

Teaching Experience in Pandemic Times: Mathematical Games Applied in Higher Education

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Abstract

This work aims to report the teaching experience during the Covid-19 pandemic period, applied to higher education students using mathematical games tools. The methodological basis of the work is based on the theoretical framework that involves the field studied, as well as on the findings of a teacher who teaches the subject “mathematical games” in the course of humanities. As a result, during the health crisis through the spread of Covid-19, active methodologies, more than ever, were essential for the fulfillment of classes, enabling the continuity of the teaching / learning process. The mathematical games proved to be effective allies in this system conditioned to the space between the four walls of the houses, promoting interaction with the discipline.

Keywords: Teaching experience, mathematics, games.

INTRODUCTION

Mathematics is an area that is part of everyday human activities. In this sense, your learning is essential, since in the job market, in academic and social relations your presence is also evident. The development of mathematical skill shows scientific character among other factors, as it promotes the practical sense of the problems

perceived in everyday life. Thus, they are necessary knowledge, from education in initial school years, as well as in higher education.

Mathematics is feared by most students, perhaps because of the way it is taught. Usually in our schools we are faced with the traditional teaching of mathematics, where the teacher writes on the blackboard the contents that he considers important for each grade of teaching. In recent years, other mathematics teaching methodologies have started to be used, where the student is no longer a “deposit” of content, but one of the knowledge builders, according to Cabral (2006).

Due to the moment lived in all areas of life, a large number of students have used distance or remote classes in total distance from classroom classes. Given this scenario, mathematical games show valuable importance in the pedagogical work of conducting classes. In the words of Cristani and Guzzo, (2016), the teaching of mathematics, even though it is under construction, is centered on pedagogical practice so that it can be involved with the relationships between teaching, learning and mathematical knowledge. Thus, the basic objectives of education brand the field of research and knowledge production. Thus, in higher education, the utility is the same.

In addition to this introduction, it is presented in the following sections: the Methodology, which presents the form chosen or used to meet the proposed objective; the Results and Discussions and finally, the Conclusion.

METHODOLOGY

In order to respond to the objective proposed in this research, the methodological basis of the work is based on the theoretical framework that involves the field studied, as well as on the findings of a teacher who teaches the subject “mathematical games” in human courses, in the social isolation system due to the spread of Covid-19.

RESULTS AND DISCUSSION

The first day of school in the remote classroom system was marked by a mixture of feelings, anxiety, insecurity, fear and at the same time an immense satisfaction for having the opportunity to continue the process of teaching mathematics during the pandemic. A new way of teaching

classes had to be matured quickly, in addition to the concern and care that the subject requires, it was necessary to rethink the methodologies that would be used to stimulate the participation of the face-to-face student in the remote environment.

Developing recreational activities for the teaching of mathematics is not an easy task, as one must consider the profile of each student and understand that each individual is in a different stage of learning. Therefore, it was proposed for the mathematics class of the administration course to make games involving subjects such as: Powers, fractions, coordinate system, functions and geometry.

The content and type of game were at the discretion of the student. Once the choice was made, the student made the game, recorded the presentation and later posted it on the Microsoft Teams platform or sent it through the WhatsApp application. The following are some mathematical games made by the students.

1. Fraction game



Figure 1: Fraction game.

Material: Set with red soft drink caps to represent the fractions and set with caps of other colors (also called divergent cap) to represent the drawings of the divisions.

Development: All caps are shuffled upside down on a table. The player must remove a red cap and observe the fraction, then a divergent cap must be removed, if he does not find the drawing that represents the fraction, the player passes the turn to the opponent.

Expected result: Development of skills such as logical reasoning, concentration and memorization.

2. What number is missing?

Material: Paper and pen, can also be made of cardboard.

Development: Sequences of squares are drawn on the paper, two at the top and one at the bottom, the game consists of discovering the type of operation and based on the operation finding the missing numerical value in one of the squares. To increase the game, a time of ten seconds is added.

Expected result: Development of logical reasoning and speed in developing the response.

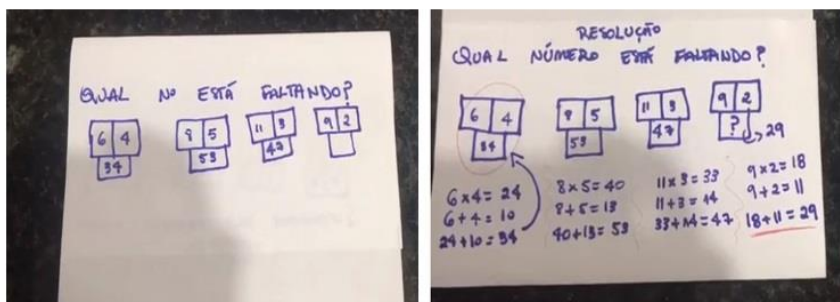


Figure 2: What number is missing?

The use of active metacognition through mathematical games proved to be a contribution, due to the fact that it has become a challenging task to continue to comply with the menu of the curriculum. The development of powers, fractions, coordinate system, functions and geometry were significant allies....

CONCLUSION

The objective of this work was to make a presentation of the mathematical games, as some of the active methodologies used in the period from April to July in academic activities of higher education. The results were satisfactory, since teaching has its complexities, and when it comes to teaching mathematics, the implications can be challenging for most students. For future work, mathematical games can be developed through Olympics, involving teams, in order to challenge creativity and innovation in mathematics.

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