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DEVELOPMENT OF SKILLS OF TEACHERS AND PARENTS IN TK QURROTA A'YUN USING SEMPOA

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ABSTRACT

Abstract: In the conditions at TK Qurota A'yun, the team found that there were several children who had trouble using additional and subtraction operations. Teachers don't even understand how to use abacus for counting. In order to address these issues, the solution proposed in this community service was to provide instruction in the use of arithmetic abacus media to teachers and parents at TK Qurrota A'yun in order to improve the children's abilities, such as raising the ability to count faster, integrating left and right brain use, improving the level of critical thinking and correct analytical thinking, and enhancing concentrative thought. Observation, debate, recording, presentation and practice were the approaches used. The purpose of this community service project was to help teachers gain new insights into the usage of abacus technology, so that they would have more resources in the use of educational media, and teachers would be able to help students learn to rely more easily on adding and subtraction operations.

Keywords: Development; Skills; Kindergarten; Teachers; Parents; Abacus

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A. INTRODUCTION

In the 1990s, Abacus re-entered the Indonesian public education system in the form of arithmetic courses, after 700 years of disappearance. The breakthrough of the abacus is astounding as it is proven that a kindergarten can count faster than a calculator. This is why the abacus successfully attracts mothers' interest in enrolling their children in arithmetic abacus. Our minds will be trained to concentrate on their own learning abacus. This power of concentration will make it easier for the mind to calculate arithmetic such as adding, subtracting, dividing and multiplying the required numbers even more when memorizing the location of the beads. The benefits of abacus include (1) brain-training, memory-training, logic, creativity and concentration; (2) increasing speed, precision and precision of thinking; and (3) encouraging self-confidence and increasing interest in mathematics. Abacus is able to help us do math activities. Abacus is also very suitable for use by elementary school students due to its ease of use. For us, Abacus is very easy to do the counting process. The speed in the calculation of numbers is increasing rapidly and the answers obtained are also becoming more accurate (Dianto et al., 2018). Abacus is used as a medium and an arithmetic tool to train children in cognitive skills , especially in the ability to count (Syifa & Simatupang, 2015).

But many mothers are also not taking care of their children because of the high cost of abacus arithmetic courses. That's why the arithmetic abacus, often monopolized by children from financially capable families. Therefore, there is a need for free abacus arithmetic training for parents and kindergarten teachers so that the above benefits can be achieved, given that there are still many children who have difficulty using additional, subtraction or abacus operations. Children's kindergarten teachers also do not understand how to use the abacus for counting. Perhaps this is because there are no parents who take care of their children, because the majority of students in kindergarten are middle to lower classes.

With respect to the use of abacus in TK Qurrota A'yun, the organizing team found that there were too many children who had trouble using the addition, subtraction or use of abacus. Teachers also don't understand how to use the abacus for counting. Perhaps this is because there are no parents who take care of their children, since the majority of the students in TK Qurrota A'yun are middle to lower classes. The organizing team is therefore involved in providing arithmetic abacus media instruction for teachers and parents of students at TK Qurrota A'yun.

In order to resolve the problems listed above, the solution provided by the community service is to provide instruction in the use of arithmetic abacus media to teachers and parents of students at TK Qurrota A'yun. Abacus media instruction may also be a way for teachers to improve their student motivation and their interest in studying mathematics. For parents to direct their children at home while they are raised, so that it can be a solution for parents who are unable to take care of their children. The material to be addressed in this training includes the knowledge of the sections of the abacus, how to transfer the beads, the knowledge of the unit beads, the addition and subtraction of beads 1, beads 2, beads 3, and beads 4, the practice of beads 4, the addition and reduction of beads 5, beads 6 and

beads 7, beads 8, and beads 9 with the aid of beads 5, the practice of beads 5, the addition and subtraction of beads 5.

Based on the findings of the study and/or the outcomes of the community service done, it has been shown that the use of abacus geometry media on the ability to measure mental retardation class IV may have an impact that is demonstrated by an improvement in the post-test results obtained by each student so that the ability to count the amount of numbers 1-10 which is small prior to treatment improves (Chasanah & Pradipta, 2019). The development of the Abacus module allows the ability to count faster, trains imagination and ingenuity, blends left and right brains, enhances focus of thinking, coordination between hands and brains, exercises endurance, increases self-confidence, encourages truthful and sporty attitudes and is courageous, grows, increases enthusiasm for achievement (Anugrahana, 2019). Students are very enthusiastic about finger abacus preparation, and students can also count mentally (without the abacus tool) (Nafiah & Hartatik, 2018). The use of abacus learning tools has contributed to the imagination of children in ASMA courses (Widiastuti, 2013). The introduction of abacus play exercises will enhance children's numeracy skills in Class B2 PAUD Terpadu Negeri Selupu Rejang Pembina and can substantially develop three aspects of numeracy skills (Romlah et al., 2016). Using this m-learning-based digital abacus learning media, the expert claims that using this m-learning-based digital abacus learning media can provide new opportunities for use and play while studying (Hidayat et al., 2019). The use of abacus in learning mathematics on multiplication content has been shown to boost the learning results of IV D1 students of Tunadaksa SDLB PRI Pekalongan during the 2014/2015 school year (Onah, 2017). The use of abacus beams increases the ability to measure multiplication operations for deaf students in Kabupaten Subang (Damayanti, 2012).

In addition, the use of abacus media in mathematics will increase student learning practices, students are seen to be involved in the learning process, and teachers in class I MI Al-Husna Pasirnangka and mathematics learning outcomes and subtraction materials using abacus media increase (Mutmainah et al., 2019). There is a positive connection on the use of abacus in arithmetic courses on mathematical creative thinking skills and there is a positive impact on the use of abacus in arithmetic courses on mathematical creative thinking skills (Ardani & Purwaningsih, 2018). Studying jarimatika and abacus will help students count faster and more carefully and increase their passion for learning, and there are improvements in student learning attitudes, even though students tend to use jarimatika rather than abacus (Pramitha, 2017). The use of the role-playing method with the aid of abacus media character has a significant effect on the understanding of the definition of addition and subtraction of Grade 1 students SDN 01 Getas and this is demonstrated by an improved awareness of the concept of students using the role-playing method with the help of character abacus media (Zulfa et al., 2017). Abacus media in mathematics learning will increase the discipline, precision, and accountability of PGSD students in creative mathematics classes by 100% (Anugrahana, 2020).

The goals of this activity are (1) to introduce arithmetic abacus media to teachers and parents of students; (2) to provide a solution for parents who

are unable to manage arithmetic for their children, so that parents are encouraged to be able to direct their children at home; and (3) to help provide a positive attitude towards mathematics.

B. METHODS

Community service activities carried out in the form of training to develop the ability of teachers and parents of students at TK Qurrota A'yun in using abacus, especially for arithmetic calculations. Participants in this activity were 27 teachers and parents of students in TK Qurrota A'yun. This activity was carried out in three days at TK Qurrota A'yun located at Jl. Gelatik Dalam No.354, Sadang Serang, Coblong District, Bandung City, West Java 40133.

The methods that we use include (1) observation, which is to obtain information about the ability to use abacus media on teachers and students' parents, as well as mathematics learning in TK Qurrota A'yun; (2) discussion, that is by way of discussing the solutions of problems that arise in mathematics learning in order to obtain solutions to problems in learning mathematics, which will be held arithmetic abacus training for teachers and parents of students; (3) documentation, which is to obtain physical data relating to mathematics learning; (4) demonstrations, namely by giving examples of the use of abacus media to teachers and parents of students that were carried out before the classroom training activities for teachers, while demonstrations to parents of students were held at the time of training in class; and (5) practice, that is, teachers and students' parents do calculations with the abacus media where before doing the practice, parents of students have been given modules and examples of the use of the abacus.

C. RESULTS AND DISCUSSIONS

1. Preparation Stage

During the preparatory phase, the team leader, together with the TK Qurrota A'yun manager, will hold a meeting and form the Executive Committee for the success and implementation of this activity, with the head of the organizing activity being the leader of the community service team. Next, the service team prepared a module (abacus guide). Adapted to the material to be delivered and prepared the abacus tool to be used for training.

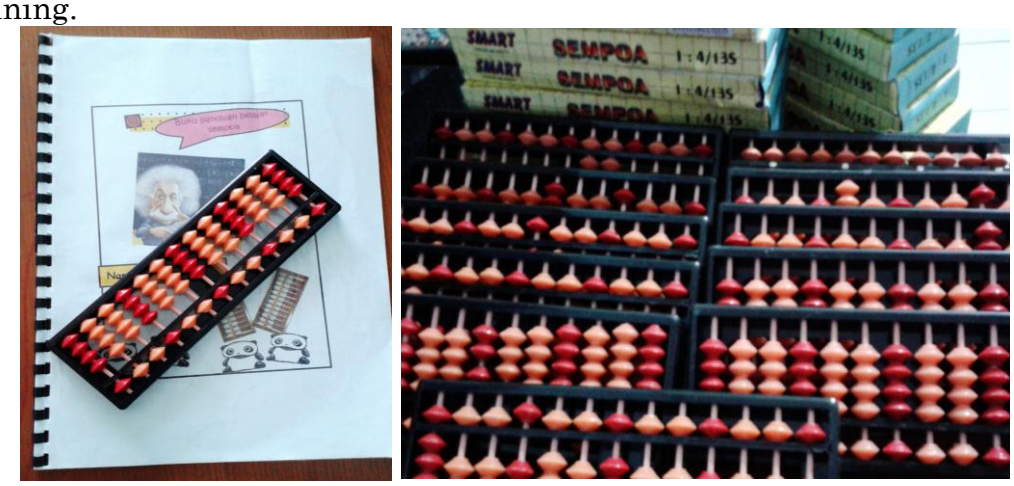

Figure 1. Training Equipment

2. **Implementation Stage**

During the implementation phase, this activity is carried out in the form of three days of training.

a. First day activities

- First session, 8 am to 8.15 am

The training activities were attended by principals and TK Qurrota A'yun teachers, starting with the opening of the Chair of the Qurrota A'yun Foundation with the speaker Ms. Hudiarti on the introduction of early childhood mathematics at TK Qurrota A'yun, as well as mathematical standards for early childhood. A more detailed description will be discussed in the second session.

- Second session, 8.15 am to 9 am

In the second session with the speaker Nia Gardenia, M. Pd. describes (a) how to get acquainted with the parts of the abacus; (b) how to move the seed beads; (c) recognize the unit beads; (d) the addition and subtraction of beads 1, beads 2, beads 3 and beads 4; and (e) the practice of manic 4.

- Third session, 9 am to 10 am

In the second session with the speaker Nia Gardenia, M. Pd. describes (a) the addition and subtraction of beads 5, beads 6 and 7, beads 8 and beads 9 with the help of beads 5; (b) the addition and subtraction of beads 5; (c) the addition and subtraction of beads 2, beads 3 and beads 4 with the help of a small friend; (d) the practice with the help of a small friend; (e) the recognition of dozens of beads; and (f) the addition and subtraction of dozens of beads.

- Fourth session, 10 am to 11 am

The activity was filled with discussions and questions and answers to the speakers on all the material provided. The activity was more focused on discussing what material was received by the TK Qurrota A'yun teachers, but also gave an opinion on how this socialization took place and provided good input from the chairman of the foundation, as well as the TK Qurrota A'yun teacher.

- Fifth session, 11 am to 11.15 am

This session concluded with a joint prayer and is our gratitude for the work that has been done.


Figure 2. Abacus Training for TK Qurrota A'yun Teachers

b. Second day activities

- First session, 8 am to 8.15 am

The training activities followed by the parents of TK Qurrota A'yun students began with the opening of the Principal with the speaker, Mrs. Hudiamurtini, on the advantages of studying abacus, and a more

detailed presentation was discussed during the second session.

- Second session, 8.15 am to 10 am

In the second session with the speaker Nia Gardenia, M. Pd. describes (a) the history of the abacus and the benefits of its use; (b) the knowledge of the abacus parts; (c) how to move the seed beads; (d) the recognition of unit beads; (e) the addition and subtraction of beads 1, beads 2, beads 3 and beads 4; and (f) the practice of beads 4.

- Third session, 10 am to 12 pm

This activity is filled with discussion and question and the answer to the speakers on all the material provided by this activity is more to the discussion on what material has been received by the parents of the students, as well as giving an opinion on how this socialization has taken place and providing input.

- Fourth session, 12 pm to 12.15 pm

This session ended with a joint prayer and is our gratitude for the work that has been done.

c. Third day activities

- First session, 8 am to 10 am

In the first session, the material continued on the previous day with the speaker Nia Gardenia, M. Pd. described (a) the addition and subtraction of beads 5, beads 6 and beads 7, beads 8 and beads 9 with the help of beads 5; (b) the operation of beads 5; (c) the addition and subtraction of beads 2, beads 3 and beads 4 with the help of a small friend; (d) practice with the help of a small friend; (e) recognize dozens of beads; (f) add and reduce dozens of beads; and (g) practice tens of beads.

- Second session, 10 am to 11 am

This activity is filled with discussion and questions and answers with the speakers on all the material provided by this activity is more to the discussion on what material the parents of the students have received.

- Third session, 11 am to 11.15 am

This session ended with a joint prayer and is our gratitude for the work that has been done.

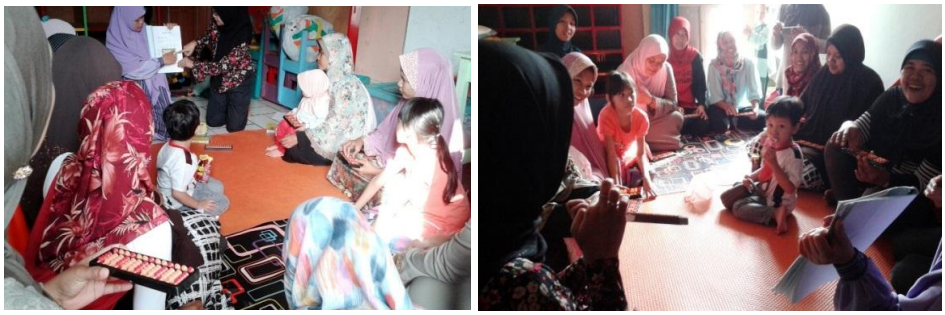

Figure 3. Abacus Parent Traning for TK Qurrota A'yun Students

This training is intended for teachers as an additional reference teacher in the use of educational media, so that teachers can assist students in learning to rely on additional training and reduce it more quickly. In addition, parents are expected to make it easier for parents to learn to count (addition and subtraction) at home while accompanying their children. And they can optimize the use of left and right brains, train the power of

concentration in thinking, develop children's imagination and creativity, and reject the notion that mathematics is difficult and frightening.

The training activities carried out on the first day were attended by 7 out of 10 TK Qurrota A'yun teachers, the teachers seemed to show interest and enthusiasm and wanted to be able to master the use of abacus, the teachers paid attention to every explanation given by the speaker. But there are some obstacles during the training, there was a teacher who looked confused when listening to the speaker 's explanation, and one of the teachers was slow to learn. However, after repeated explanations and intensive mentoring, the teacher began to be able to participate in training. In the evaluation phase, teachers can count to solve the problem of the addition and subtraction of thousands quickly and precisely by using the abacus tool.

The training activities on the second and third days were attended by 20 of the 30 parents of TK Qurrota A'yun students, most of whom expressed their pleasure in learning arithmetic abacus, as seen by the parents of the students who were serious about participating in each stage of the training. However, due to age range, educational background and ability of heterogeneous parents, so there were some parents when training complained about dizziness, so intensive assistance was needed, so that the participants who walked slowly remained eager to keep trying and practicing raising abacus beads. The enthusiasm of the parents of the students should be appreciated by those who are very eager to be able to solve the practical issues that have been raised, even though there are those who hold their babies, and there are mothers who are relatively old.

But when teaching abacus, we must be careful to know the status of students to be taught, there are several points that we must observe: a) whether our students have mastered basic numbers 1 to 100, if students do not have mastered numbers 1 to 100, you should not be taught abacus; b) do our students like abacus if they're getting bored or don't like to stop right away; (c) keep the difference between abacus and abacus mathematics, not mathematics, and not abacus, so if your child matches the abacus, you still have to learn mathematics properly; and d) place an abacus as a complement to mathematics, not a substitute for mathematics at all, to advance the field of mathematics in order to place abacus courses, such as music or sports, not a mathematics course. After the points above, we examine the abacus and thoroughly teach it happily.

This training may not be the first, but for us the training activities in the use of arithmetic abacus media have had a positive impact on our team, as well as the teachers and parents of the TK Qurrota A'yun students. It is to be hoped that there will be other parties interested in conducting similar training or developing for the better. We believe that, if done well and consistently, it will have a good impact on improving the quality of education and the quality of the role of mothers as the primary madrasa for their children.

D. CONCLUSIONS AND SUGGESTIONS

This training has helped teachers to gain new insights into the use of abacus media, as well as to have additional references in the use of educational media, so that teachers can also help students learn numeracy more quickly, in addition to subtraction operations. For parents, it is hoped

that after this abacus arithmetic training, parents will find it easier to learn how to count (addition and subtraction) at home when accompanying their children. And they can optimize the use of left and right brains, train the power of concentration in thinking, develop children's imagination and creativity, and reject the notion that mathematics is difficult and frightening. In addition, the school has taken the initiative from the results of this training to open additional extracurricular activities through the use of abacus media.

Our suggestions include (1) teachers and parents should be able to know the condition of students before being taught abacus, whether the child has mastered the basic numbers 1 to 100, if students have not mastered numbers not just numbers 1 to 100 should not be taught abacus; (2) in the use of an abacus if students have started to get bored or do not like it should stop immediately; (3) keep the difference between abacus and mathematics abacus not math and mathematics not abacus so if your child matches the abacus he still has to learn mathematics appropriately; and (4) teachers and parents should be aware not to force children to count on children whose age is not appropriate.

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