

# Gamification: Another Perspective Of Pedagogy

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**Abstract:** *Nowadays we live in a digitalised world that has changed children's educative necessities. Internet, social networks and video games are part of the routine of children and young people of this generation, and this affects their integral development. Gamification is a popular trend in innovative pedagogical methodologies and its favourable results are demonstrated by a wide range of scientific researchers. Despite this, there are still prejudices and ignorance about their influence on learning. In this article, I talk about what gamification is, its relationship with learning and its benefits for the integral development of students*

**Keywords:** *digitalized, Gamification, innovative, integral development, learning*

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## I. INTRODUCTION

It is widely believed that playing means enjoying and having a peaceful moment to disconnect to other activities that suppose more effort. However, what goes on in our heads when we are playing?

This article aims to eliminate the prejudices that exist about gamification, which is confused by many parents and some teachers as a waste of time in which nothing is learned. Gamification and gaming are not the same thing and having fun learning does not mean less effort, but on the contrary, it means greater involvement and participation. Despite some literature, I add some conclusions of my experience in elementary school during my last years of internships.

## II. CONTEXT. PROBLEMS AND NECESSITIES

We live in a digital world, where globalization is its main characteristic. Children start using the internet earlier as a resource to answer and autonomously satisfy their curiosity. Particularly, the millennial generation grows up with video games and have started using social networks before they enter the labour market. Their necessities have changed that previous generation. They need continuous feedback, a sense of competition, creativity, expressing their ideas and social status. They are the most connected generation and the most prominent social media users [1]

Moreover, certain skills such as collaborative work, critical thinking, creativity and the efficient use of ICTs are required not only to get a job but also to adapt to this new society. As I said before, the use of the internet and video games are part of our children routine. However, while we tend to focus on the bad consequences of this environment, we forget the cognitive, affective and procedural consequences that children could develop in it. Thus, what happens when our children play with videogames?

Gamification and games have become a popular topic, firstly in business and nowadays in the educative world. Despite being a relatively modern and innovative concept, all researchers conclude that gamification could change mindsets and there are increasing studies about how the game processes and experiences can be used to create more engaging workplaces [1]

What is more, gamification is everywhere, especially in the digitalised society in which we live. Internet and social media modify and reshaped implicitly and explicitly people interactions across online communities; also, social networks are designed with game elements; technological devices as smartphones let sharing motivational experiences; without forgetting videogames and augmented reality as current tools to promote gamification and a real sense of discovery [1]

### **III. WHAT IS GAMIFICATION?**

Until now, especially since the 20th century, there have been many studies on the importance of play in development and learning, especially in the field of psychology and sociology. From the Constructivist Theory, Piaget considers playing as an intellectual tool that allows the individual to know and interact with their environment, assimilating external information and reworking their previous cognitive schemas. On the other hand, socio-constructivist theories, with Lev Vygotsky or Bruner, consider play as the ideal context as a zone of proximal development.

Over time, games and, more recently, educational video games have been created in order to improve motivation and academic performance in students. However, research shows that they do not have the same effect as normal video games. This has led to the creation of gamification as a new teaching strategy. However, to date, research on gamification is still very scarce, but what is certain is that they all agree that gamification promotes student motivation.

Gamification is a relatively modern and innovative concept that start in the business world to promote the engagement, enjoyment and loyalty of customers and workers. However, this concept has its background in the digital media industry with a business purpose [2]. Deterding defines gamification as the use of games design elements in non-playful contexts to create a playful environment and thus to enhance all the benefits of play and stimulate and motivate both competition and cooperation between players. Gamification is the application of game strategies (thoughts and mechanics) in non-game contexts, outside of games, to make people adopt certain behaviors, as well as enhance motivation, concentration, effort, loyalty and other positive values common to all games.

These definitions, among others, coincide in considering gamification as a process or mechanism that introduces strategies and elements of games into non-game contexts, to transmit the content or change behaviors through the creation of a playful experience that encourages motivation, involvement and fun. Thus, are gamification and game synonyms? and, if a non-game context in the educational environment, how does gamification influence learning? We will answer these questions in the next part.

#### *3.1 Origin: The play*

The need to play is an intrinsic human need. We are genetically prepared to play during our childhood and, unlike other species, we are prepared to play for the rest of our lives. When we play, we have to recall our prior learning and build new understanding, we have to put in practice some strategies of problem-solving and, especially, we are learning values in the way to interact with other people. Playing is a good way of socializing and build our mindset and personality.

Play is a pleasurable activity that is carried out voluntarily, spontaneously and, in general, with no other aim than to have fun, providing our own space for autonomy and independence [3] Independently of the level of development of children and the type of the play, play is a developmental factor, and it evolves as human beings grow:

- It has a component of surprise and uncertainty that also provides satisfaction
- It incorporates a wealth of experiences and positive emotional attachments. The brain needs emotion to learn [4]
- It allows being aware of one's own abilities and as a result, feeling proud of his or her achievements
- Emphasizes the process rather than the outcome. Play is an end in itself, what moves the child to play is the play activity itself, through intrinsic motivation

Consequently, it is supposed an effort. Playing involves concentration, searching for alternatives, participating, improving... in short, it requires involvement. In particular, it is a context of experimentation and discovery that allows the child to get to know the environment around him/her in a controlled and risk-free situation. For that reason, it satisfies the need for exploration, curiosity and the desire to innovate

### **IV. PLAY IN AN EDUCATIONAL CONTEXT**

The philosophy of learning through play is nothing new. Thinkers such as Platon and Aristotle have referred to it since classical antiquity. In the book *The Laws*, Platon was one of the first to recognize the practical value of play and recommends that children use apples to learn mathematics better. Some researchers

centre on gaming elements rather than psychological aspects. However, gamification implies more psychological and social aspects than technological.

From the psychological perspective, it was in the 20th century that play began to be related to human development, and to be considered as an activity that allows the development of competencies that children will have to master in adult life:

From Piaget's constructivist theory, play is considered as an intellectual tool that allows children to get to know their environment through interaction with it, understanding external information and reworking their previous cognitive schemes. From the socio-constructivist theory, Lev Vygotsky considers play as a stimulator of development that brings together the most favorable conditions for development to take place, that is, play as the genuine context of proximal development. And according to Bruner, play is a basic tool of cultural appropriation, in which social values of a given society are transmitted, such as fairness or competitiveness. Moreover, it is an activity with a strong motivational component, through which children experiment and discover.

Both Piaget and Bruner explicitly mention play as a key part of learning. The first one sees play as a tool for constructing knowledge of objects, people and events in the environment, while the latter sees it as a context in which learners are motivated and the chances of error are minimized.

On the other hand, there are some theories of social sciences like *Self-Determination Theory* of Ryan and Edward, *Job-Demand Resource Model* of Demerouti or *Flow Theory* of Csikszentmihalyi [5]

However, it is not until the end of the 20th century that we begin to talk about play as an object that is intended to have more value beyond play, in fact, it is when the term "serious play" or "educational play" appears.

### *4.1 Play, game, serious game and gamification*

In the school environment, there are different play situations, from the most directed (activities presented in the form of games), intermediate involvement (where we find planned play situations) and the freest (play for play's sake) where the teachers are merely supervisors. All of them are important as they address different objectives. This is not to say that everything is learned through play, but it is a natural and essential tool in which development and learning are interrelated and it occurs in all educational settings. Therefore, not all activity has to be playful, what is important is to create a playful climate. For that reason, it is important to distinguish between play, game, serious games and gamification:

Playing implies non-ruled-based and expressive actions while gaming is a form of playing that is rule-based and oriented to achieve determinate goals, where the main purpose is to entertain and sometimes is used as an education tool. The last ones are educational games, like cards or video games, that are designed to learn specific subjects or some skills while they are playing.

On the other hand, both serious games (game-based learning) and gamification are not games, they are experiential learning techniques. However, they differ in the integration of game mechanics with training content. Serious games consist in integrating the actual games into the learning process to teach a specific skill or achieve a specific learning outcome, where the game is the training to achieve the goals. On the other hand, gamification consists of taking game mechanics in a non-game context in order to encourage users to participate, exhibit certain behaviors and get involved in achieving a series of objectives while having fun. Thus, gamification uses game elements as a reward for completing existing training modules (Goethe, 2019)

### *4.2 Gamification as innovative project*

The educational environment is a non-playful situation, in which the main objective is the development of the individual. Therefore, what better strategy than gamification to enhance the learning process of students, awakening their intrinsic motivation and making it a pleasant and fun process.

Nowadays, video games have taken on an important role in children's entertainment, to which they dedicate a large part of their time for the purpose of enjoyment. With this, we can ask ourselves, do all the hours that children dedicate to video games imply that they are really learning? Of course, as we have said before, every game implies an implicit learning of skills, knowledge and abilities.

Despite new studies and researches affirming the relationship between play and learning, in the educational context, from teachers' and parents' perspective, it is common to separate "serious work" and playful activity. Traditionally, when play is incorporated into the educational environment it has been used as a source of recuperation after more serious academic activities or it has only been used as a learning tool for certain students, especially those with learning difficulties. However, play is serious.

On the one hand, because it implies the voluntary participation and total involvement of the player in the task and, on the other hand, because it is a privileged context where all the dimensions of the human being are enriched.

Gamification goes further than educational games or video games, is a didactic strategy that enhances the intrinsic motivation of students towards the task and the achievement of learning objectives.

However, will these skills and knowledge that children acquire through video games allow them to learn the contents of the official curriculum? It is true that there are educational video games, but they tend to be a failure, as they are a copy of the textbook but in digital format. From an educational perspective, it is necessary to adapt to this new reality of video games in which our students are immersed as a possible learning environment.

Therefore, from the innovative role of education, experts and teachers have asked themselves: What is it that commercial video games have that is so attractive that educational video games lack? In other words, what are the elements or mechanisms that can complement the learning of the skills provided by the game itself, with the significant learning of the curricular content and objective?

From this reality of video games comes what we know as gamification in the educational context. Education is one of the fields where gamification is becoming a topic of interest for innovation in teaching-learning processes, mainly in technology-based learning (e-learning) and lifelong learning.

### **V. BENEFITS: MOTIVATION**

As I said before, the aim of gamification is to change some behaviors and promote motivation and engagement to achieve specific goals. Motivation drives human behavior and gamification consists of selecting the elements that make video games motivating and stimulating in order to apply them to another context, in this case, teaching and learning.

According to Miguel, *the elements, mechanics and dynamics are the DNA of games and gamification consists on transfer this DNA in non-play-environment* [6]

Game elements are the components of the games, such as narrative, avatars, challenges, and achievements. Games mechanics are the users' way to interact with the elements and represent the possibilities that allow integrating games elements into a specific non-gaming context. Finally, game dynamics shows the consequences of users' interaction, such as progressions, feedback, emotions and feelings of the player, relationships, and player recognition. Game dynamics means the meaningful use of game mechanics to achieve changes in human behaviour as increasing motivation and engagement.

From psychological analysis and research, the elements of gamification reflect different motivational mechanisms. These elements are points, badges, scoreboards, progress bars and performance graphs, missions and rewards, story and avatars. However, the game elements themselves only promote extrinsic motivation, due to they are external rewards. On the other hand, intrinsic motivation is more about the feelings, emotions, metacognition, and social interactions that the use of these elements and mechanics cause in the player. For that reason, these mechanics and elements are not applied arbitrarily.

When designing gamification environments, and matching the gamification elements with the motivational variables, we must take into account the characteristics of our students and the characteristics of the environment and available resources:

**With regard to our students:**

- Generate interest, encourage autonomy and positive emotions and feelings in the students. These motivational variables are specific to game elements such as avatars and the story.
- Foster feelings of competition, social relatedness, mastery orientation towards achievement and player participation. These motivational variables are specific to elements such as badges, scoreboards and progress bars.

Regarding the characteristics of the environment:

- Setting achievable goals, constant feedback and recognition of achievement that affirms the importance of action in players. These motivational variables are characteristic of elements such as quests and the point system.

## **VI. WHY IS GAMIFICATION IMPORTANT TO EDUCATION?**

As it said before, gamification promotes motivation and the correct use and planification it is crucial to promote significant learning in our students. Thus, what are the benefits of gamification in education?

- It makes learning fun and interactive and as a result, it promotes a higher learner engagement.
- It improves the memory capacity, retention, and knowledge absorption
- It promotes strategic thinking and problem solving, in order to not only resolve challenges but also deal with conflictive group situations.
- It could integrate interactive experiences and develop computer and simulation fluency.
- Gamification generates a learning collaborative environment. Moreover, this implies that is an integrative strategy that have benefits for all students.
- It benefits student self-esteem and self-confidence, in the way that students could see their own progress, their achievements and feel appreciated by their group and their own work.

During my internship, I could put in practice a gamification project where I saw some of these benefits. Indeed, the design and use of the game elements is not all. The most important thing is knowing the students (interests, capacities, personal characteristics...) and the objectives that you want to promote. Students are the main characters of the project and for that reason, the planification could not have the results that you want at first and you need to change during the experiences some facts in order to adapt to your students. It is crucial for the maintenance of motivation not only that the program of gamification was based on their interests, but also that the challenges are adapted to their capacities. Only then will we be able to foster intrinsic motivation in our students, i.e., to immerse them fully in the experience.

## **VII. CONCLUSION**

Despite all benefits of gamification, we turn back to the start. If there are a wide range of studies about the benefits of gamification, why are there still prejudices about this methodological strategy?

In my opinion, just as there are teachers who are up to date with new methodologies, there are also traditional teachers who do not feel like changing their methodology. In addition, in the case that the school integrate this kind of methodology in its educative project, not all parents indeed feel really involved. In fact, it is common that families know about the methodology of the class only through the information from their children. Consequently, they could have misconceptions about gamification [7]. The relationship and communication between teachers and families are crucial to implement and take advantage of these new methodologies. From my experience, the school meetings with the families are not enough, and the most time they focus on the marks of the students rather than deep about the philosophy of the school and why they use their methodology and the benefits they have.

Finally, it is widely believed that the term Gamification has become more popular in recent days for the COVID-19 situation, especially in the educative environment for the necessity to face the distance and lack of affective contacts. On the one hand, this experience has obligated us to reshape our educative philosophy and search for innovative alternatives to maintain the motivation, attention and create an emotional bond in the students. On the other hand, this situation has started a revolution in education, in which teachers, families and some companies have been working together, especially to offer digitalize applications as *Quizlet* or *Kahoot*, or

platforms as *Edmodo* to maintain and reinforce the relationships with all educative community and facilitate the teaching and learning process.

We are now more united than ever and as future teachers, we have to take advantage of this digital medium to investigate, share new experiences and start experimenting with this environment. We need more university training, not only in innovative methodologies but also in communication and social skills in order to involve the families in this revolution.

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