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Use Of Protective Tools In Learning Mathematics In Elementary Schools

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Abstract

Study This aim For describe How use tool props in learning process mathematics in School Base (SD). Mathematics school is mathematics which has sorted And customized with stage development intellectual student, and is used as a means to develop students' thinking skills. Mathematics is object Which nature abstract so that mathematics No easy understood by some student School Base. Use tool props expected can help in improving students' understanding of mathematical concepts. Thus, mathematics as an abstract object can be reduced in its abstractness by using concrete object models called mathematical learning aids. These aids can function in learning mathematics that is, motivating student in process Study and new relationships. The benefits of teaching aids are that they can improve children's motoric sensors, reduce method learning Which nature verbalism, increase interaction between teachers and student, make student more focus in learning. Success in learning is a very important thing. This success can be influenced by school environmental factors, environment family, And method learning Which implemented in mathematics learning.

Keywords: *props, learning mathematics, and Elementary school*

INTRODUCTION

According to Nurhasanah (Riyani, 2019) mathematics is a science with a study that nature abstract. Mathematics it is said abstract Because object or symbols No is in life real. So that object mathematics No easy understood by part school students Base (SD). Mathematics can reduced its abstractness with use concrete model (Nomleni & Manu, 2018).

Success in school is paramount. This success is influenced by factors such as the school environment, the family environment, the methods used in mathematics instruction, and the students' learning techniques (Nurdyansyah, Arifin, & Rosid, 2021). material. For success in process learning required model the thing that concrete for example tool props, Which Can increase level think student (Jagom, Uskono, & Fernandez, 2020). Tool mathematical demonstration as a set of concrete objects that are intentionally designed and used For help develop concepts or principles in (Dewi, Sugiarta, & Parwati, 2021).

lesson mathematics. According to Nasution (Yusman, 2023) tool props is tool help in teaching process so that more effective And succeed with Good in learning

mathematics (Saudia, 2021). On child's age School Base stage information Which its nature abstract Not yet Can arrested with Good.

METHOD

Method Which used is study literature Which is part important in a study conducted. According to Nazir (Fauziyyah, 2018)he said that literature studies or research studies literature, besides from looking for secondary data support research, Also required For know until Where knowledge Which relate with research has develop (Retnowati, 2021).

RESULTS AND DISCUSSION

1. **Theory Study**

a. According to Jerome Bruner

Learning is a process activity of course there are changes in it gradually. In draft Study according to Jerome Bruner There is three stage Which must be taken by students, namely (Wildaniati, 2019):

1. Stage information (stage reception material)
2. Stage transformation (stage of change material)
3. Stage evaluation (stage evaluation material)

b. According to Piaget

Study will more succeed if completed with stage cognitive participant educate.

Opinion Piaget about development process Study on children, that is (Basiran, Supriadi, & Suroyo, 2021):

1. Child have structure mental Which different with person mature (HAJAR, 2016).
2. Development mental on child through stages
3. Development mental child influenced by 4 factor that is, maturity, experience, interaction social, And equilibration (HARDIANSYAH, 2017).
4. There is 4 stage development that is:
    1. Stage sensorimotor (0-2 year)
    2. Stage pre operational (2-7 year)
    3. Stage concrete (7-11 year)
    4. Stage formal operations (11 years-adult)

2. **Understanding And Objective Tool Demonstration**

According to Estiningsih (ANSHARI et al., 2024) tool props is media learning Which contains or bring characteristic features from draft Which studied. Tool props can seen And heard to create more effective communication methods. Essentially, students learn through visual aids or concrete objects to understand the abstract concepts of mathematics as visual intermediaries (Ulandari, Dewi, & Istiningsih, 2022).

Tool props in education own objective so that process learning more effective with increase Spirit Study student. So that Study more fast in delivering material And can allows Study more systematic And Also regular (Rahmi, Nuraina, & Listiana, 2021).

3. **Function And Benefit Tool Demonstration**

a. Function tool props

There is a number of function use tool props in learning mathematics, that is:

1. With existence tool props in learning mathematics Can motivating student in the learning process (Syafitri, 2020).
2. The relationship between concepts abstract Mathematics with objects in the natural environment is better understood by students.
3. Abstract mathematical concepts are presented in concrete form so that easier for students to understand.

b. Benefit tool props

There is a number of benefit use tool props in learning mathematics, that is:

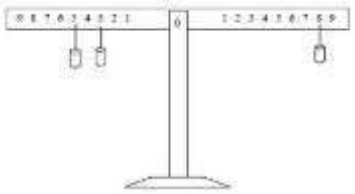
1. Can help overcome various type obstacle in learning process
2. Can make things easier delivery material lesson Which given by Teacher
3. Can increase Power remember child
4. Make student more concentration or focus to learning
5. The use of teaching aids can add information and the material being studied can be explored further (Suwondo, 2021).
6. Make student listen yanga will produce interaction Which positive between teachers and students (Anugraini & Muflihah, 2021).

4. **Miscellaneous Tool Demonstration in Learning Mathematics**

a. Balance Sheet number

Balance Sheet number consists of from A scales And some wood (rock) scales. The arms of the balance are marked or limited, these marks are given nails to hang the stone (Khotimah & Risan, 2019).

scales. This teaching aid is for learning calculations addition, subtraction, multiplication, and division.



Picture 1. Balance Sheet number

Source : http://blogyulianaretno.blogspot.com/2016/09/cara-pembuatan-timbangan- numbers.html

Method use tool props in learning that is, exemplify operation addition. Example 3+5=...

Steps For finish it that is, hang it up A child weigh in numbers 3 on arm adjacent left And hang it up Again child scales in numbers 5 on the arm adjacent left. Then, results addition 3+5 can tried with use child weigh on one arm right until arm adjacent right And left balanced (Mutiara, Jaya, & Lestari, 2022). It turns out when hung at the number 8 on the right arm, balanced by the weight of the left arm. So 3+5=8 (Iry, Wahyuningsih, & Rahmawati, 2022).

b. Board nailed

Tool props Which made from board shaped rectangle or longitude cage Which above it is stuck nails Which arranged in accordance size (NAFI'A, 2022). Tool props This Can make student to help recognize various type form get up flat.

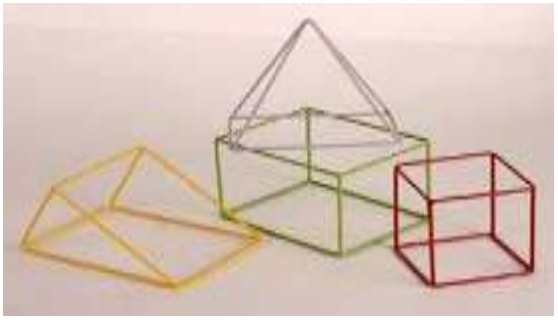
Picture 2. Board nailed

Source : https://docplayer.info/72617654-Daftar-isi-buku-peunjuk-alat-peraga- sd.html

Method use it is played by two person with use rubber. The rubber functioning For form get up flat (Yulia, Sripatmi, & Baidowi, 2021).

c. Framework get up room

Teaching aids that enable students to understand geometric shapes, namely spatial geometry. (Arifuddin, Maufur, & Farida, 2018). They can be used to introduce the properties of geometric shapes, their parts, and other geometric calculations (Riadin & Fitriani, 2018).



Picture 3. Framework get up room

Source : https://docplayer.info/53358325-Matematika-nalaria-realistik.html

Method use it, show on student that get up room there is triangle, cubes, blocks, and others.

d. **Dakon FPB and the Corruption Eradication Committee**

The Dakon FPB and KPK teaching aid is a traditional game that can be used to teach FPB and KPK. The Dakon FPB and KPK game is similar to the traditional congklak game (Sidiq & Syaripudin, 2022).

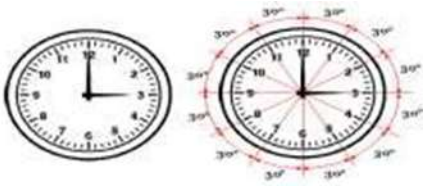
Figure 4. Dakon FPB and KPK

Source: https://www.kompasiana.com/suciindahkurniati/59891e8288575a0acf6fa792/penerap an-aid-perada-dakon-mathematics-dakota-in-learning-mathematics-kpk-dan-fpb?page=all

How to use it, students insert the dakon seeds into the holes which are factors or multiple from number. For look for FPB student must choose the largest number of the two dakon seeds in the hole. Meanwhile, For look for Corruption Eradication Committee choose number smallest Which there is drilled into the dakon (Heriyaman, 2022).

e. O'clock corner

Tool props This For understand how read O'clock, introduction types of angles and determine the size of the angle. The angle clock demonstration tool consists of the numbers 1 to 12 equipped with two needle O'clock like as if O'clock original (Zaidah, Susilawati, & Sutrio, 2022).



Picture 5. O'clock corner

Source: http://www.mikirbae.com/2016/05/menghitung-besar-sudut-jarum-jam.html

Method use it, student can easy determine corner taper, shrinkage elbows , corner blunt with rotate needle O'clock (Setyowati, Susilo, & Masrukan, 2016).

f. Tower Hanoi

The Tower of Hanoi teaching aid was developed by Edouard Lusac, a mathematician in 1885. This game was created to instill the concept of sequence (HASRIANI, 2021). most A little, big, most A little And The same (Sao et al., 2021). Tool props This aim to train children to think logically, find the relationship between minimum number of jumps and pieces inductively (Siahaan, 2018).

Picture 6. Tower Hanoi

Source: http://luk.tsipil.ugm.ac.id/komputer/Hanoi/isi.html

How to use it, students can find number patterns by arranging each number. pieces from the largest to the smallest the smallest (Anawati, Mujasam, Widyaningsih, & Yusuf, 2020). And ask students do transfer 1 disc, 2 disc, etc. For aims to train student analyze And arrange strategy settlement (Dwi Wahyuningsih, Kusuma, & Isnani, 2023).

CONCLUSION

Tool props is object concrete Which Can reduce its abstractness, makes it easier for students to understand mathematics learning. The use of teaching aids in mathematics learning give impact on Teacher And student more creative, innovative, And enthusiastic about learning.

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