
Training of Using Domino Card Game to Teach Fraction for Mathematics Teachers at Junior High Schools in Banjar Regency

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Keywords:

Domino Card
Game,
Friction,
Math Teachers

ABSTRACT

Mathematics is still considered one of the difficult subjects in junior high schools. Therefore, mathematics teachers must find better way to motivate their students to like the subjects. Fraction is one of the topics that need serious effort to learn it. Therefore, it needs fun way to learn it. Somehow, not all the teachers can understand how to teach fraction in a fun way. Therefore, training about using domino card games to teach fraction for Mathematics teacher at junior high school was held in SMPN 1 Martapura. There were 46 teachers joined the event. The lecturer in Mathematics Education organized the training and the result is most of the teachers wanted to apply it in their class later. The aim of this community service is to encourage the junior high school teachers to use fun ways to teach mathematics rather than to use the conventional way to use LKS (worksheet book). .

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INTRODUCTION

Mathematics is a science that has objects in the form of facts, concepts, principles and operations. All these objects, must be properly understood by students, because certain material in mathematics can be a prerequisite for mastering other mathematical material, even for other subjects such as advanced mathematics, finance and others (Rais, 2015). Therefore, learning requires the sincerity of students to truly master mathematics. One way to help the students to master mathematics is by using teaching media.

Teaching media is a tool or intermediary useful to facilitate the learning process in order to streamline communication between teachers and students. This is very helpful for teachers in teaching and makes it easier for students to receive and understand lessons. This process requires teachers to be able to harmonize learning media and learning methods (Nugroho, 2019). The use of instructional media in the teaching and learning process can also generate new desires and interests for students, arouse learning motivation and bring psychological influence to students (Sainuddin & Taufiq, 2016). In addition, the use of media can also increase students' understanding of lessons.

Several researches focused in using domino card games to teach fraction. Firstly is from Muna & Trimurtini (2017). The research is about developing a design about using dominos to teach fraction. The study type is Sugiono's Research and Development. The experts mentioned that their game devices were very feasible. The fraction dominoes were effective and feasible for the students to use.

The second one is class action research in the elementary school. The goal was to develop an open ended domino-based cards, to know more about the students' creative thinking ability. The results concluded that the game enhance the creativity of elementary school students. It has met the criteria of validity, practicality, and effectiveness in the aspect of flexibility, elaboration, and novelty (Amir & Wardana, 2017).

The last one is from Abqari, Irawan, & Sa'dijah (2018). This research describes the use of domino card to improve the students' ability to solve decimal fractions. This research is a two cycle's classroom action research. This action research consists of four steps, namely (1) planning, (2) implementation, (3) observation, and (4) reflection. The results of the study showed that the students gain lots of skill in how to solve decimal conversions.

The media chosen in this service activity is the Domino Card in Fraction material. The game can provide a diverse learning experience without eliminating the essence of the knowledge that conveyed, so the game used as a medium is unique and attracts the attention of students. The mathematics education lecturers of University of Muhammadiyah Banjarmasin held a community service to give "Training of Using Domino Card Games to Teach Fraction for Mathematics Teachers at Junior High Schools in Banjar regency"

METHODS

This community service was held at SMP 1 Martapura on Thursday, September 27, 2018 at 10:00 - Finish. The participants who participated in this community service were mathematics teachers from the Banjar Regency Junior High School. The community service implementation began by providing an overview of Domino Card teaching media in the learning process and was followed by the practice of using Domino Cards on Fraction Materials by groups of teachers so that the teachers participated in the fractional dominoes game. The last activity was questions, answers and suggestions for the event.



(a)



(b)

Figure 1. Pictures during the community service

Domino games are almost the same as bridge card games, but dominoes only have 28 cards. The shape is rectangular which are divided into two hemispheres namely the lower hemisphere and the upper hemisphere and contain 1-6 red circles in each of the hemispheres, but the number between the upper parts of the cards and lower parts of the cards are different.

The way to play dominoes is if in one group the game consists of 3 players, each player will get 9 cards. If a game group consists of 4 players, each player will get 7 cards and the first player will open as a sign of the start of the game. The next step:

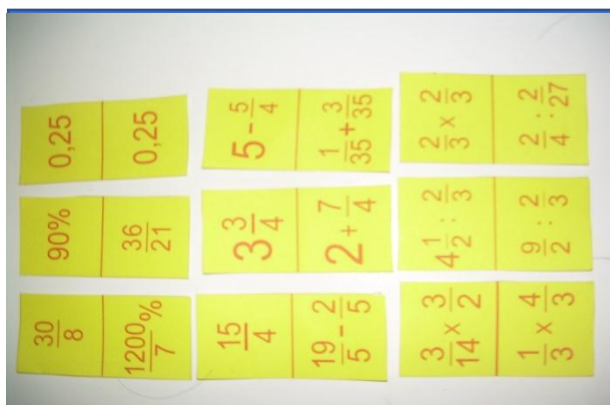
a. For groups of games consisting of 3 players, the first player must open and place one of the cards worth the card that has been opened at both the upper and lower end, while for the game group consisting of 4 players, the first player must open one card as a sign to start the game.

b. The second player (the player who is located to the right of the first player) who must open and place one of his cards that has the same value as the card that has been opened, both at the top and bottom end. This step is done alternately and rotates until all players cannot continue the steps anymore.

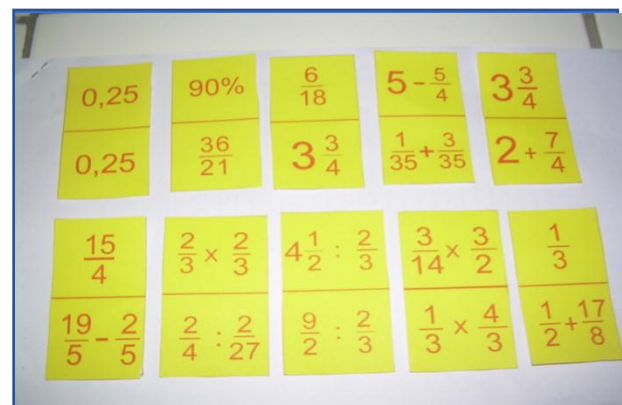
c. In taking turns opening and placing a card with the same value, then the player who does not have a card is worth the card that has been opened. Then the player must sacrifice one of his cards as a dead card (it is better if the card with the smallest value is chosen) and has no right to continue the step for one round, while the right to continue the step is given to the next player.

d. At the end of the game, the winning rule is to see a player who does not have a dead card (can complete all steps) or if there is no player whose card is the smallest.

The domino game that is applied in the community service is to replace the cards with a complete fraction. The rules applied are the same as domino game rules but the number of players are adjustable.



(a)



(b)

Figure 2. Example of fraction domino cards.

RESULT AND DISCUSSION

None of the participants (46 people) had ever used domino-teaching media on fraction, so the teacher only learned that mathematics learning in fraction material turned out to be more interesting if using teaching media in the form of dominoes. Domino card games require accuracy, speed in counting, long counting times, and careful eye in determining which cards will be played in domino games.

After the junior high school teachers took part in the training in making teaching aids or learning media in the form of dominoes on fraction materials made in variations of various fractions, namely: ordinary fractions, mixed fractions, decimal fractions, percent, and fractions values. It turned out that according to the teachers who took part in the training activities, the use of domino as teaching media was very fun and could motivate students to diligently practice fractions, think fast, be accurate in counting, analyze strategies and make decisions quickly to choose which cards would beat opponents when playing dominoes.

Of the 46 participants who took part in the training activity, 32 people wanted to implement domino card games in fractional mathematics learning, because domino card games require students to learn to count quickly, regularly practice, be careful, easily made at a low cost, and can be used multiple times. Meanwhile, 14 teachers do not want to implement dominoes in fraction learning, because it takes a long time to make it, not too skilled at making fractions on dominoes, this learning takes a long time for children with low abilities and are weak in calculations (Abqari et al., 2018).

Based on comments from participants on training in making teaching aids or learning media for junior high school mathematics teachers throughout Banjar Regency, the training material was very fun, easy to understand, easy to implement, added insight into the importance of teaching aids as learning media that helped teachers teach fractions realistic in the form of a domino card game. Some teachers also realize that they have never use teaching aids. They often used student worksheets (LKS) as teaching media due to complete material, sample questions, and training assignments for students, so that teachers do not bother to prepare and tend to give assignments based on LKS. The teachers are also helped, it turns out that there are alternative teaching media that are fun if the domino card game is packaged in the form of a colorful and illustrated card, so that the child is bored to play it.

Suggestions from some participants, training in using teaching media can be given about the material of two-variable linear equation systems (SPLDV), trigonometry, congruence, and quadratic equations, where the material is given in the form of teaching media will be more realistic, so the students can learn easier. Not all mathematics learning materials can use teaching media in the learning process, but most of the teaching aids used in learning mathematics can build the mood of students in learning and students are more motivated by seeing, holding and practicing directly with the teaching media.

CONCLUSION

The training of using domino card game for teachers was very important to increase the motivation of junior high school to learn how to solve fractions. Before the teacher use the teaching media to the students, they tried it themselves during the training. Most of the teachers thought that this media is very interesting to teach fraction. However, still some of them things that this game is still hard to be implemented in their classes because of some reasons. It is expected that after participating in this training, the mathematics junior high school teachers of the Banjar Regency will be motivated to use teaching aids / media in the learning process so that it will make it easier for students to understand the lesson and motivate students in the learning process.

ACKNOWLEDGE

I would like to express our very great appreciation to Mr. Agus the head of math junior high school teachers association in Banjar Regency, so this community service could be done successfully. Next is to the head master of SMPN 1 Martapura and his staffs, so we could do the training there. Also, all the participants from math junior high school teachers association in Banjar Regency.

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