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JOGO BRINCANDO COM OS DIVISORES: UMA EXPERIÊNCIA NO 6º ANO NA REDE PÚBLICA NO MUNICÍPIO DE PARAÍSO DO TOCANTINS.

JUGANDO CON LOS DIVISORES: UNA EXPERIENCIA EN EL 6º GRADO DE LA EDUCACIÓN PÚBLICA DEL MUNICIPIO DE PARAÍSO DO TOCANTINS

PLAYING GAME WITH THE DIVIDERS: AN EXPERIENCE IN THE 6TH GRADE IN THE PUBLIC NETWORK IN THE MUNICIPALITY OF PARAÍSO DO TOCANTINS

Presentation: Poster

Mateus Barbosa Nunes Silva¹; Sérgio Luis Melo Viroli²; Paulo Vitoriano Dantas Pereira³; Francisco Erilson Freire de Oliveira⁴; Albano Dias Pereira Filho⁵

INTRODUCTION

Understanding Mathematics is fundamental for logical reasoning and the solution of occasional or everyday problems, but in many Brazilian public schools the teaching of this discipline is still mechanized, focused on the textbook, with a low level of cognition, absence of problem situations, distance from the student's daily life, application and correction of exercises and application of tests, test as an evaluation method.

The use of alternative methodologies developed by the teacher in the process of teaching and learning Mathematics can sharpen the curiosity and awaken the student's interest. The game can be one of these alternative methodologies, presenting a possibility of playful performance in a pedagogical practice based on an active teaching methodology, developing criticality in the student, through questioning, researching information, making decisions and creating hypotheses. The use of games in the classroom can be an effective resource used by the teacher to motivate students in learning Mathematics. It can collaborate with the dynamic fixation of the taught contents, reduction of the difficulties of learning Mathematics and promote the socialization and interaction between the players.

Given the context, the objective of the work was to use a game with the intention of helping the teaching-learning process in the classroom on the development of mental

1 Degree in Mathematics, Federal Institute of Tocantins, mateus.silva18@estudante.ifto.edu.br

2 Master, Federal Institute of Tocantins, viroli@ifto.edu.br

3 Master, Federal Institute of Tocantins, paulo.pereira@ifto.edu.br @ifto.edu.br

4 Master, Federal Institute of Tocantins, erilson_fr@yahoo.com.br

5. Doctor, Federal Institute of Tocantins, albano.filho@ifto.edu.br

calculation and the use of the concepts of divisors in solving problems with students of the 6th year of teaching fundamental.

THEORETICAL FOUNDATION

Mathematical understanding is fundamental for all Basic Education students, whether to apply it in contemporary society or to generate critical individuals aware of their social responsibilities (Brasil, 2018). The domain of mathematical knowledge allows understanding, analyzing, questioning, exploring, examining and solving countless situations, occasional or everyday problems (Cardoso, 2021).

Most Brazilian public schools have difficulties in teaching Mathematics due to students' lack of motivation to learn, lack of interest in the contents taught, inefficient traditional methodological strategies for approaching the contents and the lack of relationship between Mathematics and everyday life and the difficulty of associating mathematical content with other subjects (Masola; Allevato, 2016; Masola, Vieira; Allevato, 2016). Learning Mathematics has become an obstacle for most high school students because failure in this curricular component causes dropout and an increase in school failure rates (Holanda; Freitas; Rodrigues, 2020). The teaching of Mathematics should favor learning with understanding and production of new knowledge of the student's daily life (Masola; Allevato, 2019), being a facilitator, awakening in students the interest and willingness to learn the contents, since a high percentage of discouraged students, without understanding and ability in basic operations, enter high school with this difficulty (Holanda; Freitas; Rodrigues, 2020). Neglecting the value of training these primary concepts can produce insufficiencies and adversities in learning future content (Cardoso, 2021).

The use of alternative methodologies developed by the teacher in the process of teaching and learning Mathematics can sharpen the curiosity and awaken the student's interest. The game can be one of these alternative methodologies, presenting the possibility of a playful action in a pedagogical practice based on an active teaching methodology (Souza and Salvador, 2019), developing criticality in the student, through questioning, information research, decision-making decisions and creation. hypotheses (Wartha; Kiouranis; Vieira, 2018).

The use of games in the classroom can be an effective resource used by the teacher to



motivate students in learning Mathematics. (Massa; Ribas, 2016). The teacher can take the finished game to the classroom and thus get more class time or build it in the classroom together with the students and achieve more interaction and creativity among the students.

METHODOLOGY

The study was developed quantitatively (Severino, 2016), with the objective of evaluating a game (UNESP, 2013) developed to help the learning of division concepts in problem solving. The game was applied in the month of August 2023, in a class, with 25 students, from the 6th year of Elementary School, in the morning period, lasting 50 minutes, in a public school located in the city of Paraíso do Tocantins, State of Tocantins. There was the formation of 5 (five) teams (5 students per team) for presentation (figures 1, 2 and 3) and explanation of the rules of the game.

Figure 1. Player A's markers



Figure 2. Player B's markers



Figure 3. Board used in the game of divisors

2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	25	25	26	27	28	29
30	31	32	33	34	35	36
37	38	39	40	41	42	43
44	45	46	47	48	49	50

Source: UNESP, 2013

After drawing lots to see who would start the game, the player from team A placed his marker on a number on the board, then player B marked the divisors of the number marked by player A and another number. Player B marked the divisors of the last number marked by player A and so on until all the numbers on the board were marked. If a player marks a number that is not a divisor of the last number marked by the opponent, that number will be considered the last number. Each number could only be dialed once. Players cannot mark numbers after their turn has passed. The game ended when all numbers were marked and each player's points were the sum of all the numbers marked by him. The player who scored the most points won.

Right after using the game, a questionnaire was administered with the following questions: Was the game easy to understand? Did the game contribute to learning the content?

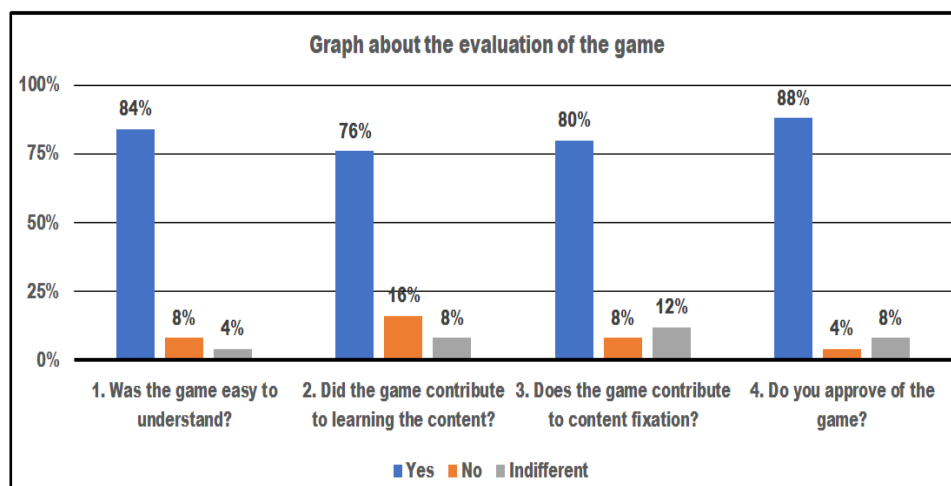


Did the game help fix the content? Do you approve of the game? so that the teaching strategy could be evaluated.

RESULTS AND DISCUSSION

Graph 01, informs the answers of the evaluation questionnaire applied to the 6th grade students about the use of the game playing with dividers.

Graph 1. Questionnaire response



Source: Authors, (2023)

According to the graph above, 84% of respondents stated that the game was easy to understand, 8% did not understand the game and 4% were indifferent to understanding the analyzed game. 78% stated that there was a contribution in learning the content about dividers, 16% disagreed and 4% were indifferent to the questioning. When questioned about fixing the contents through the game, 80% agreed that the game helped to fix the content, 8% disagreed and 12% were indifferent and finally, 88% approved the game with a teaching and learning strategy of divisors, 4% do not approve and 12% were indifferent to approving the game.

Through the analysis of the application of the game, it was observed that the ludic approach performed presented satisfactory values for all the evaluated items ($\geq 76\%$) after the application of the game, evidencing a good evaluation and acceptance of the game by the students of the 6th year of Teaching Fundamental of the public network in the municipality of Paradise of Tocantins. Mendes; Sousa, (2020), Santana, (2020) and Silva; Ovigli, (2018) carrying out work on the use of games to learn Mathematics for students in the 6th year of Elementary School, observed, respectively, greater interaction between the student and the



content studied, improvement in student performance, greater motivation to learn Mathematics and quick reasoning in resolving issues involving the four operations.

CONCLUSIONS

The evaluation of the game playing with the divisors by the students of the 6th year of Elementary School of a state public school located in City of Paraíso do Tocantins presented values equal to or greater than 76% of approval, evidencing the satisfaction of the participants of the game. The application of the ludic activity helped and contributes to stimulate logical reasoning, concentration and help with mathematical calculations on divisors, providing a pleasant and fun learning environment.

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