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RESEARCH ARTICLE

GAMIFICATION: APPLYING THE PLAYFUL THROUGH DIGITAL GAMES

Dennys Maia Miranda, Raphael Rocha Laurentino and Jean Mark Lobo De Oliveira

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Abstract

This article has as object of study gamification in education, presenting a discussion about the importance of playful activity for the teaching-learning process through gamification in the construction of learning and points out the challenges of gamification in current education. Due to the intensive use of technologies today, the school needs to adapt to the context of this new era, seeking other strategies to teach and learn it. Gamification in education can be thought of as a possibility of innovation in current teaching and learning techniques, using ludicity and digital games as educational support tools that enable the achievement of learning objectives. An experiment is presented aimed at the construction of digital game proposals by undergraduate students of information systems courses at the Fametro University Center.

Introduction:-

Technology is increasingly present in the daily life of modern life and its development has always affected people's lives, whether in the way they produce, communicate, relate and learn, from the invention of the wheel to smartphones. New digital information and communication technologies have changed current ways of working, communicating and gathering knowledge.

With the creation of computers and the Internet, endless possibilities and new tools are created that can contribute to the development of learning. Amid these technological advances, the use of games is increasingly fixed, digital games penetrate our culture and change the behavior of the target.

The education with which these new themes of the digital age intersect is focused on finding different learning opportunities and creating methods that meet today's educational needs. With all these changes in mind, it is clear that an innovative approach to teaching and learning should be considered.

To define the reference activities for the school to adapt to the form of a technological society, BNCC brings "understanding, using and creating critical digital technologies of information and communication" as the fifth general competence of basic education. . , a significant, thoughtful and ethical way in the different social practices (including schools) to communicate, acquire and disseminate information, produce knowledge, solve problems and practice the protagonist and author in personal and collective life" (Brasil, 2019, p. 9)), which confirms the importance of technological use in education and thus declares the status of digital in education.

The use of digital technology in teaching can contribute to the more interesting learning, which is related to the demands of the modern world, which is tasked with expanding experiences, promoting creativity, collaboration and

Corresponding Author:- Dennys Maia Miranda

participation, to build innovative and inclusive learning, and motivate students, provoke critical thinking, collective work and exchange of opinions and information.

Based on these assumptions, this article aims to think about how the digital game can be a playful tool for the challenge of playful learning. The game is an expanding honey in various fields, including education. then, in this field it refers to playful activities and consists of digital games as an experience that aims to motivate and develop emotional, cognitive and social skills. Game-based education implies that teaching is done in a playful way using educational games that promote a pleasant and fun learning for the student.

Theoretical Referential

Ludicity is a characteristic of human development, because the subject is formed psychologically and cognitively by the relationship with the other and the object. The word playful comes from the Latin word ludus and means game, game. According to Sigmund Freud (1996), a child's favorite and most intense activity is a game or play. In this sense, the effect of the game on the cognitive construction of the subject can be used to think about the effectiveness of game-based education.

This article first discusses the concept of ludicity in education, then the importance of playing in teaching-learning, the articulation between play and play in the construction of learning and, finally, problematization. on current education and the challenges of game-based education.

Gamification In Education

The word gamification comes from the English word gamification, which means the use of video game techniques in real situations, applied in various fields of activity, such as education, health, politics and sport, with the aim of solving practical problems, highlighting. inform or motivate a particular audience on a given subject and is synonymous with word play.

Word play can be considered a newly constructed term that may or may not be related to the use of digital technologies. According to Burke (2015):

The term gamification was coined by Nick Pelling in 2002 to describe the use of game-like interfaces to make ecommerce faster and more convenient for its customers. For Pelling, gamification was about hardware, coining a word that describes startup consulting services. The term play eventually survived and went far beyond the consultation itself, since then went on to describe something completely different. (BURKE, 2015, lk 16).

Today, the applicability of playing goes beyond the simple use of an instrument and becomes part of the cultural fabric of society, acting in various fields such as the business environment, the business sector, health and education, seeking meaning in the individual through games.

We see that the importance of play has been implemented in educational activities for a long time based on a positive reinforcement and reward system as suggested by Skinner's behavioral learning theory. According to Fadel and Ulbricht (2014):

The term play includes the application of game elements in non-playful activities. Ludicity has been applied in education for a long time, for example, a child's work could be recognized with stars (award) or writing words would become increasingly difficult under the teacher's saying (levels according to users' abilities). (FADEL AND ULBRICHT, 2014, p. 6).

However, crossed by digital culture, gamification, different from the game, not only has the purpose of entertaining, it goes beyond the playful goal and also beyond the use of a behavior conditioning system. Gamification consists of the use of game strategies with motivational focus to develop behavioral skills in individuals, such as cognitive, emotional and social.

In learning, gamification can be used for the purpose of motivating, engaging, solving problems and developing cognitive skills in students. In this sense, it intends to encourage learning and facilitate the production of knowledge.

For BUSARELLO (2016, p. 18), "gamification is a system used to solve problems through the elevation and maintenance of engagement levels through stimuli to the intrinsic motivation of the individual. It uses playful scenarios for simulation and exploration of phenomena with extrinsic objectives, supported by elements used and created in games.

However, adopted from digital culture, playing, unlike a game, not only fulfills the purpose of entertainment, but overcomes the purpose of ridicule and also the use of behavior. Playing is the use of motivational playful strategies to develop behavioral skills of individuals, such as cognitive, emotional and social skills.

In learning, play can be used to motivate, engage, solve problems, and develop cognitive skills for students. In this sense, it aims to stimulate learning and facilitate the creation of knowledge.

According to BUSARELLO (2016, p. 18) "gambling is a system used to solve problems, raising and maintaining the level of involvement through stimuli that aim at the internal motivation of the individual. Uses game scenarios to simulate and explore phenomena with external objectives supported by the elements used and created in the games.

The goal of game-based education is to motivate students by challenging them in an inspiring and creative way, giving them the opportunity to actively explore and improve their knowledge, appreciate creativity and motivate them to overcome difficulties.

Through play, it is possible to think innovative teaching and learning practices when experiencing the content of digital games, which offer several opportunities for knowledge acquisition. Alves, Minho and Diniz (2014):

Enlightenment emerges as an opportunity to connect the school to a universe focused on the learning of young people. But instead of focusing on traditional effects such as notes, elements of game mechanics are used to promote experiences that engage students emotionally and cognitively. (ALVES; MINHO; DINIZ (2014, p. 83).

It is important to highlight that playing in education should not be used only as a motivational technique for reward. It should be used in a playful and enjoyable way to learn. Therefore, the most important should not be the reward for reaching the goal, but the process of reaching the goal. The focus of playful learning should be the desire to acquire knowledge about something.

Game-based learning is a set of creative possibilities using digital technology, where through transmediality it is possible to work with content in different forms and media, allowing the student to experience different cognitive paths. The game also gives students the opportunity to evaluate their performance through feedback on their tasks, which promotes their independence in the development of knowledge.

Material And Metodos:-

The research scenario was an educational computer room offered by the Department of Computer Science of the Federal University of Sergipe (UFS) and taught by Professor Henrique Nou Schneider.

Students from 21 courses who actually attended classes participated in the study. Most students belong to computer courses at the Department of Computer Science at the Federal University of Sergipe. The choice of participants resulted from the offer of the department and the fact that students learned hybrid and multimodal methodologies according to the teacher's curriculum and deepened the teaching-learning processes of computer games.

At each meeting of 2 hours per week in the classroom, the teams presented proposals that were analyzed by the teacher in real time, and through proposals and questions formed a joint creative process.

The game suggestions were submitted by 3 groups, each with 3 students. Group 1 - Kahoot in the Classroom: Proposal to use the game as a content review activity. Group 2 - Game area: Playing programming in game scenarios. Group 3 - IQ Quest: Learning through challenges. Group - IntegrAutis: a game related to the teaching of autistic children. Group 5 - EandR (Puzzles and Rewards): Deciphering the Learning Puzzles. Group 6 - Storytelling: Solving challenges by creating stories integrated into the cloud. Group 7 - PRATVIN: Revealing the knowledge behind the phenomena.

Kahoot in the Classroom was a proposal developed by Group 1 to use the Kahoot app to promote participation in the classroom using mainly kinesthetic and visual stimuli. Kahoot is a game-based learning platform that makes it easy to create, share, and test games in minutes. The goal of the platform is to add a fun classroom element to your office or living room. The objectives of this proposal are: to promote the retention of visible content in the classroom in a more dynamic way, where the student becomes an active actor, and not only passive; get more student participation, involve them in class, and take on the mistakes they need to progress, and turn the lecture into a lesson where the teacher can extract from students the reason why the answer is right or wrong after each kahoot quiz question.

The idea of the proposal is to give the teacher the opportunity to prepare a questionnaire in Kahoot on the subjects studied in the class, and students participate in this quiz using a computer or even a mobile phone, competing with each other, individually or in groups. The following elements of the game can be controlled in this offer: ranking - prizes that are a bonus in the ranking; a time limit, because each survey question has a corresponding time limit; instant feedback - with each response, the app shows whether the answer is correct or incorrect; competition and cooperation; visual and sound resources; surprise and uncertainty when the question is displayed - the options appear only after a few seconds, well on time. It creates anxiety and surprise with every question.

The Playing Field proposal was developed by Group 2 and consists of a virtual environment where students can put into practice the concepts of programming domains. The objectives of this proposal are: to improve the learning of the student's program through classroom information; increase the participation of students in the computer course; encourages the student to study and/or evaluate their knowledge outside the classroom.

Playing Field are departments, and each Playing Field has several exercises for students to practice and challenges that are worth the student's grade. The idea is that students practice freely and can solve challenges more easily. Among the game elements of this proposal, we can mention: a challenge of questions that students must answer to receive a grade reward; a leaderboard showing students' performance in challenges; rewards, which are graduated rewards earned by student challenges and instant feedback that the student receives for completing the challenges.

Q.I Quest, a proposal developed by Group 3, is an RPG-style game where students create their own avatars and must correct the questions they ask to defeat their enemies, and the questions are created by the teacher. In I.Q Quest, you get rewards for defeating enemies, collecting items, leveling up, and interacting with other participants. The goal is to make problem solving fun, encourage learning, socialization, and student-teacher collaboration, and encourage students to learn independently. Regarding the game elements of this proposal, we can list: avatars, collection of items, prizes, fantasy and battles.

Results:-

The ludicity, according to FILGUEIRA (2018), refers to the quality of play, that is, the result caused by the ludicity, which is related to play and play, the ludicity is also a characteristic of the ludicity, which is a characteristic of what is done or done. developed. games, games or creative activities.

Thus, playing is in everyone's life from an early age, through play. Playing is essentially a playful activity that should be part of the subject's entire life, not only since childhood, because through play we create new perspectives that facilitate a complex understanding of reality. Donald Woods to Winnicott (1975, p. 79): "The child or the adult enjoys his creative freedom in play, and perhaps only in play." The English pediatrician and psychoanalyst adds: "Already playing and just playing, an individual, child or adult, can be creative and use all his personality: and only through his creativity the individual finds himself)" (WINNICOTT, 1975). page 80).

In the society of work and production, the concept of work has always been fought against playing in adulthood. Even in late childhood, play is often devalued because it is not considered a productive activity. In today's society, the search for the salvation of the game occurs mainly in schools, where the game has only begun to be valued in early childhood education.

Therefore, playful learning should not be the only privilege of early childhood education and early childhood education, but should prevail throughout the student's schooling process.

Games and games are recreational activities and have the same function of promoting fun, pleasure and motivation. Rego (1995) mentions that "For Vygotsky, systematic teaching is not the only factor responsible for broadening the

horizon of the proximal development area. He considers playing an important source of development. (REGO, 1995, p. 80).

In addition to providing the child through fun, stimulates and broadens cognitive horizons in a game, she uses her imagination to stage her reality, that is, playing is a presentation of reality. Through the game, the child deals with his emotional problems, as when he repeats in the game the difficulties he faces in real life. It develops socially as it contemplates or must conform to the rules of the game.

According to Vygotsky (1984), play creates a new form of desire in children, the game teaches them to want and associate their desire with an imaginary "i" that symbolizes their role in the game and its rules. In this way, he adds, the child's greatest achievements are achieved in the game, and these achievements become the basis for their real and moral actions in the future.

This statement reiterates the idea that children's playful experiences are part of their psychological and social development, establishing the importance of this activity in learning.

Currently, the most important pastime is because gambling is one of the foundations that ensure the goals of modern education. The game presents itself as a challenge, a solution to a problem, which stimulates communication between the student and his learning object.

Thus, in addition to the interaction and formation of concepts, the game is able to develop superior cognitive processes in the subject, such as attention, perception, memory, reasoning, therefore, the activity of the game cannot be combined with the activity as a secondary part of learning.

However, the game itself does not develop all the properties of the object. Therefore, it is important to make the game an effective learning material composed of attributes of the game related to the important content for teaching and learning, which the teacher must transmit to ensure the desired skills and skills. According to Filgueira (2018):

The importance of playing in educational games is that it makes the player commit to the objectives of the game and immerse so that everything presented to him comes with pleasure. Built that makes the experience so juicy and enjoyable that it makes you want to play these educational games again. However, using a more subtle and educational method that not only teaches, but also creates curiosity, excitement to learn more, the player goes out of the scope of the game out of the real world and is interested and learns more. (FILGUEIRA, 2018, p. 10).

Digital games used for educational purposes should teach the content of the subjects and develop the skills and competences necessary for the development of learning, i.e. they must have characteristics that meet the requirements of learning. Learning howgames are, educational software must meet pedagogical objectives.

Educational digital games have great potential as teaching and learning aids. Savi and Ulbricht (2008) list, among other things, several advantages that educational digital games can have in teaching-learning: motivational effect, educational digital game as a learning promoter, development of cognitive skills, learning. discovery, experience of new identities, socialization, motor coordination and competent behavior or mastery of the subject.

It is undeniable that digital games are very attractive cultural elements for young students. Game-based learning is a rich universe of possibilities, where the student has the opportunity to develop the main character, solve problems and challenges and improve their school results.

The Challenge Of Digital Games In Everyday Schoollife

Education has always seemed challenging. One of the biggest challenges of current education is to motivate students to learn, to arouse their interest in the content of the study, to participate in the improvement of their knowledge. However, for this to happen, the student must want to learn.

Educators should make learning pleasurable and fun, which enables the development of creativity by promoting challenging and stimulating activities from what is being taught. But this is not so easy to achieve, because the school still bears the mark of education in an industrial society, where pleasure and fun were far from learning and teaching.

The school still uses old paradigms in its practices. The change in this rigid educational culture happens slowly, as technology moves faster and faster. These changing worlds require a more dynamic education that adapts to the needs of students. Therefore, the school must follow the technological level of its students, which is another challenge in current education.

In recent decades, we have observed the impact of digital technologies on the daily life of humanity, and especially among young people, as they show a great interest in digital games. To make learning attractive to the student in the digital age, the teacher must seek innovative strategies to develop teaching and learning. The game is one of those strategies.

To promote education with the help of digital games, it is necessary to overcome some technical and pedagogical obstacles. Technically, the problem is training teachers to use digital video game technologies in the classroom. and pedagogical in relation to the development of curricula in the selection and implementation of the teaching-learning methodology and evaluation process designed to learn from the support of digital technology.

In a game-based education proposal, learning objectives should be well aligned with the goals of the games, and there should be a balance between fun and pedagogy. It is also necessary for the teacher to maintain the level of challenge in line with the level of student development.

This is how the teacher gets stuck: the first has to do with the difficulty of finding and using good games that meet the learning requirements; another is that educational games are generally not very playful, and playful games do not serve satisfactorily for educational purposes; and third, the implementation of classroom teaching at different levels of cognitive development is difficult.

Learning to access information and use games through new conditions requires the creation of new teaching methodologies and a deep knowledge of digital information and communication technologies, so that students' learning objectives are achieved in an innovative way, according to the use of teaching. technical tools.

Therefore, the school must renew itself by adopting the techniques of the game as an information producer. In game-based learning, the ludicity associated with gaming technology can develop students' educational skills and competencies. However, the use of digital tools in educational context should happen!

Final Considerations

Digital information and communication technologies have come into our lives and will stay. In today's world it seems unimaginable to human beings an existence without the use of these technologies, because, increasingly, they are improved and add to the most diverse areas of life promoting change.

Change is always difficult to accomplish, but the school cannot remain a delayed institution in the development of change. On the contrary, as a trainer of individuals, she should always be ahead contributing to the advancement of society.

Gamified education is one of the ways to advance education. Teaching-learning connected with the real experience of the subjects of the digital age is a methodological possibility that, in addition to enriching learning, allows education to be re-considered and to update its practices using the available technologies.

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