has been using games for training purposes. But, nowadays they are using Gamification, by integrating a gamifying experience called America's Army, with the final mission of recruiting people for their branch of the United States armed forces.

Samsung Nation

Everyone identifies Samsung, the South Korean company with state of the art phones, tv's, tablets among other things. But there is a strong market demand and competition in this industry. They created a gamified social loyalty and customer engagement program called Samsung Nation where they use elements such like badges, and progress through levels of achievement. Samsung created this social project in order to establish a branded content for the company. Thru Samsung Nation

users get engage within the community in reviewing products, watching videos, and other activities.

Chore Wars

One of the aspects of Gamification it that in order to promote motivation it promotes competition. But is not a competition that will finish in discord, is healthy competition to engage people in achieving an objective. This type of competition is presented thru ChoreWars, which is often used for employee motivation.

V. Gamification in Education and Second Language Learning

The use of technology in education has become necessary to fortify the teaching and learning experience in the 21st century. Throughout the years we've seen dramatic changes and experienced transitions that had move forward computer hardware and software, along with web-based technologies towards instruction. Most of all, we've experienced dramatic changes in the educational interests and the ways to teach different generations. Nowadays, most of the students are digital natives, and they learn and process information different (Prensky, 2001). The also called millennial generation shares information and is used to blogging, gaming and social networking. Instead of emails they prefer to text and have created a language based on acronyms. They are focused toward everything that is web based and are not afraid of expressing or assuming an individual or shared vision. Based on this type of learner plenty of instructors from different subjects, including L2 teachers, are implementing several teaching strategies that use plenty of Information and Communication Technologies (ICT's), Distributed Learning, Mobile Learning resources and Gamed Based Learning. In addition, these educators are aware of new trends in educational technology and are integrating Gamification to their teaching. According to the NMC-Horizon Report (2014), Gamification is building support in teachers and the time of adoption is around two to three years. The report established clearly that:

> "the Gamification of education is gaining support among educators who recognize that effectively designed games can stimulate large gains in productivity and creativity among learners".

In addition, Gamification has become a tendency in online learning and in professional development for educators. The report presents the example of Kaplan University, who embedded Gamification software to their LMS and web applications; they ran a pilot program in one of their information technology courses with plenty of success as the NMC-Horizon Report (2014), mentions the following:

> "Students' grades improved 9% and the number of students who failed the course decreased by 16%."

In regards to professional development for educators the report presents the case of the Deloitte executive firm. They developed the Deloitte Leadership Academy and implemented educational Gamification. Some of the game elements they instituted were the use of badges for those who completed the curriculum-based missions. As part of the reward mechanism, learners were able to share their badges in their LinkedIn profile for worldwide view through the Internet.

Gamification has been the subject of research, discussion, and application in L2 learning and SLA a few years now. The objective for integrating Gamification towards education is to unchain a more attractive and effective learning experience for the student. Following this aspect the L2 learner feels attracted towards having this experience. This is based on the idea the L2 education has been immersed in technology innovation for many years. In order to change or set off a specific behavior, the learners need to be motivated and Gamification opens the door for the L2 learner to enhance its language learning experience and at the same time acquire the skill to solve any task or challenge the class, the unit, or the topic presents. In addition, Gamification offers the learners an opportunity to interact among them as it's implied in a social game. Following this criteria Gamification and several of the most common approaches and techniques in L2 teaching and are being integrated. Another detail is that when people perceive any form of social presence they tend to respond in a natural way to feelings such as happiness, empathy, and frustration, or even follow social rules like taking turns (Fogg, 2002).

A very important aspect in Gamification with educational purposes is based on the implication that envisions educational objectives. These educational objectives will be seen by the learner as challenges to be accomplished in order to move from one stage to the other. At the end the challenge and moving from one stage to the other becomes part of the learning outcome. This provides alternatives for L2 educators in order to plan effectively toward the language learning experience and fluency levels they are working with and rethink their practices based on the similarities they find in games and learning. For example by implementing Gamification the L2 learner could think of him or her as a player looking forward to complete a level. If this is translated to the psycho-pedagogical aspect, and following Ames (1990) and Pintrich (2003) the learner will be moving forward after successfully completing a unit, module, or task and the language learning is assessed thru a variety of game like experiences. Moving Educational Gamification into the L2 learning process let's the instructor plan instruction using a gamified shared vision, along with an increase in the time dedicated to the learning tasks and in the level of difficulty, in this case fluency towards the language approach. By following this learners become more engaged and motivated. In addition, motivation increases in a gamified instructional environment when the learner performance is publicly recognized thru a reward system of prizes/awards. In the case of Gamification in L2 and when badges are implemented, Buckingham (2014), acknowledges that it's use serves as a motivational tool and could become a form of formative assessment along with developing a higher classroom setting standards for the challenges that the learner presents while in the quest of achieving fluency in L2. An analog example of a reward system was when the teacher publicly recognizing a student by giving him/her a golden star. According to Glover, Campbell, Latig, Norris, Toner and Tse (2012), the use of badges or another reward-gamified system should motivate the students in more competitive tasks, for example creating a research paper, and should never substitute to be exempt of a test. If this occurs the real learning process could be affected (Meece, Anderman, Anderman 2006).

a. Educational gamification five step model

In order to apply Gamification, regardless of the course, to the teaching and learning process aseries of steps needs to be followed. These will guide the instructor to plan accordingly the Gamification aspect. In order to gamify instruction, the educators follow a five-step model. This model is presented in an image below from the work of Huang and Soman (2013).
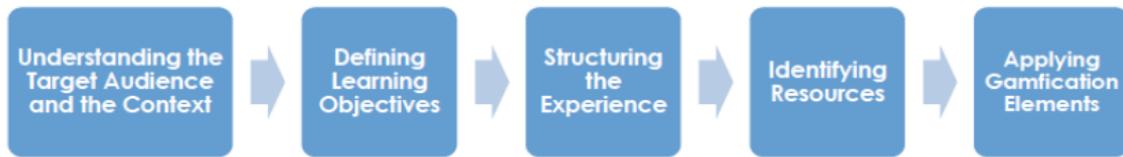
Image 2. Educational Gamification Five Step Model (Adapted from Huan and Soman (2013)

In order to deal with step one, Understanding the Target Audience and the Context, the instructor needs to know who his or her students are. A combination of the target audience is necessary along with analysing the context to understand several key factors like group size, environment, skills sequence, and length. Is in this step that the "pain points" appear. Those pain points are several factors that prevent the learner advancement of the program. There are some common pain points in education: focus, motivation, skills, pride, learning environment and nature of the course, and physical, mental and emotional factors. By understanding these points the educator will be ready to determine the Gamification elements to implement.

Defining the Learning Objectives, step two, is always necessary for a successful teaching and learning experience. These objectives need to have general instructional goals, specific learning goals, and behavioral goals. In order to have a successful learning experience thru Gamification the instructor needs to have the ability of combining and implementing the learning objectives.

 Step three on the five-step model, Structuring the Experience, looks to break down the program and identify the main points. In these stage the instructor prepares the sequence and quantify what the student needs to learn and achieve by the end of each stage. If students are staying behind, the instructor needs to re-think and provide a push for motivation in order for the student to complete the stage. The educator needs to move his educational program from simple to complex by starting with easier milestones so that the student stays engaged and motivated.

 As seen in the image above, Identifying Resources is step four of this model. At the moment the stages have been identified, the teacher will have complete assurance of which stage can or can't be gamified. The instructor needs to reflect in regards to several aspects that need to be considered. These are: tracking mechanisms, currency, levels, rules, and feedback. The image below presents these aspects along with definitions.
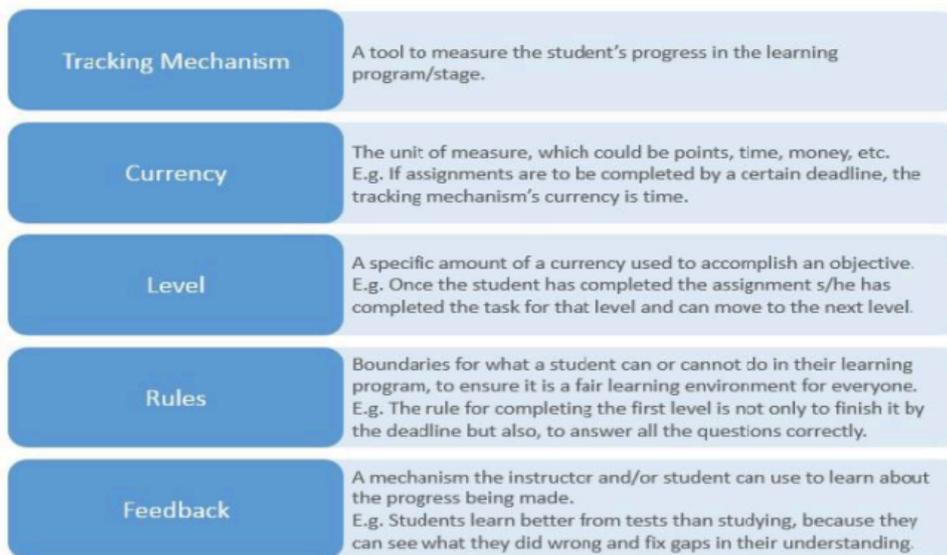
Image 3. Step 4 definitions

The last step of Huang and Soman (2013) model is Applying Gamification Elements. In this step the educator decides which Gamification elements should be applied. The elements are divided in self and social. Self-elements most of the time uses badges, levels and time restrictions. They focus on making students compete with themselves and recognize self- achievement. Meanwhile, interactive competitions along with cooperation are seen as social- elements. Is with this type of element that students' achievements are made public and the students become part of a community.

By following the previous steps, educators will have the opportunity for strategic planning in what could become a heaven of educational creativity towards the teaching and learning process. There are plenty of activities that educators could implement thru Educational Gamification. These activities could be transferred toward L2 instruction. Some might include the use of online educational games, best guess, rewards system, badges, use of Nintendo WII or Xbox and the Internet for plenty of educational digital game based activities, and combining social platforms and social education platforms where badges and progression could be located and seen. All of the previous are focus on engaging the learner in healthy competition. Nowadays, one key essential need for the learners is to be motivated and that is the core that moves Gamification. Through the use of game elements like avatars, badges, leaderboards, progress charts, among other, learners will receive an extra input, similar to the one they have in console games that will motivate them to achieve another educational task or even learn a second language.

b. **Differences between Gamification, game-based learning, simulations and serious games**

At this stage is necessary to present the differences between the concepts of Gamification, Game Based Learning, Simulations, and Serious Games. As is has been previously establish the concept of Gamification is the use of game elements and game design techniques in non- game contexts

(Werbach & Hunter, 2012). This is used as part of stimuli in the teaching and learning process. On the other hand Caponeto, Earp and Ott (2014), presents Game Based Learning as the adoption of games for educational purposes. Meanwhile, Kapp (2012) comments that Simulation is a self-contained type of environment where interaction is essential for the learner to practice skills and knowledge. In addition, he mentions that Serious Games are a certain type of game that was design with pure entertainment not as it's primary purpose. The following table demonstrates the four concepts and offers examples, illustrations along with a brief description of each.

Gamification (Educational): Class Dojo Is an Educational Gamification tool designed to keep students on track and manages student behavior. Several game elements are used like avatars and progress. It gives the opportunity for real time feedback. Can be accessed online or downloaded as an app.	
Game-Based Learning (Digital): Ten Frame Game This is an online educational game suited for younger learners. The objective is to have fun while learners understand the concept of place value.	
Simulations (Educational): Sid Meier's Colonization It is a simulation that works for computers with Windows and MacOS. The objective of the game is for the user to create a new country while acquiring plenty of social studies and history knowledge along with vocabulary development.	
Serious Games: 3rd World Farmer It's a browser simulation online game that lets the advanced learners experience some of the hardships of farming in a poor country. It's a great alternative for developing character and decision-making. In addition it creates in the learner a sense of self-awareness.	

VI. Motivational Implications between Gamification and Second Language Learning

Personality factors influence dramatically the L2 learning process. Brown (1994) presents several of these and suggests that they contribute positive in successfully learning L2. These factors include: The Affective Domain, Self-Esteem, Inhibition, Risk-Taking, Anxiety, Empathy, Extroversion, Myers-Briggs Character Types, and Motivation. The common denominator between L2 learning or SLA and Gamification is Motivation. According to Shcunk, Pintrich, and Meece (2010), motivation is the psychological process responsible for initiating and continuing goal directed behaviors. It is frequently demonstrated by an individual choice to engage in an activity and the intensity of effort or persistence in the activity (Garris, Ahlers, and Driskell, 2002). There are two types of motivation that are essential in L2 learning and are considered personality factors. These are Intrinsic and Extrinsic motivation. But before explaining these two clusters is necessary to understand three motivational concepts that were part of significant studies in L2 learning that

will contribute to enhance the motivational aspects and work with Gamification. These are: Instrumental, Integrative, and Assimilative motivation. The studies conducted by Gardner and Lambert (1972) and demonstrated by Brown (1994), presented Instrumental and Integrative motivation.

> " Instrumental motivation refers to motivation to acquire a language as means for attaining instrumental goals: furthering a career, reading technical material, translation, and so forth. On the other hand Integrative motivation is employed when learners wish to integrate themselves within the culture of L2 group to identify themselves with and become part of society".

Another scholar who established a definition towards motivation and L2 learning was Graham (1984). He was able to define Assimilative motivation as:

> " The drive to become an indistinguishable member if the speech community, an it usually requires prolonged contact with the second language culture. Assimilative motivation is characteristic of people who, persons at a very young age, learn a second language and second culture".

Turning back to Intrinsic and Extrinsic motivation, Lepper (1988) explained that when people are intrinsically motivated they tend to take an activity for their own sake, for the enjoyment it provides, the learning it permits, or the feeling of accomplishments it evokes. On the other hand when people become extrinsically motivated is to obtain some reward or avoid punishment. According to Muntean (2011), Gamification combines these two types of motivation. In addition the game elements will adjust greatly for the L2 learner. For example by using extrinsic rewards like levels, points, and badges to improve engagement while intrinsically motivating towards the achievement, mastery, autonomy, and sense of belonging. In addition competition, social interaction, and cooperation the second language learner becomes motivated.

a. Perspectives in motivational researche

There are six principal perspectives in motivational research that has been linked to Gamification and can be applied to L2 learning: Trait, Behavioristic Learning, Cognitive, Self- determination, Interest, and Emotion explained in the work of Sailer, Hense, Mandl and Kelvers, (2013). Each perspective has its own characteristics that enhance motivation for the L2 learner. For example, the Trait perspective observes motives as individual characteristics and some of the important one that it presents include achievement, need for power, and affiliation (McClelland, 1961; 2009). Many times the L2 learner fills out of place or receive a culture shock and thru the integration of this perspective he or she could survive that socio cultural factor that prevent the learning to happen. On the other hand, Behavioristic Learning is seen as a result of previous experiences, including past positive or negative reinforcement, or stimulus-response bonds (Skinner, 1963). An application of these toward enhancing L2 and Gamification will be to use reflexive journals or sharing experiences thru the creation of an avatar. The Cognitive perspective perceives motivation as a means-ends analysis where is dependent of situation-specific goals, and expectancies regarding the outcome of the situation itself, expectancies of the consequences of the outcome, and the subjective value (Heckhausen, 1977; Heckhausen & Heckhausen, 2008). Also the influence on the variables could differentiate a performance intrinsic motivation (Schunk, Pintrich, & Meece,

2010). The perspective of Self-determination postulates the psychological needs for competence, autonomy, and social relatedness. The fulfilments of these needs are necessary in intrinsic motivation and can be extrinsically perceived by the fulfilment of the needs (Ryan & Deci, 2000). On the other hand, Interest is seen by researchers as an affective and cognitive variable and evolves in content specific and interaction with the environment (Hidi, Renninger, Krapp , 2004). Finally, Emotion can be influenced by instructional strategies as it outlined by researchers as an emotional design of instruction, which works with motivational mechanisms (Astleitner, 2004). All of the previous perspectives have implications for practice in L2 learning thru Gamification. The table below shows some of these implications based on their perspective and adapted from the work of Sailer, Hense, Mandl and Kelvers, (2013).

Perspective	Implications
Trait	"Players with a strong achievement motive are likely to be motivated if Gamification mphasizes achievement, success and progress. Players with a strong power motive are likely to be motivated if Gamification emphasizes status, control and competition. Players with a strong affiliation motive are likely to be motivated if Gamification emphasizes membership".
Behavioristic learning	"Players are likely to be motivated if Gamification provides immediate feedback in form of positive and negative reinforcement. Players are likely to be motivated if Gamification offers rewards".
Cognitive	"Players are likely to be motivated if Gamification provides a clear and achievable goal. Players are likely to be motivated if Gamification highlights the resulting consequences of a goal. Players are likely to be motivated if Gamification emphasizes the importance of a persons' action within a given situation. Players are likely to be motivated if Gamification fosters mastery orientation regarding goals".
Self-determination	"Players are likely to be motivated if they experience the feeling of competence. Players are likely to be motivated if they experience the feeling of autonomy. Players are likely to be motivated if they experience the feeling of social relatedness".
Interest	"Players are likely to be motivated if Gamification meets the players' interests and sparks interest for the situational context. Players are likely to be motivated if Gamification enhances the feeling of flow by providing direct feedback. Players are likely to be motivated if Gamification enhances the feeling of flow by providing a clear goal. Players are likely to be motivated if Gamification enables the feeling of flow by adapting the level of difficulty to ones' individual skills and competences".
Emotion	"Players are likely to be motivated if Gamification decreases negative feelings like fear, envy, and anger. Players are likely to be motivated if Gamification increases positive feelings like sympathy Emotionand pleasure".

Table 4. Psychological perspectives and implications

VII. Gamification Apps for Enhancing anf Motivating Second Language Learning

The use of Gamification in L2 learning has brought the use of many tools to enhance the language learning process and motivate the learners. It's very important to remember that in a gamified classroom setting the tool will serve a purpose and it shouldn't substitute the target goal of the unit or module. This is also essential in L2 learning. With many tools to choose from in educational technology, the L2 educator needs to use them accordingly to the target audience and combine it with the appropriate language learning approach or strategy. These Gamification tools are frequently used in L2 learning: Duolingo, Class Dojo, Edmodo, Zondle, Socrative, and Brainscape.

a. Duolingo

Is a Gamification language learning translation platform where users progress through several levels. It works for iPhone, iPod Touch, iPad, and Android. It covers the areas of speaking, listening, grammar and vocabulary necessary for L2 learning and content is always presented in whole sentences. The user can select between six languages including English, Spanish, Portuguese, Italian, German, and French. The feedback is immediate and the learner can easily track progress. Educators can use it as part of daily homework. It motivates student-driven work along with communication and collaboration.

b. Class Dojo

Previously in the article, this application was presented as a pure example of Gamification. This main purpose of Class Dojo is to provide the instructor with a platform for student behavior management. It also helps in motivating L2 elementary school learners thru strategies that combine avatars, points, and leaderboards. Parents can be involved and connect with the educator. It track, shares, and evaluate student participation along with immediate feedback. It lets L2 learners adjust to a new language by easing the transition in a flexible way. It can be accessed via the Web interface or an Android or iOS app.

c. Edmodo

It's a safe social networking platform for education with Gamification elements like badges and quests. It can be used as an extension of the classroom for all educational levels. In addition, it has an interface very similar to Facebook. Students can comment on posts, submit assignments, and track their progress. Educators can post polls, open discussion boards, design quizzes, and post assignment. It's a great motivating tool for L2 instruction because it promotes collaborative learning, teamwork, and parents have an account where they can receive feedback from the instructor. In addition the L2 learner can practice spelling and grammar through conversational postings and could create differentiated instruction through small groups and shared folders. Edmodo works with any Web browser, iPad, iPhone, iPod Touch, Android, Windows Phone.

d. Zondle

It is a Game Based Learning platform that incorporates Gamification. Using it the educator can create quizzes and has plenty of content. Student will be engaged with the games. Most educators use it as a reward. It's great for homework and practice. The Zondle experience benefits L2 language instruction based on the exercises/quizzes it has. Also the progress tracking and other elements like avatars, leaderboards, and Zollars, which are elements that increases or decreases based on the answers to the quizzes and the engagement. Students can use Zondle thru web browsers, smartphones and tablets.

e. Socrative

Is a dynamic smart student response system that engages students via smart phones, tablets, and laptops, and empowers educators to formative and summative assessing their students. It's a great tool for the L2 classroom because students can answer questions forgetting about the stress involved in trials and errors, which lowers anxiety. It allows the users to import images to the question items and it feature Gamification strategies including live results, immediate feedback, and effortless data analysis.

f. Brainscape

Is a Web based and mobile app platform, which integrates customizable flashcard to track student progress. The method is known as confidence based repetition. It's a great enhancer and motivator for L2 vocabulary learning. In addition, it provides automatic feedback, reinforcement and specific phrases in the target language along with sentence construction. Audio is provided for the language cards. It demands students to think critically about their learning.

VIII. Conclusion

In conclusion, it can be established that the use of Gamification in L2 learning contributes positively to the learning experience based on the information presented. At the same time learning interventions need to be taken with precaution. Gamification helps the L2 learner in plenty of personality factors. In addition the learner moves forward from an introverted mode of shyness and more motivated based on positive feedback and the game elements used. Gamifying the L2 classroom enhances the learning of writing, reading, and speaking and motivates collaboration and interaction. Through Gamification the educator is able to create meaningful experiences that will move away from just a game thinking mentality to a techno-constructivist mentality. To achieve success with Gamification in L2 learning the objectives and goals need to be aligned and have formal assessment criteria. According to Fogg (2009), by selecting the proper tools positive changes in behavior will happen. There are still plenty of challenges in the L2 classroom, and by understanding the importance of Gamification in L2 learning they will be confronted with initiatives where students will be in charge of their own learning. Finally, how L2 learners work with intrinsic motivation is another challenge. Most of all, when extrinsic motivation through the use of reward systems could interfere with the main learning objectives and instead of enhancing motivation create a stage of boredom that could limit leaning the target language. There's still plenty of research to be done in the field of Gamification and Second Language Learning in order to have

enough empiric evidence to sustain a theory. But as the article explained, by combining Gamification along with some of the new technology trends and L2 approaches and strategies, the L2 learner and becoming motivated is a strong possibility.

References

Ames, C. (1990). Motivation: What Teachers Need to Know. Teachers College Record, 91 (3), 409-421.

Anderson, J. (1983). Cognitive psychology and its implications (2nd ed). New York: Freeman.

Astleitner, H. (2000). Designing emotionally sound instruction: The FEASP-approach. Instructional Science, 28, pp. 169-198.

Brown, H. (1994). Principles of Language Learning and Teaching (3rd ed.). Englewood Cliffs, New Jersey: Prentice Hall.

Bruner, J. (1966). Toward a Theory of Instruction. New York: W.W. Norton and Company.

Buckingham, J. (2014). Open Digital Badges for the Uninitiated. The Electronic Journal for English as a Second Language, 18(1).

Caponetto, I, Earp, J. & Ott, M. (2014). Gamification and Education: a Literature Review. Professor Dr.-Ing. Carsten Busch (ed.), Proceedings of the 8th European Conference on Games-Based Learning - ECGBL 2014, 50-57. Academic conferences and publishing international Limited, London (Regno Unito). ISBN: 978-1-910309-55-1.

Deterding, S., Sicart, M., Nacke, L., O'Hara, K., & Dixon, D. (2011) Gamification. using game-design elements in non-gaming contexts. In Proceedings of CHI Extended Abstracts, 2425-2428.

Dickey, M. D. (2005). Engaging by design: how engagement strategies in popular computer and video games can inform instructional design. Education Training Research and Development,53 (2), 67-83.

Fogg, B. J. (2002) Persuasive technology: using computers to change what we think and do.Ubiquity 2002, December.

Gardener, R. and Lambert, W. (1972). Attitudes and Motivation In Second Language Learning. Rowley, MA:Newbury House Publishers.

Garris, R., Ahlers, R., & Driskell, J. E. (2002). Games, motivation, and learning: A research and practice model. Simulation and Gaming, 33 (4), 441–472.

Gass, S and Selinker, L. (2001). Second Language Acquisition (2nd ed.) Mahwah, NJ: Lawrence Erlbaum.

Gass, S. (2002). An interactionist perspective on second Language acquisition. In R. Kaplan (Ed.), The Oxford handbook of applied linguistics, 170-181. Oxford: Oxford University Press.

Glover, I., Campbell, A., Latif, F., Norris, L., Toner, J., & Tse, C. (2012). A Tale of One City: Intra-institutional Variations in Migrating VLE Platform. Research In Learning Technology, 20. Accessed: 27/11/2012 http://dx.doi.org/10.3402/rlt.v20i0.19190

Graham, C.R. (1984). Beyond Integrative Motivation: The development and influence of assimilative motivation. Paper presented at the TESOL Convention , Houston TX, March, 1984.

Hart, B. and Risley, T. (1995). Meaningful Differences in the Everyday Experience of Young American Children. Brookes Publishing.

Heckhausen, H. (1977). Achievement motivation and its constructs: A cognitive model. Motivation and Emotion, 1(4), pp. 283-329 .

Heckhausen, J., Heckhausen, H.(2008). Motivation and Action. Cambridge University Press, Cambridge

Hidi, S., Renninger, K.A., Krapp, A. (2004). Interest, a Motivational Variable That Combines Affective and Cognitive Functioning, In: D.Y. Dai, R.J. Sternberg (eds.), Motivation, emotionandcognition: Integrative perspectives on intellectual functioning and development,pp.89-115,Erlbaum, Mahwah.

Huang Hsin Yuan, W. and Soman, D. (2013). A Practitioner's Guide to Gamification of Education. Research Report Series: Behavioral Economics in Action. University of Toronto –Rotman School of Management.

Hubbard, P., & Levy, M. (2006). The scope of CALL education. In P. Hubbard & M. Levy (Eds.), Teacher education in CALL (pp. 3-21). Amsterdam: John Benjamins.

Kapp, K. (2012). The Gamification of Learning and Instruction. San Francisco, CA: Pfeiffer.

Krashen, S. (1982). Principles and Practice in Second Language Acquisition. Oxford: Pergamon Press.

Kimble, G. and Garmezy, N. (1963). Principles of General Psychology. Second Edition. New York: The Ronald Press Company.

Lepper, M. R. (1988). Motivational considerations in the study of instruction. Cognition and Instruction, 5(4), 289–309.

Levy, M. (1997). CALL: Context and Conceptualisation. Oxford: Oxford University Press.

McClelland, D.C. (2009). Human motivation. Cambridge University Press: Cambridge.

McClelland, D.C. (1961). The Achieving Society. Princeton, NJ.

Malone, S. (2012) Theories and Research of Second Language Acquisition. Retrieved on March 3rd, 2015http://www.sil.org/sites/default/files/files/theories_and_research_of_second_language_acquisition.pdf

Meece, J.L., Anderman, E.M., & Anderman, L.H. (2006). Classroom Goal Structure, Student Motivation, and Academic Achievement. Annual Review of Psychology, 57, 487-503.

Muntean, C. I. (2011). Raising engagement in e-learning through gamifi cation. Proceedings 6th International Conference on Virtual Learning ICVL (pp. 323–329), Cluj-Napoca, Romania, Europe.

New Media Consortium. (2014). Horizon Report on Technology and Higher Education. Retrieved on March 3, 2015 fromhttp://www.nmc.org/publication/nmc-horizon-report-2014-higher-education-edition/

O'Reilly, T. (2005). What is the Web 2.0: Design Patterns and Business Models for the Next Generation of Software. Retrieved on March 5, 2015. http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/whatisweb20.html

Pappas, C. (2013). Gamify the Classroom. Retrieved on February 12, 2015 from http://elearningindustry.com/gamify-the-classroom

Pintrich, P.R. (2003). A Motivational Science Perspective on the Role of Student Motivation in Learning and Teaching Contexts. Journal of Educational Psychology, 95(4), 667-686.

Prator, C.H. and Celce-Murcia, M. (1979). An outline of language teaching approaches. In Celce-Murcia,

M. and McIntosh, L. (Ed.), Teaching English as a Second or Foreign Language. New York: Newbury House.

Ryan, R.M., & Deci, E.L. (2000).Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American psychologist, 55(1), pp. 68-78.

Sailer, M., Hense, J.,Mandl, H.,Klevers, M. (2013). Phsycological Perspectives on Motivation through Gamification. Interaction Design and Architecture(s) Journal - IxD&A, N.19, pp. 28-37

Prensky, M. (2001). Digital Natives, Digital Immigrant, Part II: Do they really thing differently? On the Horizon, 9 (6), 1-9.

Schunk, D.H., Pintrich, P.R., & Meece, J.L. (2010) Motivation in education: theory, research, and Applications. Pearson: Upper Saddle River.

Siemens, G. (2005). Connectivism: A learning theory for the digital age. International Journal of Instructional Technology and Distance Learning. 2 (1), 3-10.

Skinner, B.F. (1963). Operant Behavior. American Psychologist, 18(8), pp. 503-515.

Smith-Robbins, S. (2011). "This Game Sucks": How to Improve the Gamification of Education. Educause Review, 46 (1), 58-59. Retrieved on 2/2/2015/ from http://net.educause.edu/ir/library/pdf/ERM1117.pdf

Swain,M.(1985).Communicative Competence: Some Roles of Comprehensible Input and Comprehensible Output in its Development. In S. Gass & C. Madden (Eds.), Input in Second Language Acquisition. Rowley, MA.: Newbury.

Taylor, B. (1983). Teaching ESL: Incorporating a communicative, student centered component. TESOL Quarterly 17:69-88.

Werbach, K and Hunter, D. (2012). For the Win: How Game Thinking Can Revolutionize Your Business. Philadelphia, PA: Wharton Digital Press.

Ybarra, R., & Green T. (2003). Using technology to help ESL/EFL students develop language skills. The Internet TESL Journal, 9 (3). Retrieved from http://iteslj.org/Articles/Ybarra-Technolo

Recommended citation

Figueroa, J. (2015). Using Gamification to Enhance Second Language Learning In: *Digital Education Review*, *21,* 32-54. [Accessed: dd/mm/yyyy] http://greav.ub.edu/der

Subscribe & Contact DER

In order to subscribe to DER, please fill the form at http://greav.ub.edu/der