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OCTALYSIS FRAMEWORK:

A FAVOURABLE ENVIRONMENT TO INCREASE SUCCESSFUL PRACTICES IN ENGLISH AS A FOREIGN LANGUAGE (EFL) CLASSROOMS

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MARCO DE OCTALYSIS: UN AMBIENTE FAVORABLE PARA AUMENTAR LAS PRÁCTICAS EXITOSAS EN LAS AULAS DE INGLÉS COMO LENGUA EXTRANJERA

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ABSTRACT

Gaming has been an activity that has accompanied human beings throughout their lives, it is fundamental in the evolutionary process, and an essential element in the integral development of children, providing them with unlimited potential for meaningful experience through play, where they, create, curiosity, think, and interact with their environment. Gamification is one of the educational techniques that increase motivation and engagement, taking into account learners today grew up with digital technologies and require new learning styles according to their interests and needs as digital natives.

After several years of studies analysing successful games that engage people and motivate them to keep playing, Chou (2014) created the Octalysis model and represented it in an octagon and presents the 8 main drivers of motivation. This paper shows a theoretical review of gamification and its differences with game-based learning and the octalysis framework as the technique that uses game elements and game design in non-game contexts focused on Behavioural design since it activates the motivation to take action to achieve the goals established.

Keywords:

English foreign language, gamification, octalysis framework.

RESUMEN

La gamificación ha sido una actividad que ha acompañado al ser humano a lo largo de su vida, es fundamental en el proceso evolutivo, y un elemento esencial en el desarrollo integral de los niños, proporcionándoles un potencial ilimitado de experiencias significativas a través del juego, donde ellos, crean, curiosean, piensan, e interactúan con su entorno. La gamificación es una de las técnicas educativas que aumentan la motivación y el compromiso, teniendo en cuenta que los alumnos de hoy crecieron con las tecnologías digitales y requieren nuevos estilos de aprendizaje de acuerdo a sus intereses y necesidades como nativos digitales. Tras varios años de estudios analizando juegos de éxito que enganchan a las personas y las motivan a seguir jugando, Chou (2014) creó el modelo Octalysis y lo representó en un octágono y presenta los 8 principales impulsores de la motivación. Este trabajo muestra una revisión teórica de la gamificación y sus diferencias con el aprendizaje basado en juegos y el marco del octalysis como la técnica que utiliza elementos de juego y diseño de juegos en contextos no lúdicos enfocados al diseño del comportamiento ya que activa la motivación para pasar a la acción para conseguir los objetivos establecidos.

Palabras clave:

Inglés como lengua extranjera, gamificación, octalysis framework.

INTRODUCTION

Gamification as a learning technique transfers the mechanics of games to the educational-professional field in order to achieve better results, whether to better engage certain knowledge, improve a skill, or reward specific actions, among many other objectives. This type of learning is gaining ground in training methodologies due to its lively nature, which facilitates the incorporation of knowledge in a more enjoyable way, generating a positive experience for the user.

Researchers show that the game model works because it manages to motivate learners, develop a greater commitment from people, and encourage the desire to improve. Most of the population enjoys performing games from an early age. The most important advantage of people that start with gaming is the building of central and social abilities and permits the development of cognitive capabilities (Sulistyaningtyas & Fauziah, 2018). Recent gaming studies show that some structures in the brain, in charge of our concentration and other mental operations, can be strengthened through gaming (Sharma et al., 2021). It is also remarkable to notice that children and adolescents can devote hours to playing a video game, even are losing it. Through the games, they learn how to be independent and how to deal with some difficult situations. Moreover, they learn how to do collaborative work (Lamrani & Abdelwahed, 2020).

Gamification can be the strategy that allows teachers to use game elements in academic settings to increase the motivation of the learning process. Gamification occurs when we tap into the human motivations that drive us to make decisions and perform activities. It was precisely human motivations that let Chou (2014), create the innovative gamification design framework Octalysis, an octagon-shaped model with eight basic motivations. (Pérez-Palafox et al., 2022).

Chou (2014), created Octalysis as a new framework that helps people understand human nature and how they can be motivated so they can do their best to accomplish their goals. The main objective of this framework is to give eight stimuli that will lead to successful gamified experiences. These motivators are meaning, empowerment, social influence, unpredictability, avoidance, scarcity, ownership, and accomplishment.

The purpose of this paper is to show the benefits of gamification in the learning process; to address gamification as an effective cooperative strategy. It is also necessary to recognize the differences between game-based learning and gamification and finally to present the Octalysis Framework as a novel and effective strategy in the learning process from the point of view of the learning process.

Although Octalysis Framework I was created over a decade ago, it has not been explored in Colombia. Little research has been done on this subject, so its benefits are unknown. It is hoped that this article will make significant contributions to the field of foreign language teaching through the implementation of strategies that will enhance motivation and interest in students, such as the octalysis framework.

DEVELOPMENT

Recent studies have shown that games with the use of technologies for information and communication foster, stimulate, and develop learning, as a matter of fact, it does not only develop academic skills but it is proven that human and social skills are developed by the use of games (Melo, 2020).

Most of the time the use of traditional methods provokes a lack of interest and demotivation creating disruptive and misbehaving behaviours such as eating, yelling, fighting, etc. (Carrillo et al., 2020). Teachers experience this situation in the classroom and they can lead the process behind and prevent students to improve their learning, thus, the need to find strategies in which pupils feel engaged in their learning process is significant.

Therefore, game usage is the result of an educational change. New trends in education emphasize students' active role in developing their skills. The use of games and active methodologies rise interest and motivation in students leading to a successful learning experience. Games are used as a practical, fun, and creative tool to capture students' attention and motivation (Carrillo et al., 2020). In fact, games foster students to be participative in their processes and approach to knowledge, because of the sense of belonging games provide, giving the opportunity to the learner to have active participation and conduct their own processes.

Recent research has shown that using games and didactic material improve students' motivation and the relationship between pupil, educators, and the learning process. Teachers have said that using games during their lessons gives students confidence, which permits their interest in education to increase and their cognitive processes to improve (Melo, 2020). By using games, students have the possibility to develop in a successful manner the expression of emotions, they feel positive, happy, spontaneous, and creative, and these feelings will have students more motivated and connected to the game for a longer period. Thus, games encourage having a full educational process by increasing learning opportunities and socioemotional skills development. Nevertheless, there are some characteristics in games that have to be considered when using games. Melo (2020), found that successful practices games should include fun, which basically maintains students attached to the game; physical activity, which permits students to connect in a motor response increasing excitement; and finally learning, which is the main goal of the game, the game should provide a reward and learning should be the target when using games in the classroom.

Gaming has been used in the classrooms during the first stages of life, giving a sense of using games as a free time trial just for fun or entertainment, but it is now seen that implementing games in the school lesson will promote cognitive and social skills (Carrillo et al., 2020). There is a huge advantage to having the opportunity to use games in the classroom because they will help teachers to provide students with chances to get better cognitively and develop better thinking skills such as solving problems, which in the end will create better human beings.

Gamification as an effective strategy to develop cooperative work

Back in 2010, the digital media industry started using the term "gamification". Although there is an extensive discussion about the word, in education we established gamification as the use of game mechanics in non-gaming settings. Researchers suggest from 2012 to 2018 there was an increase in the research related to gamification in education; thus, it is noticeable the interest of educators in innovation in their classrooms (Silva et al., 2020). After gamification started getting popular the application of this term for educational purposes led to different advantages and disadvantages it might have. A study conducted by Mazhar (2019), confirms some advantages of gamification in the writing process with seventh-grade students. The conclusions of the study claim that there was an improvement in students' ability to produce creative writing by using collaborative work and positive motivation when using gamified settings.

Gamification is also an important technique when implementing a STEM (Science, Technology, Engineering, Math) approach. Hursen and Bas (2019), state that using gamification in science classes showed better results on students' performance and increase students' motivation. The motivating factor permits students to have better scores related to the subjects and they feel willing to take part more actively and work cooperatively. Gamification is not only used in indoor classes, but also in classes such as physical education. Using game mechanics in the physical education class will help pupils to have a positive feeling towards the class because they will feel motivated thanks to the possibility to be challenged, having fun, social interaction, and learning (Fernandez et al., 2019).

A vast number of studies discussed the importance that gamified environments are taking in education. It is significant to continue with the research to draw more accurate findings in the application of this methodology.

Gamification Vs Game-based learning

When thinking about strategies to increase motivation in students, teachers used to think about games because it is known that games are important for students' development and increase the positivity and fun in a specific activity (Alpar, 2013). Thus, a significant number of studies have cantered their attention on the methodologies that include games. Consequently, gamification and Game-Based Learning (GBL) emerged as advantages in learning processes.

Al-Azaw et al. (2016), argue the importance of including games in the lessons, among other advantages, to increase pupils' motivation by challenging them and providing feedback. Moreover, stimulates interest in activities that might be "boring". Nevertheless, researchers show the differences between gamification and GBL methodologies. The comparative study concludes that gamification takes the complete learning experience and turns it into a game by using its mechanics of it, while GBL will work on a particular learning objective by using a specific game. Researchers suggest that some of the benefits of gamification are the low cost of development and the achievability of making the content of a learning process more attractive or significant using game mechanics.

Nistor & Iacob (2018), reflect on characteristics related to gamification and GBL. A strong similarity between these approaches is the use of games to enhance the learning experience. They consider features to create some differences. Game-based learning focused on using games to meet learning outcomes; the learning comes from playing the game; can be accomplished using commercial or education-oriented games; promotes critical thinking and problem-solving; can be performed with digital or non-digital games; might involve simulations to allow students to experience the learning. Meanwhile, gamification is considered to use game mechanics by adding elements inspired by games to your course; applying game mechanics to a non-game environment to encourage behaviour; typically incorporating badges, awards, and achievements; experience points may be used as a substitute for traditional grades; could provide students with choice in learning path (Nistor & Lacob, 2018).

Although differences are clearly established, authors also argue the benefits of including these types of methodologies to have students willing to learn in dynamic environments in order to promote successful learning experiences.

Gamification: Octalysis Framework

At this time gamification was seen from different perspectives and fields but it was in 2012 that Kapp attached gamification to the educational field by defining gamification as a careful and measured application of games to solve problems and foster learning by applying adequate game elements. Thus, gamification started to be used and some features began to be key to considering a gamified action. The first characteristic of gamification is enjoyment. Having the fun factor in a situation will attract the users in a manner in which they will spend more time interacting and becoming better in the game.

Motivation is another characteristic related to gamification. Here it is important to discuss where motivation comes from. Although there are many theories related to motivation as the force, which led human behaviour, for this discussion, two theories related to motivation will be discussed: expectancy theory and the needs theory.

Vrooms' expectancy theory argues the relationship between effort and the outcome of a specific task. The more effort a person does to achieve the reward the more motivated he/she will be, hence, the prediction to obtain better performances due to the effort will make expectancy increase and finally rise the level of motivation (Parijat & Bagga, 2014). The expectancy theory relay on three main variables: expectancy, which is the relation between performance and effort, instrumentality, which relates performance and rewards, and valence, which is reward and personal goals. Based on the interaction of these variables we can have strong motivation, moderate motivation, weak motivation, weak avoidance, moderate avoidance, and, string avoidance (Parijat & Bagga, 2014).

McClelland's needs theory proposes three drivers, which keep motivation: achievement, which is the human need of standing out with respect to standards; affiliation, which describes the need to have close and sympathetic relationships with others; and power, which is one´s desire to influence on others (Valdosta & Hall, 2012).

The third feature related to gamification is narrative, which provides the users with a story that gives purpose and a route to follow and makes the gamers feel a sense of belonging.

Emotions are another characteristic in gamified settings. Game elements should be able to rise people's emotions such as curiosity, joy, surprise, pride, and even love. With emotions, it is going to be easier to keep the individual focused.

The sense of progress is another distinctive feature of gamification. The evolution, which happens when there is a balance between the challenge and the skills, gives feedback on moving forward and seeing the advances through the game. Finally, diversity is a significant part of gamification. Games understand that similar to a classroom, every gamer is different from every child in the classroom. Thus, diversity gamification guarantees differentiation through different paths such as achievement, exploration, socialization, and imposition (Cornellà et al., 2020).

Because of the understanding of these features and motivation as a human fact, it is the starting point for Chou in 2014 to develop a framework based on a geometrical figure and provide eight cores that drive a successful gamification process. This approach is called the octalysis framework and its eight-core drivers are:

1. Epic meaning: This driver is the one that explains the sense of being a hero. It creates a scenario in which the user is called to overcome a challenge.

2. Development and accomplishment: This core driver refers to the sense of growth, and the need to continuously evolve and develop. This is seen as game elements such as points, badges, leader boards, etc.

3. Empowerment of creativity and feedback: This driver gives the opportunity to solve challenges through different options. Try different paths that will give instant feedback.

4. Ownership and possession: this core driver gives the opportunity to control or own a thing to some degree in the game.

5. Social influence and relatedness: it is related to the human need to belong and have social interaction. Actions such as fellowship, mentorship, alliance, and competition are examples of this core.

6. Scarcity and impatience: it is when the user wants something just because it is weird, exclusive, difficult to keep, or lacks availability.

7. Unpredictability and curiosity: This driver is related to the unknown, it is considered to be engaging to have the idea of not knowing what is going to happen.

8. Loss and avoidance: it is the motivation of avoiding something negative to happen. These negative scenarios can be losing points, time limits, life takeout, etc (Figure 1). (Chou, 2014).

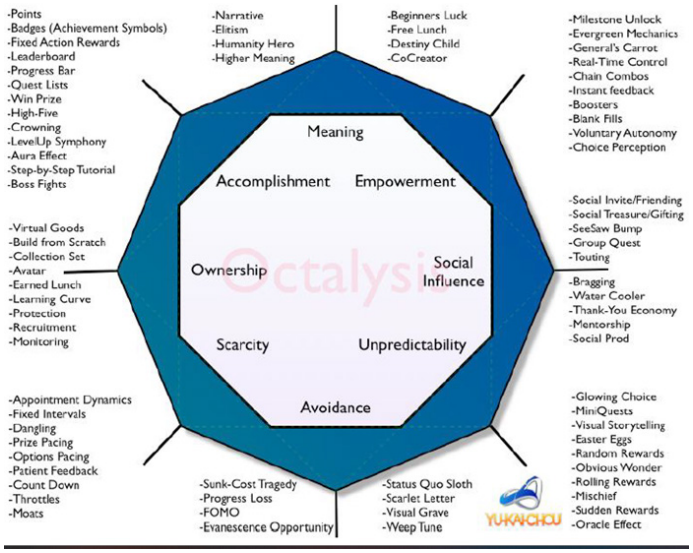

Figure 1. Octalysis framework and its eight-core drivers.

Source: Chou (2014).

In addition to these core drivers, they are drawn and divided into an octagon for two specific purposes. The first one is to divide the core into left and right, divided in that manner inspired by the left and right brain attributes. The left brain or the core which is located on the left side are

ones which are more analytical, logical, and with high sense of ownership, this is why in the left-brain extrinsic motivation is significant and elements such as points, badges, and milestones are key, once they get the reward, motivation decreases (Chou, 2014).

On the other side, the right brain, or the core drivers located on the right side of the octagon refers to the ones related to creativity, social approach, and dynamics; thus, intrinsic motivation is the one leading this part. Activities such as sharing with others, finding new paths to achieve a goal, and having a sense of unpredictability will maintain motivation (Chou, 2014) (Figure 2).

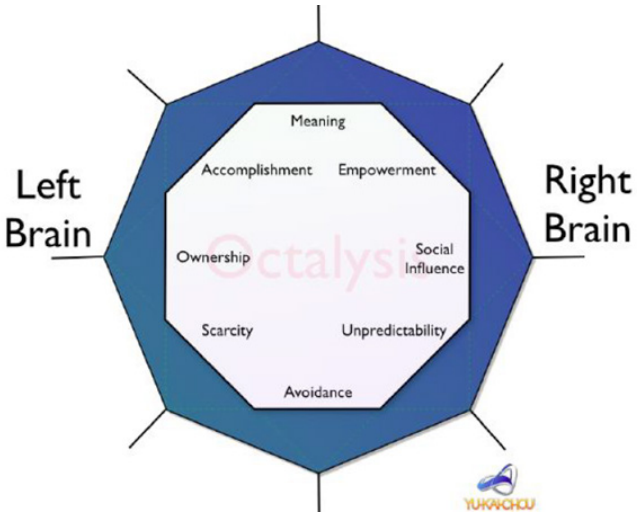

Figure 2. Octalysis framework and the brain attributes.

Source: Chou (2014).

The second purpose is to divide the octagon into top and bottom. The top is identified as the white hat. Core drivers located on the top, or in the white hat, are the ones that led us to feel positive emotions such as satisfaction and power. Meanwhile, at the bottom of the octagon the core drivers are placed in what is called the black hat which are the core drivers related to rising feeling such as obsession, anxiety, and addiction (Chou, 2014) (Figure 3).

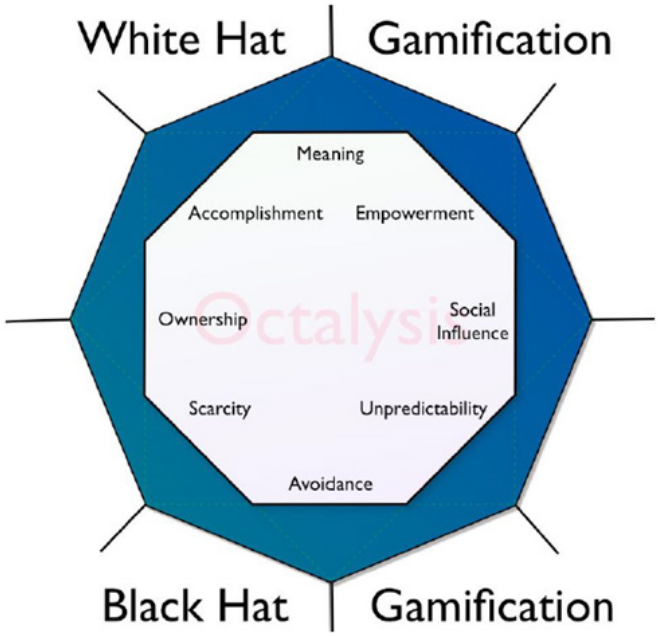

Figure 3. Octalysis Framework: Hats.

Source: Chou (2014).

Depending on the purpose of the gamified setting, the core drivers will be excelling differently taking into account its characteristics and placement. A significant number of studies have discussed the differences between GBL and gamification, concluding specific components or factors that make them unique; however, it is remarkable to see how important it is to consider technology and alternative approaches to innovate in teaching and learning practices. In educational fields, it will be interesting to see how this octalysis framework works taking into account its specific characteristics to have it as a tool to measure the impact of gamified setting in the learning process of the students in the classroom.

Octalysis framework as a strategy to optimize gamified settings

Gamification has recently become a fascinating subject that inspires researchers to conduct studies to validate its impact and how to use this tool correctly for learners' benefit. In this section, research studies will be discussed to enlighten the path to realizing the successful gamification processes using the octalysis framework and the discussion around its achievement and recommendations. Most of the researchers related to gamification and octalysis framework have given positive outcomes profiling the octalysis framework as a strategy to optimize gamified settings.

Oliveira & Cruz 2018, conducted research to reflect on the octalysis framework and how it can be applied in primary English teaching contexts. This qualitative research was applied to a group of 4th-grade English learners. The outcomes of this study suggest that gamification has a

stimulating and motivating factor that involves kinaesthetically solving problems and creative tasks (Oliveira & Cruz, 2018). Moreover, the use of the octalysis framework as a gamification tool allows a better comprehension of story elements in storytelling activities, thus, students will have better performances and improve their understanding. At the end of the study, the authors argue that gamified activities can be useful in stimulating students' critical thinking skills and creativity.

Similarly, Fitri et al. (2020), claim that gamification has enormous benefits in e-learning systems if taken as seriously as possible. This study took as a basis the studies which support gamification to increase students' motivation, thus the researchers developed the study using a gamification octalysis framework to examine the role of gamification in the learning process and quantify students' motivation in online learning tasks (Fitri et al., 2020). Conclusions from the study suggest that the octalysis framework provides the potential to increase the intrinsic motivation in the students, as well as keeping them interested. Besides, the use of gamify elements such as points, badges, and levels increase motivation by showing students' progress through achievement, besides, the use of gamification helps to increase creativity but it needs to be better developed in the lesson because it tends to be not very relevant for teachers (Fitri et al., 2020). Furthermore, the octalysis framework, as used in the study, increases motivation by using competition and cooperation as core drivers, but it is necessary to study more about it to use this strategy to have a better impact. The octalysis framework makes available a choice of mechanism to explore learning models that can generate and enhance learning optimally.

Likewise, a study conducted in 2021 by Sulispera & Recard in a private school during a month at the beginning of the school year has seen the paybacks using gamification in the classroom. The researcher implemented the gamification octalysis framework for students who were considered to have low English skills. Although the octalysis framework uses eight, for this study, only four have been implemented due to the classroom condition, the material delivered, and the teaching tools used during the research time (Sulispera & Recard, 2021).

This paper concludes that the students were naturally activated to compete with others because of the social influence and relatedness core drives as part of their human nature. Besides, the unpredictability factor in gamified settings encourage the students to reflect outstandingly to solve the problem in order to keep on or develop their level during the game, this type of activities develop their thinking skills. Moreover, these activities motivate students to transform positively and become positive examples to others (Sulispera & Recard, 2021). In the end, this study concludes that the implementation of gamification octalysis framework towards English learning was one of the solutions. The applied octalysis gamification framework core drivers during this study were Social Influence & Relatedness, Epic Meaning & Calling, Unpredictability & Curiosity, and Development & Accomplishment. Those four Core Drives can help the students to be more engaged behaviourally, cognitively, and emotionally.

This research also highlights the importance for teachers to understand students' needs before implementing gamification because in that way it would be easier to ensure successful practices (Sulispera & Recard, 2021).

Additionally, Fortunato et al. (2022), conducted research to examine how the octalysis framework fosters reading and writing in English as a foreign language activity toward successful outcomes in third-grade students. Researchers suggest that using the octalysis framework allows the design of student-centered activities giving them challenges to have better achievements. Students, not only develop their academic skills but also have the opportunity to strengthen abilities such as social and cognitive, besides keeping a high motivation towards the lesson activities (Fortunato et al., 2022).

During the child development process, games have become a significant part of this growth. Through games, infants start having improvements in different skills such as cognitive, emotional, motor, psychosocial, and certainly linguistic ones (Cetin et al., 2021). Through the review of a theoretical framework, games will be explained as a successful strategy used with students in their learning process, moreover, gamification will be discussed as and design to develop cooperative work which is essential when developing social linguistic skills. A parallel between gamification and game-based learning will enlighten the understanding of these two approaches. Finally, the theoretical approaches towards the octalysis framework and its impact on educational fields.

CONCLUSIONS

Although gaming has been included in education as a way to involve students in their learning process and increase their motivation for learning in a playful and recreational way, over time, these strategies have been configured in a number of ways. When talking about gamification it is necessary to keep in mind its varieties and variations. This article provides a general review of topics such as game-based learning and gamification and the subsequent Octalysis framework as a strategy to optimize gamified experiences to increase successful outcomes.

EFL teachers usually have to deal with students' demotivation and sometimes apathy in the English language class, the inclusion of one of these strategies allows students to become interested in learning English as a foreign language, and what is even better, to have fun while learning. Providing students with innovative methodologies that fulfil their current needs will create better understanding

of their learning processes and through intrinsic motivation achieve lasting and significant results. Octalysis framework is used to design gamified systems and evaluate applications. The framework entails eight core drives: (1) Epic Meaning and Calling, (2) Development and Accomplishment, (3) Empowerment of Creativity and Feedback, (4) Ownership and Possession, (5) Social Influence and Relatedness, (6) Scarcity and Impatience, (7) Unpredictability and Curiosity, and (8) Loss and Avoidance. In addition, the way this octalysis framework is drawn (hats and brains) provide tools to profile students in the classroom and through this understanding, academic goals are settled by the educator, thus, gamified experiences will increase students' opportunity to develop not only academic skills but also social abilities.

Research shows that the implementation of octalysis framework enhances English as a foreign language communicative skills activity toward successful outcomes in third-grade students. Researchers also suggest that using the octalysis framework allows the design of student-cantered activities giving them challenges to have better achievements. Students not only develop their academic competencies but also have the opportunity to strengthen abilities such as social and cognitive ones, in the same way; they show high motivation towards the lesson activities.

REFERENCES

Al-Azaw, R., Al-Faliti, F., & Al-Blush, M. (2016). Educational gamification Vs. game based learning: Comparative study. ***International Journal of Innovation, Management and Technology***, 7(4), 132-136.

Alpar, M. (2013). The importance of games in teaching foreign languages. ***Academic journals: Educational research and reviews***, 8(15), 1241-1254.

Carrillo Ojeda, M., Garcia Herrera, D., Ávila Mediavilla, C., & Erazo Álvarez, J. (2020). El juego como motivación en el proceso de enseñanza aprendizaje del niño. ***Revista Arbitrada Interdisciplinaria KOINONIA***, 5(1), 430-448.

Cetin, N., Turkkan, E., Kacar, A., & Dag, H. (2021). Children's only profession: Playing with toys. ***North Clin Istanb***, 8(4), 414-420.

Chou, Y.K. (2014). ***Actionable gamification. Beyond, badges, and leaderships.*** Octalysis media.

Cornellà, P., Estebanell, M., & Brusi, D. (2020). Gamificación y aprendizaje basado en juegos. Consideraciones generales y algunos ejemplos para la Enseñanza de la Geología. ***Enseñanza de las Ciencias de la Tierra***, 28(1), 5-19.

Fernandez-Rio, J., de las Heras, E., Gonzalez, T., Trillo, V., & Palomares, J. (2019). Gamification and physical education. Viability and preliminary views from students and teachers. ***Physical Education and Sport Pedagogy***, 25(5), 509-524.

Fitri, M., Sharifah, S., Zeratul, I., Anastasia, M., Ronald, M., & Anang, A. (2020). Evaluation of student core drives on e-Learning during the covid-19 with octalysis gamification framework. ***International Journal of Advanced Computer Science and Applications***, 11(11), 104-116.

Fortunato, M., Moreira, A., & Simões, A. (2022). All Hands-on Deck: Octalysis framework in primary English language learning. ***SISYPHUS Journal of education***, 10(3), 225-243.

Hursen, C., & Bas, C. (2019). Use of Gamification Applications in Science Education. ***International Journal of Emerging Technologies in Learning (iJET)***, ***14***(01), 4–23.

Lamrani, R., & Abdelwahed, E. (2020). Game-based learning and gamification to improve skills in early years education. ***Computer Science and Information Systems***, 17(1), 339-356.

Mazhar, B. (2019). Use of digital games in writing education: an action research on. Contemporary Educational Technology, 10(3), 246-271.

Melo Herrera, M. (2020). Análisis de la concepción de docentes y estudiantes sobre el juego como. ***Revista Latinoamericana de Estudios Educativos***, 50(1), 251-274.

Nistor, G., & Iacob, A. (2018). The advantages of gamification and game-based learning and their benefits in the development of education. Carol I National Defence University Publishing House.

Oliveira, S., & Cruz, M. (2018). The gamification octalysis framework within the primary English teaching process: the quest for a transformative classroom. ***Revista Lusófona de Educação***, 41(41), 63-82.

Parijat, P., & Bagga, S. (2014). Victor Vroom's Expectancy Theory of Motivation – An Evaluation. ***International Research Journal of Business and Management***, 7(9), 1-8.

Pérez-Palafox, V., Chong-Barreiro, M. C., Cáceres-Mesa, M. L., & Moreno-Tapia, J. (2022). Evaluación y uso de estrategias de aprendizaje autónomo de lenguas extranjeras a nivel superior. ***Revista Transdiciplinaria De Estudios Sociales Y Tecnológicos***, ***2***(3), 12–22.

Sharma, M. K., Biswas, A., & Anand, N. (2021). Video gaming and fluid intelligence. ***Journal of Addiction and Recovery***, 4(1), 1-3.

Silva, R., Rodrigues, R., & Leal, C. (2020). Gamification in management education- a literature mapping. ***Education and Information Technologies***, 28, 1803–1835.

Sulispera, T., & Recard, M. (2021). Octalysis gamification framework for enhacing students' engagement in language learning. ***Dialektika: Jurnal Pendidikan Bahasa Inggris***, 8(2), 103-128.

Sulistyaningtyas, R., & Fauziah, P. (2018). The implementation of traditional games for early childhood education. Atlantis Press.

Valdosta, R., & Hall, A. (2012). The relationship between McClelland's theory of needs, feeling individually accountable, and informal accountability for others. ***International Journal of management and marketing research***, 5(1), 21-42.