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FROM REMOTE TEACHING TO PRESENTIAL TEACHING - USE OF GAMIFICATION IN SCHOOL PHYSICAL EDUCATION CLASSES

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Abstract: The COVID-19 pandemic presented itself as a challenge to be overcome by everyone, including in the area of education, when it was necessary to modify most of the structures of the educational system. This way, innovation in teaching was sought through the use of digital information and communication technologies (TDICs). The objective is to report the experience with the use of gamification in Physical Education classes in two municipal schools in Ipojuca, namely, Joaquim do Rego Cavalcanti School and Pedro Serafim School, and also how to show the assumptions used for practices in remote classes and face-to-face classes. Therefore, it can be said that through the report on gamification in Physical Education classes, this practice can be understood as a structured methodological strategy, being able to involve students in solving real problems, helping them to give meaning to the teaching and learning acquired. As for the teachers, they appropriate the activities through games, to build more dynamic, pleasurable and engaging teaching-learning spaces for our students.

Keywords: School Physical Education; Technologies; Gamification; Games.

INTRODUCTION

During the pandemic of COVID-19, social isolation was introduced into people's daily lives as a strategy to avoid social interactions and restrict the spread of COVID-19. To this end, a restriction process took place, and educational institutions started to adopt remote learning so that their students would not drop out of their studies. Still, with the increase in the vaccination of the population and the control measures being fulfilled, in September 2021, the municipal schools in the city of Ipojuca returned to have their classes in person, with some restrictions, however, these classes took place in the format of

rotation among the classes to avoid crowds and gradually return to full attendance.

By adopting this rotation method, the classes had classes in both formats, remote and face-to-face. That is, group A students had face-to-face classes on Mondays, Wednesdays and Fridays and remote classes on Tuesdays and Thursdays, and group B had remote classes on Mondays, Wednesdays and Fridays and face-to-face classes on Tuesdays and Thursdays. Table 1 shows the detail of the face-to-face and remote classes offered to the students.

Based on this dynamic, teachers, within their abilities, focused on the various resources and digital platforms, thus promoting a hybrid teaching adjusted to the themes of their classes, in this case, Physical Education classes at school. According to Pacheco, Costa e Silva (2021) and Hartwig (2019), access to these technologies can provide a more personalized teaching, as long as the teacher chooses the technology or resource that fits their reality and the learning objective they want to achieve.

Pedagogical innovation is achieved through the combination of active methodologies with digital technologies, since active methodologies with the help of synchronous and asynchronous tools seek to innovate teaching, expand the creativity of teachers and provide greater motivation to students who they are used to playing, undertaking challenges, competing, thinking strategies and working collaboratively (MORAN, 2018; HARTWING et al., 2019). This innovation brought the need to investigate the applicability of these gamification tools in both remote and face-to-face teaching.

This study aims to report the experience with the use of gamification in Physical Education classes in two municipal schools in Ipojuca, namely, Joaquim do Rego

Cavalcanti School and Pedro Serafim School, and also how to show the assumptions used to practices in remote classes and in-person classes. This study is comprised of a qualitative character with characteristics of an experience report, carried out in two public schools in the Municipality of Ipojuca-PE.

Through the activities carried out, it can be seen that the practical activities gamified during the remote period could also be applied during classes in the face-to-face period. Demonstrating this way that gamification can be an excellent tool to assist in the motivation and engagement in teaching and learning activities of students in municipal schools. Following the work, the elaborated activities that were applied in the two classes formats are highlighted and it was noticed that the result found was very similar, emphasizing that technology and innovation in teaching can bring promising results and more personalized classes elaborated by the teachers and having a greater participation of students who are immersed in this digital world.

METHODOLOGY

Qualitative study with experience report characteristics, carried out in two public schools in the Municipality of Ipojuca - PE. During 2021, there were two different moments for teaching activities in schools, a first moment still in remote teaching (beginning of the school year in February 2021) and after the start of vaccination and pandemic control (September 2021) the return to face-to-face teaching in municipal public schools in Ipojuca. This diagnosis was observed from the realization of remote classes, using platforms and digital resources in the activities proposed in the online classroom and also the application of these same resources in the return to face-to-face

classes.

In addition, during the pedagogical practice, the class moments were distributed in synchronous and asynchronous formats (in the remote period) and in the face-to-face format, making it possible to systematize and contemplate the skills of the Ipojuca Curriculum, through various didactic and technological strategies.

Among the activities in the synchronous format, the use of the WhatsApp® application in the traditional and Bussiness® versions, in addition to Google Meet® (videoconferencing) enabled the interaction at the synchronous moment between the professors and the students. Using strategies such as sending video lessons, podcasts, slides and didactic texts. In the asynchronous moment, educational applications and websites were used, such as: Googleforms and games through Wordwall®, Flippity®, Educolorir® and Kahoot!® platforms.

And for the face-to-face moment, we sought to use didactic and technological tools to bring gamification to face-to-face classes, using the same resources of asynchronous classes as game platforms, thus streamlining classes through active methodologies and the use of games.

RESULTS AND DISCUSSION

A game is a voluntary action or occupation experienced within a previously delimited space-time, followed by agreed rules and practiced by all participants, causing moments of joy, tension and distraction in a period of greater social interaction (HUIZINGA, 2000). as a resource strategy and methodological process in education (BUSARELLO;ULBRICHT;FADEL, 2014).

In the Physical Education area, the games, usually are used, either as didactic content or as teaching methods, and also as some skill or sport, since any motor game, popular,

traditional or sports that is proposed in the classes, is configured as a foundation for structuring the entire teaching-learning process of curricular contents (FERRIZ-VALERO et al, 2020).

And when it comes to gamification, the use of the game in digital format brings a new version of the game, as it will be transformed into an active game with digital elements, in which all participants in the process, teachers and students, have the opportunity to learn (FERRIZ-VALERO et al, 2020). This way, due to the period of remote classes, this tool was of great importance for the development of pedagogical contents in the municipal schools of Ipojuca, where the game in digital format, in addition to bringing students closer to classes, significantly motivated the remote physical education classes of these two schools in question.

Gamification can also be defined as an innovative solution, inspired by the idea of using recreational elements applied in non-recreational contexts (KAPP, 2012; DETERDINGetal, 2014; DETERDINGetal, 2011; LANDERS; LANDERS, 2014; HARUNA et al 2018), where it has been shown to be an innovation that allows for an effective change in behavior and acquisition of knowledge, especially when talking about younger audiences and teenagers who are immersed in the environment of digital games and familiar with the fun they provide.

The use of game design elements to improve academic performance, such as learning attitudes, learning behaviors and learning outcomes, is known as gamification or 'gamified learning' (DETERDING et al., 2011).

Gamification can also be understood as the use of the mechanics and systematics of games (digital games), in different scenarios, creating learning spaces. This way, they cover mechanisms for solving problems,

motivation, improving learning and engagement of a certain audience, mediated by challenge, pleasure and entertainment, that is, by having fun during learning (ALVES, MINHO, DINIZ, 2014; LANDERS; LANDERS, 2014; HARUNAetal2018; VANGALEENet al, 2021). Although game elements are used in a certain context (such as in education), there must be no intention of creating a game (VAN GALEEN et al, 2021). This understanding was verified by bringing the gamification proposal to the classroom, where the student, moved by fun and challenge,

Finally, this emerging pedagogical approach is based on using the potential of games, in order to redesign methodological and didactic elements to increase motivation and adherence to the teaching-learning process, significantly changing students' social behaviors to, ultimately, improve their academic performance (FERRIZ-VALERO et al, 2020). in this study, because after the period of using gamification in physical education classes, it can be seen that the students had a better understanding of the contents proposed by the teachers, presenting better academic results in the evaluation activities and the digital games somehow kept the students' motivation until the end of the school year.

Gamification has been gaining popularity in the educational field. Its use as an active methodology has grown in recent years, creating an educational approach to address problems related to social behavior and student motivation (FERRIZ-VALERO et al, 2020).

Students were asked to put together a jigsaw puzzle referring to a type of gymnastics and, after putting it together, they were asked to speak a little about the type of gymnastics that was represented in the jigsaw puzzle, thus associating the game

with the cognitive thinking of the activity in question. After carrying out this activity, the students circulated around the room and observed the different types of gymnastics mounted on the puzzles and in the next activity they had to classify the types of gymnastics through the figures, hence the group work and cooperation was observed in search of the final objective, to build knowledge in a playful and fun way through games, exemplifying that gamification has also become a motivating tool for students in face-to-face teaching.

This way, gamification emerges as a possibility of connecting the didactic contents of the school to the universe of young people, immersed in this technological world and games, where the focus is on learning through ranking systems, rewards and achievement of goals, providing students with experiences that develop emotionally and cognitively, thus becoming a more dynamic, efficient and pleasant school environment, making learning happen in a spontaneous and fun way (ALVES, MINHO, DINIZ, 2014; FARDO, 2013). Gamification was so well received by the students that it became a present part of the classes, always requested by the students, the digital and physical games in the physical education classes, made the class more dynamic and motivating, where the students became participants and protagonists of their learning.

Among the benefits of gamification we can highlight:

- Greater social interaction and greater participation of students in the classroom;
- Greater absorption and retention of content;
- Encouraging protagonism in problem solving;
- Learning takes place in a playful way;
- Development of creativity, autonomy and

collaboration;

- More engaged, curious and motivated students;
- Improved academic performance;
- More dynamic classes.

(FERRIZ-VALERO et al., 2020; NOEMÍ; MÁXIMO, 2014; HARUNA et al., 2018; ALVES, MINHO, DINIZ, 2014; LANDERS; LANDERS, 2014; VANGALEEN et al., 2021).

Gamification presented itself as a promising tool to improve learning outcomes, strengthening learning behaviors and attitudes towards learning.

The students who had contact with the activities in a gamified way were more motivated than in the traditional teaching approach. (cement and student involvement). Confirming that games (and gamification) can be powerful educational tools for teaching and learning in schools (HARUNA et al., 2018).

Agamification is an innovative educational approach, which improved the learning experiences of students from the municipal schools in question, as well as in the study by Ferriz-Valero et al. (2020), where the results were positive and showed a significant increase in the intrinsic motivation of students after experiencing gamification, highlighting fun as the main theme of the gamified activities proposed (FERNANDEZ-RIO et al., 2020).

Students liked the different approach and believed that they learned more through games than in the traditional classroom format (which increases the educational value of the subject). The presence of some elements identified as central to promoting meaningful experiences in Physical Education and sport was also observed, according to Beni, Fletcher, Chronín, (2017): Social Interaction (only when the games were held in person), fun, challenge and

learning (the latter were observed in remote and face-to-face classes).

Therefore, gamification has the ingredients to promote meaningful Physical Education experiences at different educational levels (elementary and high school), in students with different social (low, medium and high socioeconomic status) and educational (urban, rural) levels and teachers with different specialties in gamification (new and experienced)(FERNANDEZ-RIO et al., 2020).

Alves, Minho and Diniz (2014) point out that in order to achieve the expected learning objectives through gamification, it is necessary to carefully select and create gamified strategies for teaching practice.

- Well-defined mission: definition of the task that must be carried out to achieve victory;
- Efficient Scoring System (reward/feedback): diverse, fair, growing system enabling team recovery/overcoming;
- Well-defined narrative and strategy (Levels/Phases): ability to involve the story, adherence to the tasks performed;
- Clear/ Evident/ Organized Tasks: objectivity of the task, adequate level of difficulty and adherence to the target audience;
- Creativity: ability to unite known elements in a different way.

Based on these assumptions, were followed the criteria were established by the authors to elaborate a Gamified Educational strategy. Currently, there are some websites that already help in this game design process, adapting the reality and the desired content. That is, the game to be worked on can be carried out in an online format or in a face-to-face format, reaffirming the context of gamification for learning.

In the present case, the contents addressed

were the contents of School Physical Education, namely: Fights, Dances, Games, Sports, Gymnastics and Adventure Body Practices. The sites used for the construction of the games carried out in the online and face-to-face format were the following: the Worldwall® platform, the Kahoot!® platform, the Flippity® platform, the Educolorir® platform and the Canva® platform. To access the sites, click on the pictures.

We will exemplify the process of elaborating and carrying out the gamified activities proposed for the students of the Joaquim do Rego Cavalcant and Pedro Serafim Schools. finish the activity, the number of errors and successes, time to execute the task and a ranking for everyone who participated in that game.

On this platform, different online games were developed for remote classes with different themes, always related to the contents of Physical Education classes proposed by the municipality's curriculum, but which could also be performed in classes in face-to-face format. This platform allowed access to different games that could also be printed for classes or played in online format. These possibilities favored the adaptation and execution of the games in remote and face-to-face formats. The elaboration of these games was carried out only by the teachers, from the construction of the designer, in the selection of the type of game to be proposed to the students, in the proposed learning objective and the content of the lesson to be worked on in this game.

The first game described is a ranking game referring to the sports content. The purpose of the game is to classify the types of sports into individual and collective according to the images listed. The game is a challenge against time, as students must classify their sports in less time. This game was proposed after a video lesson in remote format on aspects

WEEK	CLASS	SECOND	THIRD	FOURTH	FIFTH	FRIDAY
09/06 -10/09	A GROUP	in person	remote	in person	remote	in person
	GROUPB	remote	in person	remote	in person	remote
09/13 -09/17	A GROUP	remote	in person	remote	in person	remote
	GROUPB	in person	remote	in person	remote	in person

Table1:Class rotation dynamics

Source: author collection



Figure1:Platforms used for online and face-to-face classes

Source:Google



Figure2: Online activity related to sports

Source:author collection

related to sports and after contextualizing the verification of learning was done through this game. To try the game, click on the photo below.

The next game described is a pac-man style game, in which the student must go after the correct answers before being caught. The objective of this game is to find the correct answers related to the content of Fights, where in addition to running away to avoid being caught, it is necessary to know the correct answer to the question and go through the course in the shortest possible time to enter the ranking. to experientarogame, click on the photo below.

The following game was initially designed for remote classes, but it worked very well when performed in face-to-face classes as well. The online game is an anagram, in which the letters appear out of order and the objective is to identify the written name. This game was used as a gamification resource to apprehend knowledge about the types of gymnastics, in which a figure appears and a brief definition of what it is about, and the student, through the image and the definition, will try to organize the letters and find the correct name of the type of gym. By associating different stimuli such as figures, conceptualization and reasoning.

The following game, with the same idea as the previous game, had its proposal for remote classes, but was also able to adapt so that it could be performed in face-to-face classes. This game was held after a debate on the different types of adventure practices, and for a better assimilation of different practices, a memory game was held. The face-to-face moment was carried out in two ways, both in teams and individually. In the team format, the idea of competition between teams was followed and each team would have its opportunity to find the pairs and the team that managed to get the most right

would win. And in the individual format it was opened in a challenge format.

The Flippity® platform has a series of online game possibilities with already established models, and the teacher can edit the information and create the game within the ready-made models. On this platform, we specifically used two resources to carry out the games in person, one of them was the revolving roulette wheel to carry out the games and challenges in the face-to-face classes, to assist in the process of drawing the teams and in the dynamics in the room. To try the game, scan the QR CODE on the side or click on the photo below.

And another game created on this same platform was a manipulative game, in which some words were made available and the students must classify and organize the words according to a previously established selection. In this game, the content addressed was the difference between the sports performed in the Olympic and Paralympic games. Therefore, students were made available through the online game to classify the type of sport in its correct modality, being Olympic or Paralympic. This dynamic was carried out in the classroom and the students organized themselves into groups to try to finish in the shortest possible time. As on this platform we do not have access to the data of the students who carried out the activity, try the game, click on the photo below.

The educolorir® platform presents itself as a platform that offers the online game format and the possibility of printing games to be played in person. On its website, the editable online games are word search games, crosswords and puzzles, but the checkers chess game is the individual game in which you play with the computer. in the game, being asked for a photo of the cell phone screen (a screen print) to verify the successes and errors related to the games created for

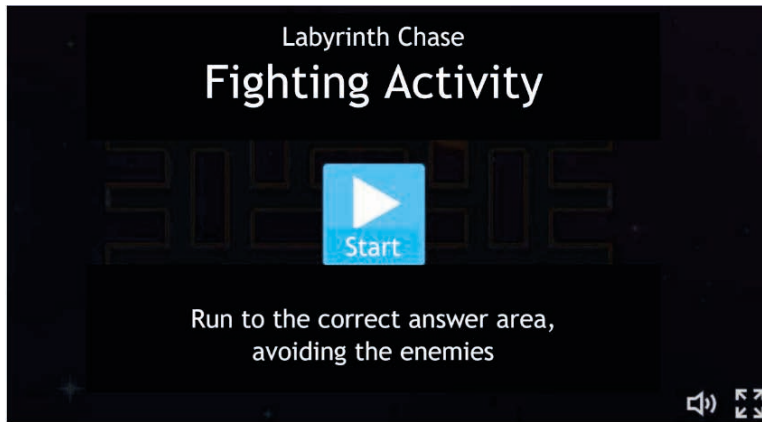


Figure3: Online activity related to the content of fights

Source: author collection



Figure4: Online activity related to gymnastics content

Source: collectionauthor

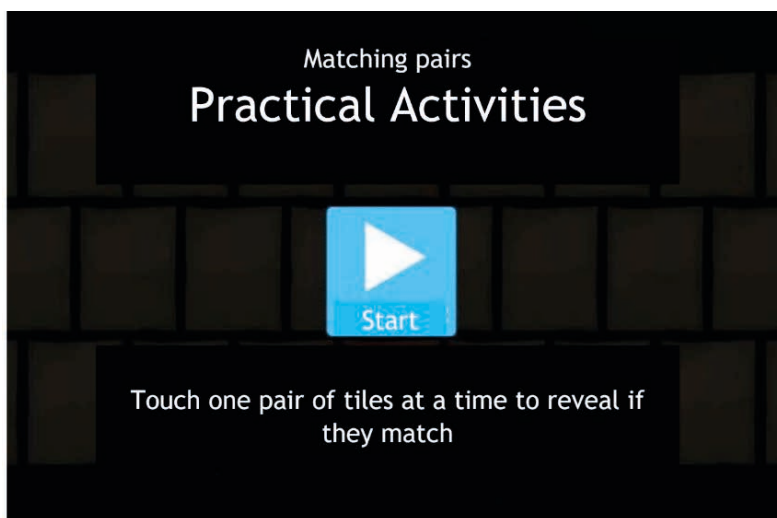


Figure5: Online activity related to the content of adventure body practices

Source:author collection

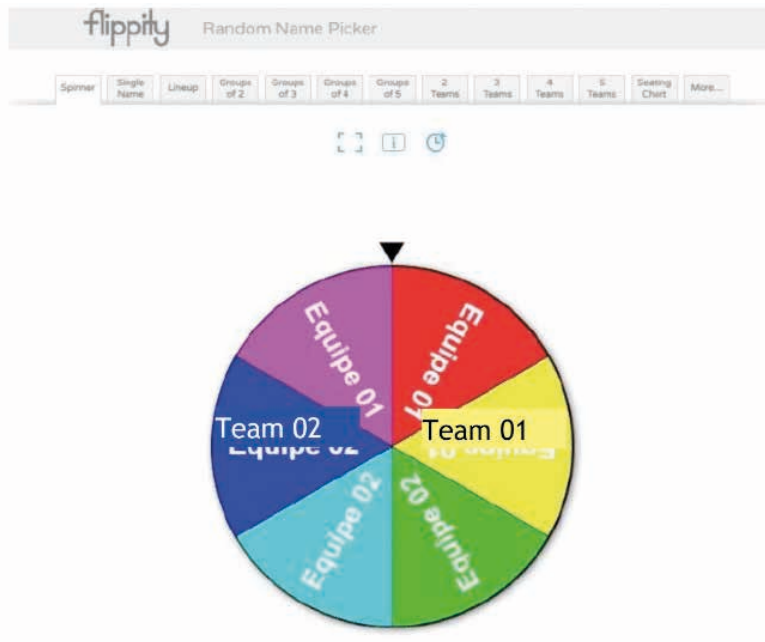


Figure6: Roulette resource image for games
Source:author collection

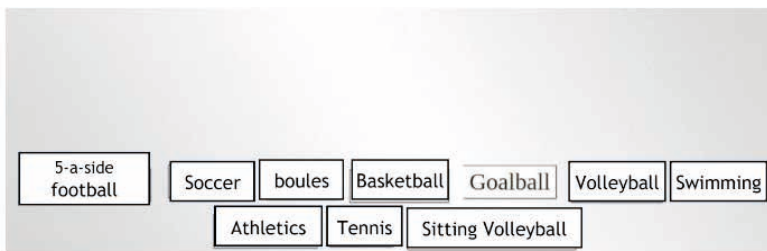


Figure 7:Online activity related to Olympic and Paralympic sports content
Source:author collection

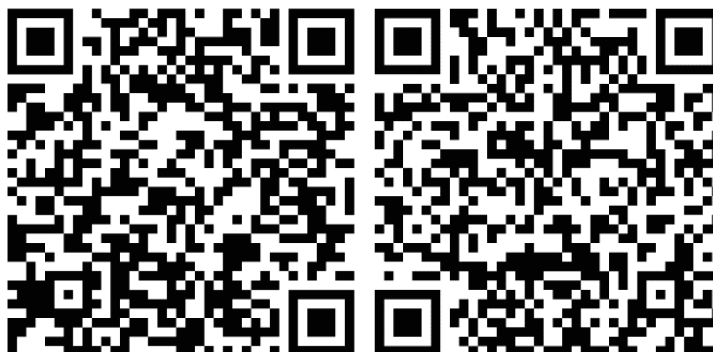


Figure 10:Face-to-face activities about sports
Source: author collection

the class. two moments the remote and the presential. In the remote, the students performed online and, in order to monitor the performance, they were asked to take a photo of their cell phone screen at the end of the game.

The word search game, as already known, aims to find words hidden in the middle of several scrambled letters. In this game created, the proposal was to find words that were associated with concepts in the area of Physical Education. As it was a simple game, the students were able to carry out the activity in both class formats, the only caveat was that when performing the signaling of the word found on the cell phone, the students reported difficulty in carrying out this outline on the side of the cell phone, because when moving the screen they got out of focus of the words and couldn't spell the word.

The crossword game, on the other hand, aims to fit the words according to some hints in the graphic proposed by the game. This game was also carried out in both formats and proposed words that involve the theme of games. The students did not present problems in its execution, however in the execution of the remote format, they were asked to take a photo of the cell phone screen to check the game and compare the successes and errors through the debate after the activity. To try the game just scan the QR CODE.

The Kahoot!® platform is a website that allows us to create question and answer games (in quizz format), this resource was used a lot both in the remote moment and in the face-to-face moment in the form of reviewing the work contents and it worked very well. and through the results, it is possible to identify which content was most significant and which students had more difficulty in solving it. Showing this way that it is a great tool to be used in classes in both remote and face-to-face formats.

The Canva® platform was used to build games to be performed in person. For the possibility of being able to carry out the printed game, bringing the dynamics of online games to the classroom Physical Education classes to the face-to-face moment.

FINAL CONSIDERATIONS

The practice of gamification in the period of remote classes was of great importance to maintain motivation and participation in classes by students, highlighting the dynamicity promoted by gamification. Also, in face-to-face classes, we are also able to perform in different formats, but always complying with the requirements of the gamified strategy for teaching practice (well-defined mission, efficient scoring system, well-defined narrative and strategy, clear tasks and creativity). Therefore, it can be said that through the reports on gamification in Physical Education classes, this practice can be understood as a structured methodological strategy, being able to involve students in solving real problems, helping them to give meaning to teaching and acquired learning.

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