

Gamification in the field of initial music education. An innovative teaching-learning strategy

La ludificación en el ámbito de la educación musical inicial. Una estrategia de enseñanza-aprendizaje innovadora

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Abstract

This paper presents an alternative way of approaching music education for kids in initial education using gamification as a strategy. Gamification is an educational tool of relatively recent creation, which is based on game theory in the computer field, but in recently days it has been easily adaptable to the classroom and especially in early childhood musical education. This research aims to identify the constituent elements of a gamification based on Marczewski's proposal, to later devise a gamification plan in the field of initial music education. To achieve this objective, an analysis of the main constituent elements of gamification is carried out, with the purpose of structuring them in a way that allows the creation of educational planning with didactic sequences based on the project method, being quite innovative in the musical educational field.

Resumen

Este artículo presenta una forma alternativa de abordar la educación musical para niños en educación inicial utilizando la Ludificación como estrategia. La ludificación es una herramienta educativa de creación relativamente reciente, que se basa en la teoría de juegos en el ámbito informático, pero que en los últimos tiempos se ha ido adaptando fácilmente al aula y especialmente a la educación musical infantil. Esta investigación pretende identificar los elementos constitutivos de una ludificación a partir de la propuesta de Marczewski, para posteriormente idear un plan de ludificación en el ámbito de la educación musical inicial. Para lograr dicho objetivo se realiza un análisis de los principales elementos constitutivos de la ludificación, con la finalidad estructurarlos de forma que permitan la creación de planeaciones educativas con secuencias didácticas con basadas en el método de proyectos, siendo bastante innovadora en el ámbito educativo musical.

Intrinsic motivation, Gamification, Musical education

Motivación intrínseca, Ludificación, Educación musical

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Introduction

One of the keys to teaching is to understand the way people learn in order to adapt education to them and thus develop meaningful learning. Among the many strategies employed, we find gamification, which has been developing in the last decade with the desire to be more relevant, in response to the criticisms that arose at the time of this technique due to its marketing origin. However, it is structured in such a way that it allows to generate favorable environments with appropriate stimuli in a regulated space, on the other hand, intrinsic motivation is especially encouraged, without underestimating other types of motivations or intentions when designing a gamification.

One of the benefits of this strategy is its use in the field of music education, since it becomes quite relevant to attend to music learners in the initial stages, especially during the first phases of school education, whether in preschool or elementary school.

In this sense, a gamification program is presented at the end with an example so that its use can be appreciated, giving teachers the possibility of creative development towards new forms of interaction with students.

Justification

Approximately in 2010 began a wave to use the game as an educational strategy in contexts that are not commonly to be played which is called gamification; this proposal arises with the definite purpose of increasing participation and take advantage of the motivation of users to perform activities that allow some change in the participants; in a way the intention is that the work or activities have some proportion of fun channeled (Chitroda, 2015).

However, the observation of the game as an educational element is not new, although it has accompanied us throughout history; the study to identify the first contributions on the importance of the game in the educational field we owe to psychology, and it is that, from the second half of the nineteenth century the first theories on the game are identified.

Spencer (1855), for example, considered it as the result of an excess of accumulated energy, by allowing it to "spend" surplus energy; on the other hand, Lazarus (1883), argued that play is the result of an excess of accumulated energy, by allowing it to "spend" surplus energy.

(1883), argued that individuals tend to perform difficult and laborious activities that produce fatigue, from which they rest by performing other activities such as play, which allows and produces certain relaxation. Already by 1904 Hall manifests in his theory the link between play and human cultural evolution, while Freud sees it as part of the satisfaction of instinctive impulses (erotic or aggressive), with the need for expression and communication of their life experiences and the emotions that accompany these experiences. Piaget, from 1932 to 1966, emphasized on multiple occasions, either theoretically or in clinical observations, the importance of play in developmental processes; he also based his research on moral development within games. Similarly, Vygotsky, at the beginning of the 20th century, pointed out that play allows the development of conceptual behavior guided by ideas, where the imaginary situation alters the child's behavior, defining himself through his actions (Chamorro López, 2010).

The interesting thing about gamification is that it arises as a consequence of the use of computer technology, being Richard Bartle from the University of Essex who, in 1978, started with multiplayer experiences through the MUDI program that used Telnet. For 1980, Thomas W. Malone, professor at MIT, works on how children can learn by playing and includes elements of Intrinsic Motivation. It was not until 2004 that Games for Change was created, as a platform for different games that helped people understand the complexities of social conflict and, in turn, aims to drive social change and humanitarianism within their communities. But the term gamification itself was used until 2003 thanks to Nick Pelling, a British programmer and inventor, to achieve a great takeoff in early 2010 when Jesse Schell and Jane McGonigal, who viralized the concept of gamification, made people start thinking about its use for various aspects of life.

Although its approach arises as an element of technology and remains its main key, it has generated strategies that allow its structured development in the educational environment beyond the virtual environment, allowing new ways to harness the power of educational technology maximizing the progress of educational objectives and achieving learning success (Chitroda, 2015).

A more current definition of gamification is provided by Kevin Werbach (2014) who defines it as: "The process of making activities more game-like' focuses on the crucial space between the components that make up games and the holistic experience of gamefulness." ["The process of making activities more game-like' focuses on the crucial space between the components that make up games and the holistic experience of gamefulness" (p. 266)."] (p. 266). It is necessary to point out that, in accordance with this definition, gamification will be approached as a trigger of an educational intentionality, exploring it as a strategy within a game-based learning proposal. That is, to take advantage of its possibility of being used outside the classroom, however, not forgetting that it is possible to consider it as a playful tool in which games have the possibility of rewarding the players themselves with their own satisfaction and pleasure of being in the game, taking for this purpose the RAMP theory of motivation, by Andrzej Marcewski: Relationship, Autonomy, Mastery and Proposal; and the 8 Kinds of Fun, by Marc Leblanc: Physical Sensation, Community, Fantasy, Discovery, Narrative, Expression, Challenge and Submission. (Net- Learning, 2015; Toledo Inclán, 2020).

Although, some authors at the time considered gamification outside of game-based learning, due to its utilitarian function in the marketing area and the business world, exposing various criticisms mainly by being an element of consumption promotion, it is true that the development has also been addressed outside of that commercial field, and even as structuring strategies for the creation of games that do not necessarily make use of technology, but of the design of the gamification process (Bagost, 2011; Robertson, 2010).

In any case, these first analyses require consideration, especially if the aim is to promote a critical educational scheme, with the strategic possibility of creating game proposals focused on the development of educational processes. It is also imperative to highlight that even Marczewski is considered at the time responsible for prejudices regarding gamification by focusing on "behavioral changes" or "human-centered design" from marketing (2018, p. 13).

As a consequence of this innovative approach, strategies were outlined in the educational field during the last decade, being that in 2022 researchers Lampropoulos, Keramopoulos, Diamantaras, and Evangelidis from the International Hellenic University, conducted an analysis of 670 articles from 5 databases (Scopus, Web of Science, Google Scholar, IEEE, and ERIC) on gamification in education; In these articles it was observed that in general there were positive behavioral, attitudinal and psychological changes on the part of students and greater commitment, motivation, active participation, knowledge acquisition, focus, curiosity, interest, enjoyment, academic performance and learning outcomes, and teachers also evaluated its implementation positively. (Lampropoulos, Keramopoulos, Diamantaras, & Evangelidis, 2022)

It is necessary to reiterate that gamification is a strategy that allows the use of play in activities that are not commonly thought of as games, hence its importance as a strategy that generates pedagogical games. Lawley, professor of games and interactive media at Rochester Institute of Technology (RIT), notes that, when properly implemented in an educational manner, "Gamification can help enrich educational experiences in a way that students will recognize and respond to." [Gamification can help enrich educational experiences in a way that students will recognize and become responsive to] (Deterding, 2012).

Within the literature on education-focused games, it can be observed that they are most successful when they have elements such as: freedom to err, quick feedback, some progression, and an accompanying comic book (Stott & Neustaedter, 2013). In recent years, it has been included as one of the most important focuses for the gamification process to work with the motivation that game participants have, understanding that it is operating in two different ways, as intrinsic motivation and as extrinsic motivation.

Intrinsic motivation is the natural tendency to seek and overcome challenges as personal interests are pursued and skills are exercised, it is thanks to it that no incentives (or punishments) are required because the activity is rewarding in itself, and thanks to the interest in this motivation is that in the current gamification less interest has been given to the point system, because it served the extrinsic motivation, which arises to obtain something external, points, grades, etc.. The essence of those types of motivation is the locus of control of the cause (the location of the cause), whether internal or external (Woolfolk, 2014).

Problem statement

One of the most important interests in addressing the issues of education, is to understand how people learn, education is therefore a tool for the acquisition of knowledge that over the years has tried to understand and seek strategies that are consistent with the characteristics of human beings. In this interest in understanding the significance of knowledge, we find in the works of Ausubel who, from the cognitivist psychology, approach the description of the principles that converge with the idea of organization and formation of the human mind, and how these reach different states of consciousness.

The perception of the underlying cognitive processes is achieved with a learning that is internalized by transforming the mental structures of the student, therefore, the main objective of his theory was to present how human beings learn, and consequently, Ausubel points out that meaningful learning requires both a significant learning attitude and the presentation of potentially significant material; two basic conditions derive from the latter: firstly, that the material is related in a plausible, reasonable and non-random way to an appropriate and relevant cognitive structure and, secondly, that the cognitive structure of the learner contains anchoring ideas with the new material (Ausubel, 2002).

Although the cognitive structure of each person is unique and therefore the meanings are also unique, it is important to point out that, within this uniqueness, Ausubel (1983) identifies three main types of learning, which are:

- 1) **Representational learning.** - This allows the assignment of meaning to certain symbols (usually words) and "occurs when arbitrary symbols are equated in meaning with their referents (objects, events, concepts) and mean to the learner whatever meaning their referents allude to" (Sullivan & Ausubel, 1983, p. 46) meaning to the learner whatever meaning their referents allude to" (Sullivan & Ausubel, 1983, p. 46).
- 2) **Concept learning.** - This learning makes it possible to acquire new knowledge, and is whereby symbols take on meaning through the understanding of experiences by means of construction and mental projections that end up being expressed in words.
- 3) **Learning of propositions.** - This involves a combination and relationship of several words, each one constituting a unitary referent (component), to be subsequently combined in such a way that the resulting idea is more complex than the simple sum of the meanings of the individual component words, producing new meanings assimilated in the cognitive structure.

As can be seen, it is in these basic learning processes that all other learning processes are derived by combining and linking them together, especially if there is a learning attitude and the material is meaningful, so the question arises: how to bring meaningful learning into the classroom for music students? To answer this question, we propose to use the work of Andrzej Marczewski (2018), who proposes a scheme of gamification, game thinking and motivational design, which mainly employs intrinsic motivation by identifying the main motivations of people. He personally defines gamification as "The use of game design metaphors to create more game-like and engaging experiences." (p. 13). With this information we propose the objective of identifying the constituent elements of a gamification based on Marczewski's proposal, in order to subsequently devise a gamification plan for preschool or elementary school music education. In this sense, Marczewski proposes the following scheme for approaching gamification:



Figure 1 Ludification user journey framework
Source: (Marczewski, 2018, p. 133)

But for a student/player to succeed in following this path of gamification it is required to comply with certain mechanisms that allow to understand the procedures of the game, what makes it fun, what are the stories that will accompany it, the materials or technology that you will place to make it happen and finally, the aesthetics of the environment that allows the greatest impact (Schell, 2019), likewise, it will be necessary to see what the players should think or mentally elaborate and the ethical aspects immersed in the game, the latter leads us to reflect on the deep reason why a game is proposed and where we want to get to with it (Marczewski, 2018).

Methodology developed

For this research, a documentary research on gamification was developed trying to find those proposals that could be used outside the field of computers, that is, that although its origin had been computer science, it could be used in multiple fields with the purpose of being a teaching-learning strategy for any educational environment and, above all, that would allow its inclusion in a planning scheme for children's music education. To this end, a selection of texts was made, discriminating those that did not meet the established criteria, i.e., those that required the use of digital technology as a forced strategy. Marczewski was the main reference, however, his proposal was modified with contributions from other researchers to consequently present a relevant alternative in the field of children's music pedagogy.

Motivation

Undoubtedly, motivation takes on a transcendent importance in this proposal, and the fact that gamification has made it possible to achieve with it a significant attitude:

The most repeated in gamification works is the increase in motivation (AlarteHernández et al., 2021; Fernandez-Río et al., 2020; Monguillot et al., 2015; Navarro et al., 2017) coinciding with the results of Apóstol (2013) where they stated that gamification affected positively on motivation.

Within motivation, both intrinsic motivation and extrinsic motivation are affected by gamification (Fernández-Río et al., 2020; Monguillot et al., 2015). Extrinsic motivation is affected by game elements such as rewards or progress bars according to Malone & Lepper (1987). Many times these classifications favor the social factor (Deci & Ryan 1985), although authors such as Fernández-Río (2020), the markers are not public, to avoid generating that competition with the rest of the students. Even so, it is observed how in the rest of the studies extrinsic motivation increases (AlarteHernández et al., 2021; Monguillot et al., 2015). (López Quero, 2022)

As can be identified, motivation is one of the elements that most manages to promote gamification, however, this part from certain considerations, i.e., trying to enhance intrinsic motivation and thereby identify how to propose gamification, for it identifies three layers of motivation:

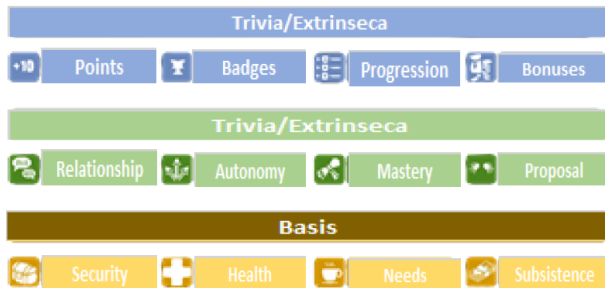


Figure 2 Own creation based on the three layers of motivation

Source: (Marczewski, 2018, p. 74).

Humanistic approaches have introduced the notion of growth as a key element. They argue that within every human being there is an intrinsic motivation to expand one's own capabilities and develop inherited talents. This innate motivation is shared by all individuals, although certain circumstances may influence its manifestation, either fostering or hindering it (Elizalde, Martí Vilar, & Martínez Salvá, 2006).

In the graph, the base shows the basic needs of human beings, those that are minimally required to achieve a certain level of fulfillment in order to obtain better experiences; although these have been repeatedly criticized.¹ in general allow us to think of those minimum conditions of a human being to be satisfied in order to achieve an adequate development in life. On the other hand, intrinsic motivations are thought of as those that are inherent to the participating subject, and in Marczewski's proposal, they allow, through their identification, to delineate certain types of players to whom different activities are offered.

¹ Illich, in his article "Necessities", points out that these were incorporated in the imaginary of humanity as a legacy of the developmentalist discourse in the decades following World War II: "The necessities that the rain dance of development provoked not only justified the plundering and poisoning of the earth; they also acted on a deeper level. They transformed human nature. nature. They turned the mind and senses of homo sapiens into those of homo miserabilis. "Basic needs" may be the most insidious legacy left by development. The post-World War II generation witnessed this change of state in human nature, from the common man to the needy man. Half of all men born on earth as homo are of this new class." (Illich, 1996)

Types of players

It is very important to point out that gamification, in order to meet the motivational requirements of those to whom gamification is proposed, it is necessary to identify who they are and what their interests are in general, which will lead to a more transcendent proposal.

- Philanthropists are motivated by purpose and meaning. This group is altruistic, wanting to give to others and enrich the lives of others in some way, without expecting a reward.
- Socializers are motivated by relationship. They want to interact with others and create social connections.
- Achievers, are motivated by mastery. They are seeking to acquire knowledge, learn new skills and improve themselves. They want challenges to overcome. Eduardo Toledo (2020) translates these terms into Spanish as *conseguidores* who are motivated by mastery.
- Free spirits are motivated by autonomy and self-expression. They want to create and explore.
- Disruptors are motivated by change. In general, they want to disrupt their system, either directly or through other users to force positive or negative change.
- Gamers are motivated by extrinsic rewards. They will do whatever it takes to collect rewards from a system and not much else. They are in it for themselves.

These six types of people (gamers) are participating for specific motivations, identifying in the first four types of people, connections with interests based on their intrinsic motivation, while in the case of the disruptors by four disruptive sub-motivations (Afflictors, destroyers, influencers and innovators), and in the case of the players four extrinsic sub-motivations (Egoists, consumers, networkers and exploiters). Marczewski arranges them as follows in a diagram for further visualization.



Figure 3 Own creation based on the scheme of the types of users
 Source: (Marczewski, 2018, p. 115)

Each of these users or players is going to be interested in certain activities, these activities will allow gamification to maintain an optimal development without generating stress or boredom, something called creep. Each of the motivations generates different behaviors, so it will be necessary to reflect according to the type of users, which are the ones we will try to encourage and also what they are expected to stop doing.



Figure 4 Own creation, including Marczewski's previous graph of users and their behaviors

Experiences

For this, some pleasant experiences are going to be included transversally in the project taking into account the 8 types of fun according to Hunicke, Le Blank and Zubek (2004), which are (Hunicke, LeBlanc, & Zubek, 2004):

- Sensation: Play as sensory pleasure.
- Companionship: Play as a social framework.
- Fantasy: Play as fantasy.
- Discovery: Play as unknown territory.
- Narrative: Play as drama.
- Expression: Play as self-discovery.
- Challenge: Play as an obstacle course.
- Submission: Play as a pastime.

Likewise, we find such pleasant experiences in the form of cards created by Ferrán Altarriba and shared by Toledo Inclán.



Figure 5 Pleasant experiences
 Source: (Altarriba, Ferrán in Toledo Inclán, 2020)

In order to transmit these experiences, the best strategy is through the creation of a theme that describes a leading situation and that allows the creation of the environment or atmosphere where gamification takes place and makes known the Experiences that will be proposed, whether they are the Activities or behaviors according to the Motivations of each of the players, as well as the Dynamics that will arise at the time of the game and the Mechanics or ways in which they will be carried out.

The story that will be made will provide an introduction to the game and to know the possibilities of the game so that it can be constituted in a personal or communitarian way and, in its case, to show the rewards that will be granted for the achievements.

The general structure of a narrative is: the introduction, the challenge, the transformation and the resolution. It is important to consider that the narrative does not have to be linear and that several characters should be involved, thus inviting many possibilities for the completion of the game. An important issue to note is that the cartoon has meaningful choices for the members, so that they become as far as possible quite immersive, with this it is important to consider that each decision comes to have consequences and, on the other hand, although the cartoons are fictional and from a fantasy world, it is necessary that they remain tied to the reality that we want to promote, so that the players manage to understand such educational interaction without problems (Marczewski, 2018).

Dynamics

One of the issues sought within gamification is to convert what motivates them into actions through the use and interaction between people, through fictitious situations, posed with specific objectives previously established. In this sense, we propose the generation of dynamics with the possibility of generating participatory experiences, that is, from what the participant feels and lives, also if we observe it as a dynamic that takes place with others among peers:

It is an excellent way of community integration, as well as an effective procedure of social education and cooperation. There is a decided satisfaction in participation, communication and exchange (Ortega, 2016).

For this purpose, the 16 desires of Steven Reiss (2002) are used, the idea is to achieve that the thought dynamics have a certain pleasure for the participants, for Reiss, pleasure is the by-product of achieving what we desire, it is not the end of the desire, as an example he puts that, in the case of the health personnel.

For this person the goal of experiencing pleasure is not created in the desire to help patients; rather, in altruism he incites to make sacrifices for his patients. Thus, we have certain desires such as tranquility, social contact, romance, among others that lead us to generate a proposal and story in the games.

The dynamics seen as a set story that gives structure to the gamification, these fall on the fact of having the players interested and connected with their motivations by establishing the context and means of development within the gamification, we could work the dynamics as the structure of the theme of the gamification. Reiss (2002) describes them as follows (Reiss, 2002):

- Acceptance: the need to be appreciated.
- Curiosity, the need to acquire knowledge.
- Eating, the need to eat.
- Family, the need to care for children.
- Honor, the need to be true to the customary values of an individual's ethnic group, family, or clan.
- Idealism, the need for social justice.
- Independence, the need to be distinct and self-sufficient.
- Order, the need for prepared, established and conventional environments.
- Physical activity, the need for work outside the body.
- Power, the need to control the will.
- Romance, the need for mating or sex.
- Saving, the need to accumulate something.
- Social contact, the need for relationship with others.
- Social status, the need for social significance.
- Tranquility, the need to be safe and secure.

- Revenge, the need to strike back at another person.

Similarly, Toledo Inclán shares graphically the sixteen dynamics with Ferrán Altarriba's designs in which the action to be taken is described.



Figure 6 16 desires

Source: (Reiss, Steven in Toledo Inclán, 2020)

Mechanics

Likewise, we have to consider important the mechanics, which are the implementation of the dynamics, i.e., those situations that will allow to generate activities that will encourage intrinsic motivation itself, to which we could add some extrinsic motivation or disruption mechanics that allow to keep people active that sometimes are not so intrinsic, but that in gamification we will try to encourage or stimulate them towards intrinsic activities or behaviors. Marczewski proposes the following mechanics in which we are going to promote the behaviors to be stimulated.

Intrinsic

1. Socializing:

a. Guilds/Teams. Let people build close-knit guilds or teams. Small groups can be much more effective than large, sprawling ones. Create platforms for collaboration, but also pave the way for team competitions.

b. Social networking. Allow people to connect and socialize with an accessible, easy-to-use social network. It can be more fun to play with other people than to play alone.

c. Social status. Status can generate greater visibility for people, creating opportunities to create new relationships. It can also feel good. It can make use of feedback mechanisms such as leaderboards and certificates.

d. Social Discovery. A way to find people and be found is essential to building new relationships. Matching people based on their interests and status can help people start interacting.

e. Social pressure. People often do not like to feel like outsiders. In a social setting, this can be used to encourage people to be like their friends. It can demotivate if expectations are unrealistic.

f. Competition. Competition gives people the opportunity to prove themselves in front of others. It can be a way to earn rewards, but it can also be a place where new friendships and relationships are born.

2. Free spirits:

a. Exploration. Give your free spirits room to move and explore. Consider that they will want to find the boundaries so give them something to find.

b. Branching options. Let the user choose their path and destination. From multiple learning paths to responsive narratives. Remember, the choice must be (or at least feel) meaningful to be most effective and appreciated.

c. Easter eggs. Easter eggs are a fun way to reward and surprise people just for a glimpse. For some, the harder they are to find, the more exciting it is!

d. **Unlockable/rare content.** Add to the sense of self-expression and value by offering unlockable or rare content for free spirits to use. Tied to Easter eggs and exploration, as well as achievements.

e. **Creativity tools.** Allow people to create their own content and express themselves. This can be for personal benefit, for pleasure, or to help others (teaching materials, levels, equipment, FAQs, etc.).

f. **Personalization.** Give people the tools to personalize their experience. From avatars to the environment, allow them to express themselves and choose how they will present themselves to others.

3. Achievers:

a. **Challenges.** Challenges help keep people engaged by testing their knowledge and allowing them to apply it. Overcoming challenges will make people feel they have earned their achievement.

b. **Certificates.** Unlike general rewards and trophies, certificates are a physical symbol of mastery and achievement. They carry meaning, status, and are useful.

c. **Learning/New Skills.** What better way to achieve mastery than to learn something new? Offer your users the opportunity to learn and expand.

d. **Missions.** Quests give users a fixed goal to achieve. Often made up of a series of linked challenges, multiplying the sense of accomplishment.

e. **Levels/Progression.** Levels and objectives help map a user's progression through a system. It is as important to see where you can go as it is to see where you have been.

f. **Boss Battles.** Boss battles are an opportunity to consolidate everything you've learned and mastered into an epic challenge. It usually signals the end of the journey and the beginning of a new one.

4. Philanthropists:

a. **Meaning/Purpose.** Some just need to understand the meaning or purpose of what they are doing (epic or not). For others, they need to feel that they are part of something bigger than themselves.

b. **Caregiving.** Caring for others can be very rewarding. Create roles for administrators, moderators, curators, etc. Allow users to take on a parenting role.

c. **Access.** Access to more functions and capabilities in a system can give people more ways to help others and contribute. It also helps them feel valued. More meaningful if earned.

d. **Collect and trade.** Many people love to collect things. Offer them a way to collect and trade items in your system. It helps build relationships and feelings of proposition and value.

e. **Gift/Share.** Allow giving away or sharing items with others to help them achieve their goals. While it is a form of altruism, the potential for reciprocity can be a strong motivator.

f. **Knowledge sharing.** For some, helping others by sharing knowledge with them is its own reward. Develop people's ability to answer questions and teach others. Extrinsic (Use sparingly if working with adults or to maintain attention in long games).

5. Gamers:

a. **Points / Experience Points (XP).** Points and XP are feedback mechanisms. Can track progress, as well as be used as a way to unlock new things. Reward based on achievement or desired behavior.

b. **Physical Rewards/Rewards.** Physical rewards and prizes can promote a lot of activity and, when used well, can create engagement. Be careful to promote quantity over quality.

c. **Leaderboards / Ladders.** Leaderboards come in different forms, most commonly relative or absolute. Commonly used to show people how they compare to others and for others to see. It is not for everyone.

d. Badges / Achievements. Badges and achievements are a form of feedback. Reward people for their accomplishments. Use them wisely and meaningfully so they are more appreciated.

e. Virtual economy. Create a virtual economy and allow people to spend their virtual currency on real or virtual goods. Examine the legalities of this type of system and consider the long-term financial costs!

f. Lottery / Gambling. Lotteries and gambling are a way to win prizes with very little effort on the part of the user. You have to be involved in it to win! Disruptive (To promote changes in the environment, use wisely).

6. Disruptors:

a. Innovation Platform. Disruptors think outside the box and the boundaries of your system. Give them a way to channel that and you can generate great innovations.

b. Voting/Voice. Give people a voice and let them know they are being heard. Change is much easier if everyone is on the same page.

c. Development tools. Think about modifications instead of hacking and breaking. Allow them to develop new add-ons to improve and develop the system.

d. Anonymity. If you want to encourage total freedom and lack of inhibitions, allow your users to remain anonymous. Be very, very careful as anonymity can bring out the worst in people!

e. Light touch. While you must have rules, if you are encouraging disruption, apply them with a light touch. See how things unfold before jumping in. Be attentive and listen to user feedback.

f. Anarchy. Sometimes you just have to burn it all down and start over - sit back, throw the rule book out the window and see what happens! Consider holding short "no rules" events (2018, pp. 252-259).

7. Feedback.

Within the educational field, but even in games, the repetitive performance of an activity without the possibility of improvement or innovation ends up becoming boring and even a nuisance, and it would not be possible to think that an activity is educational if there are no possibilities of feedback, therefore, it is important to consider that the proposal must involve an interesting challenge where patterns of recognition of progress are established, it is important to consider that the proposal must involve an interesting challenge where patterns of recognition of progress are established, for this the process must have an assurance of learning with feedback at all times in order to adjust what is necessary, therefore, an environment that allows the possibility of failure must be generated; This environment is called in gamification as a magic circle and, finally, to allow that after achieving the fulfillment of a challenge, to give a sense of gratification or reward for the effort spent towards that conclusion to each student. Here it is important to note that the conclusion invites us to try to meet a new challenge with a higher level of difficulty than previously employed, the key is to manage to maintain the enthusiasm to achieve new achievements (Marczewski, 2018). Graphically we observe this feedback scheme with the following figure:

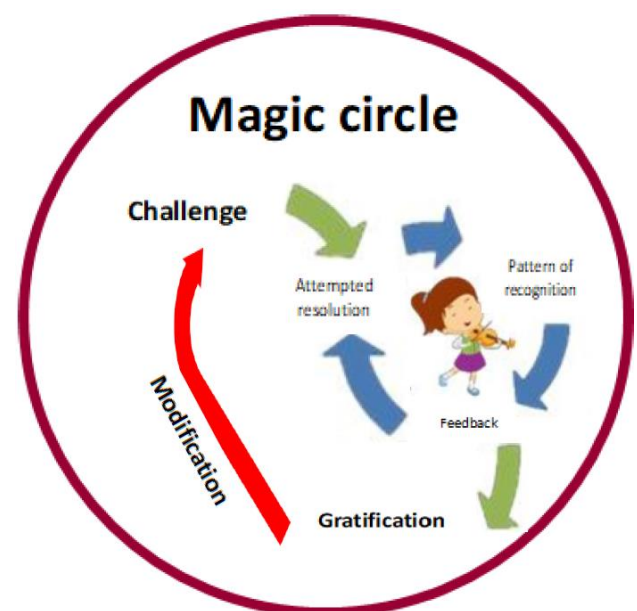


Figure 7 Own creation based on the magic feedback loop
Source: (Marczewski, 2018, p. 179)

After this broad approach to each of the constituent elements of gamification, for now it remains for us to describe the planning scheme of gamification moon to verify how each of these elements interact on some specific topic to be addressed.

8. Gamification scheme, approach to the educational approach

The gamification scheme is a mixture of Marczewski's (2018) proposal and Gojko Adzic's (2012) mapping presented by Toledo (2020) to which we have adapted it for use as a planning tool. This scheme is intended to make the following elements known to whoever intends to implement gamification. According to the following table, the structure of gamification can be understood:

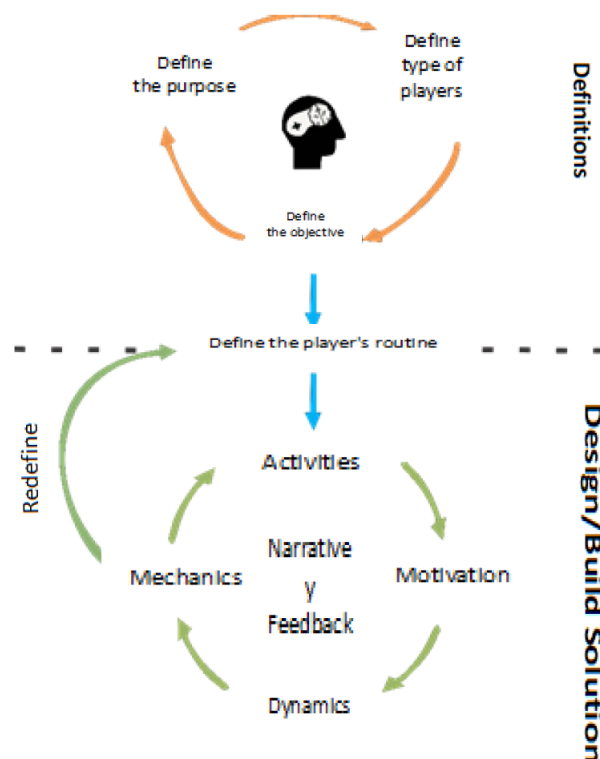


Figure 8 Structure of gamification

Source: own creation based on (Marczewski, 2018, p. 271)

Results

With the information presented above, we show a sample of school gamification planning, as an example, remaining as follows:

TITLE: THE GUITAR AND THE FAMILY

Definir el propósito educativo	La tabla 2 muestra un ejemplo detallado al respecto.
¿Qué tipo de jugadores interactuarán?:	<ul style="list-style-type: none"> • Filástricos • Socializadores • Triunfadores • Espritas libres • Intuiciones • Jugadores
¿En qué experiencias estarán inmersos, el uso de emociones? Tema y narrativa que construya la atmósfera: 8 tipos de diversión.	<p>Sensación: El juego como placer sensorial.</p> <p>Compañerismo: El juego como marco social.</p> <p>3. Farsa: El juego como farsa.</p> <p>Descubrimiento: El juego como territorio desconocido.</p> <p>5. Narrativa: El juego como drama.</p> <p>6. Experiencia: El juego como auto-descubrimiento.</p> <p>7. Desafío: El juego como carrera de obstáculos.</p> <p>8. Sumisión: Juego como pasatiempo</p> <p>La narrativa del juego:</p> <ul style="list-style-type: none"> • Introducción • El desafío • La transformación • La resolución
¿Qué actividades (comportamientos) se fomentarán según el tipo de jugadores? (EAMP)	<p>Relaciones: Colaborar (Ayudar, comentar, compartir, contribuir, alimentar, saludar) Autonomía: Explorar (Buscar, cazar, encontrar, recoger, reunir, valorar, ver) Maestría: Competir (Hablar, Comparar, Comparar, Desafiar, Ganar, Luchar, Robar).</p> <p>Presente: Aprender (Construir, crear, compartir, decorar, elegir, personalizar).</p>
¿Cuál es la dinámica de trabajo?, es decir, las acciones en el momento de juego: 16 dinámicas	<ol style="list-style-type: none"> 1. Aceptación 2. Curiosidad 3. Comer 4. Farsa 5. Honor 6. Idealismo 7. Independencia <p>Orden</p> <p>Actividad física</p> <p>Poder</p> <p>Romance</p> <p>Ahorro</p> <p>Contacto social</p> <p>14. Estatus social</p> <p>15. Tranquilidad</p> <p>Venganza</p>

Table 1 Components of gamification

With this information, we consider that the graphical scheme of gamification is as follows:

Chartera inicial	libro actor	libro otro del curso o 2	libro otro de sexto semestre	libro o: tir mismo
¿Qué voy a hacer?, ¿Cómo lo voy a hacer?, ¿Para quién lo voy a hacer?, ¿Dónde lo voy a hacer? y ¿Con qué recursos?	Explorar las cuerdas de la guitarra con la finalidad de que logren tener una buena posición y uso de los dedos índice y medio de la mano derecha. Para ello se empleará el libro El cuaderno del guitarrista más pequeño de Nidia Borislova, las tres canciones de las páginas 79, 80 y 81. La propuesta se enfocará en Niñas y niños guitarristas de curso de guitarra inicial Educación básica de la fase 3. Desarrollándose en clases presenciales con intención de práctica en casa. Teniendo como recursos necesarios su guitarra, steel y banco, así como el libro respectivo.			
¿Qué queremos que aprendan y logren los estudiantes?, ¿Cuál es el plan para lograrlo?, ¿Cómo hacer el aprendizaje más efectivo? y ¿Cómo evidenciar y valorar el logro de aprendizaje?;	Se pretende incentivar el uso adecuado de la mano derecha con los dedos índice y medio, teniendo un buen sonido y ubicación de cuerdas de la guitarra en tanto cuidadas su posición. Para lograr se realizará proceso con cada una de las cuerdas en tanto van pulsando e intercambiando los acordes de la guitarra con la letra de las canciones. Para lograr la efectividad se pondrá especial atención en la forma de interpretar evitando normalizar los errores durante la ejecución, yendo de una velocidad lenta a más rápida manteniendo el ritmo constante. La estrategia de evidencia es a través de una presentación en frente de sus compañeros y compañeros. Dependerá del grupo en cuestión. Se recomienda usar la evaluación de motivaciones en la liga: https://www.gamified.uk/User?type=test Para nuestro caso, trataremos de incentivar las motivaciones intrínsecas de Socializadores y Triunfadores esencialmente.			
En qué experiencias estarán inmersos, el uso de emociones. Tema y narrativa que construya la atmósfera. 8 tipos de diversión.	Una vez Vlad había salido al campo con su mamá, su papá y su abuelita. Como era costumbre caminaron tratando de encontrar nuevos lugares, por lo que eligieron tomar una vereda que los condujera hasta un espacio lleno de luz, flores y sonidos tímidos, como de pequeñas campanas. Arita se emocionó tanto que salió corriendo sin darse cuenta de que había entrado a un bosque encantado, así que de repente se vio sola. Se empezó a asustar, pero entre las hojas se escuchó una voz mágica que le decía: "No te preocupes, sólo canta las canciones mientras tocas esta guitarra mágica". Afortunadamente Arita había empezado sus clases de música por lo que rápidamente se puso a la tarea de interpretarlas. Aparecieron unas partituras en hojas de oro y una gran guitarra que parecía tocar por sí sola. Al fondo del bosque veía las siluetas de su mamá, su papa y su abuelita. Conforme iba tocando las piezas respectivas, sus siluetas aparecían cada vez más evidentes y brillantes. Si se equivocaba volvían a desaparecer. Así mismo, observaba que mientras tocaba la guitarra muchos animalitos del bosque se acercaban a escucharle tocar y cantar. La voz del bosque le decía que tenía que no sólo tocar, sino poner todo el corazón. Así que al final logró interpretar las canciones de manera perfecta y todos se pudieron reír.			

Table 2 Example of gamification for subject matter in music

MARTÍNEZ-HERNÁNDEZ, Gerardo & BORISLOVA, Nadezhda Borislovovna. Gamification in the field of initial music education. An innovative teaching-learning strategy. Journal Basic Education. 2023

Conclusions

As can be seen, this type of strategy allows to approach music education for children in basic education in an active, immersive way, with stimulation of motivation and also with the use of creative strategies. Having educational materials focused on childhood is a great help, and gamification is a tangible possibility to empower them towards new possibilities by making educational processes an intrinsic part of a motivating game.

Finally, with this structuring we realized that there is a great possibility of taking gamification to the musical educational field, likewise, it was observed that, with the proposal shown, there is the possibility of future applications by linking the strategy with school music projects that are developed within the New Mexican School.

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