STEAM Based Fun Games in Kindergarten

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 ABSTRACT

Characteristics of young children who like to play in various activities requires games that are interesting, innovative and concrete. Based on needs Therefore, the PKM Team provided a solution through Fun Games Making Training STEAM based. The aim of this training is for teachers to be able to create games interesting and integrated in various STEAM fields (Science, Technology, Engineering, Arts and Mathematics). The series of activities starts from January to March 2024. Implementation starts from concept creation, proposal submission, evaluation desk, design implementation needs, implementation, data collection and analysis of activities, fulfillment outputs, progress reports, and final PKM reports. The costs for a series of PKM activities come from from Nurul Qur'an Stabat Kindergarten Partners funds. PKM's partner is the District Nurul Qur'an Kindergarten Langkat Regency Stabat. PKM output is in the form of videos of activity implementation, scientific articles in scientific journals, articles in online mass media and an MoU with Kindergarten Partner Nurul Qur'an Stabat District, Langkat Regency. The implementation method is carried out offline with provide conceptual understanding and follow up with game practice STEAM based. The activity was continued with regular guidance from the PKM team to participants with target participants being able to implement STEAM-based games in respective institutions. For participants, this activity is useful in providing games. An interesting STEAM-based program created by teachers so that it can be implemented in kindergarten

Keywords: Fun Games, STEAM, Early childhood

1. INTRODUCTION

Children are the shoots, potential, and next generation of the nation's ideals. Children have a strategic role in ensuring the existence of the nation and state in the future. In order for them to be able to assume this responsibility, they need to have the widest possible opportunities to grow and develop optimally, both physically, mentally and spiritually. According to Mansur, early childhood is a group of children who are in a unique process of growth and development. They have specific growth

and development patterns according to their level of growth and development. (Munisa et al, 2024).

Early childhood education is a coaching effort aimed at providing complete stimulation, namely educational stimulation to help physical and spiritual growth and development. (Nofianti R, 2021). In line with this, according to Khadijah, early childhood education is an effort to facilitate the development and learning of children from birth to the age of 6 (six) years with experiences and stimulation that are developing, integrated and comprehensive so that children can grow and develop healthily and optimally in accordance with with existing values and norms. (Rozana & pillows, 2024). So education plays a very important role in human life, where education is a medium for developing all the human potential that exists within a person. In the process itself, a person's ability and freedom to develop their potential is absolutely necessary, because with the freedom they have, that person will always have a new experience in their life. (Utami RD et al, 2023).

The learning process in PAUD Unit institutions has the principle of a learning process that prioritizes play and learning. Manurut Sukirman stated that as time goes by, the methods of play in the world of children have progressed very rapidly. (Widya et al., 2021). In this case, the play referred to here is educational games which are not only able to be played by children, but furthermore the games are able to stimulate aspects of early childhood development (Holis, 2017; Pratiwi, 2017; Rohmah, 2017). Games that are interesting, innovative, close and concrete for children are needed according to the characteristics of young children who like to play in various children's activities. Apart from that, development of thinking and integration of various fields in the implementation of games is also needed in order to develop 3 domains of competence in children. These competencies are the competence of children's attitudes, knowledge and skills. Based on these needs, the PKM Team of PIAUD UNPAB Lecturers provides problem solving solutions by assisting PAUD Institutions in providing games according to the needs of teachers and students.

Training on Making STEAM-based Fun Games which will be carried out for PAUD Teachers in Stabat District, through this training activity is expected to be a solution for providing interesting, innovative, close and concrete games for children and integrated in various fields of STEAM (Science, Technology, Engineering, Arts, and Mathematics).

The Proposing Team, which has a background in the field of Early Childhood Islamic Education through the PKM program, Panca Budi Development University policy scheme, based on the situation analysis above, proposes training in making STEAM-based fun games for PAUD teachers at Nurul Qur'an Kindergarten, Stabat District. In this activity, concepts about learning strategies, children's games and STEAM in early childhood learning will be explained. The concept exposure will be followed up with the practice of creating STEAM-based games which is the core of the training. The aim of holding training is to provide games that are interesting for children while being able to integrate various fields in early childhood learning. The implementation of the community service program in collaboration with Kindergarten Partner Nurul Qur'an Stabat is expected to be able to solve the problem of the activity targets. STEAM-based Fun Games Making Training carried out for children can be a relevant innovation in meeting children's needs during their development. Apart from that, the benefit for Nurul Qur'an Stabat Kindergarten is that the institution will continue to be in demand by the community because it continues to develop and innovate in children's learning. Institutions that implement STEAM can also meet the need for interesting learning required at the PAUD level so that they can support various learning equipment and further the need for accreditation of PAUD institutions.

The implementation of PKM is carried out in the form of training in making STEAM-based Fun Games which consists of several series of materials. The first material will discuss PAUD learning strategies which aim to provide an understanding of PAUD concepts, methods and learning techniques that are suitable

for application to young children. The second material is about Children's Games which includes the concept of games and principles of early childhood games. The third material discusses the STEAM concept in early childhood education which is then followed up with the practice of creating interesting and STEAM-based children's games.

2. METHODS

Implementation of this community service is carried out in 3 stages The major ones are planning, implementation and evaluation. At the planning stage The activities carried out were discussions discussing the concept of PKM, preparing PKM proposals, and building good cooperation with partners PKM. The resulting output is the submission of PKM proposals and distribution the task of partner collaboration in determining the technicalities of PKM activities. The activities were carried out in several sessions. First session is a presentation of concepts including learning strategies, children's games, and STEAM concept. Session 2 is a demonstration of an example of a STEAM-based game which was followed up with the practice of making STEAM-based games by participants. In session 3 there is a presentation of the results of the game products that have been made created to be evaluated together. The conclusion of the activity is reflection delivered by participants and presenters alternately. After the series After the activity is completed, an evaluation of the achievement of the presentation of the material will be carried out by using written tests and collecting game products made by participants. The results of the data collection carried out will be used materials in making PKM outputs and final PKM reports. Final stage After the activities are carried out, evaluation is carried out. Evaluation is carried out in this way analyze data that has been collected from PKM participants. Next is data which have been processed into output materials for PKM activities, including articles online news, scientific articles in national journals, and documentary evidence on social media.

3. FINDINGS AND DISCUSSION

Implementation of Community Service Activities begins today Monday, January 15 2024. Lecturer at the Department of Child Islamic Education Teacher Education UNPAB Early Age in collaboration with Nurul Qur'an Stabat Kindergarten implemented it workshop with the theme Training on Making STEAM-based Fun Games on child. This activity took place at the Nurul Qur'an Stabat Kindergarten. Participants in this activity There are 15 students in class B at Nurul Qur'an Kindergarten, Stabat District. The activity started at 08.00 WIB and was opened by the Principal of TK Nurul Al-Qur'an.

The aim of holding this event is for the children of Nurul Qur'an Kindergarten Stabat understands how to make STEAM-based games. Method What is used is to transfer knowledge in the form of concepts as well as its application in the form of making simple games utilize objects in the surrounding environment (loose parts). In In this activity, children are given exposure to what STEAM is and what it is for example by Speaker 1 Mrs. Asmidar Parapat, M.Pd, then continued material on learning strategies by Speaker 2 Mrs. Rita Nofianti, M.Pd and final material by speaker 3 regarding STEAM-based children's play practices explained by Mrs. Munisa, M.Psi.

The conceptual presentation was then followed up by dividing the participants into 2 large groups. Each group creates and puts into practice children's games using loose part objects that are used every day such as bottles, mirrors, hoses, stones, sand, etc. These things then designed into a STEAM-based game. The result is participants managed to create a simple aquarium water system game, create underwater design, and playground. Activities held with funds from Nurul Qur'an Stabat Kindergarten in 2024 went smoothly until end of event. After the activity was finished, participants expressed their impression of happiness take part in this training activity. Participants said that "the material delivered really new and fresh, we can't wait to get it soon practice it at school," said Mrs. Midar. After all participants presented the practice of creating STEAM-based games, as Finally, participants are given an understanding test

about game-based concepts STEAM. The following are the test results of the participants which are made in the form of a bar chart and pie charts.

The bar chart above is the result of the test scores after the activity was carried out. Based on the bar diagram above, it can be explained that children's test scores are divided into in 6 value ranges, namely range 1 value 50-59, range 2 value 60-69, range 3 value value 70-79, range 4 value 80-89, range 5 value 90-99 and range 5 value 100. Range 1 is 1 child, range 2 is 4 children, range 3 is 1 child, range 4 has 3 children, range 5 has 5 children, and range 6 has 5 children child.

The 6 value ranges are made into 5 categories. In the less category understand, a child's score below 60 falls into the range of 50-59 with a score of 1 child. In the sufficient category, the score achieved below 70 falls into the score range 60-69 totaling 2 children. In the good category, a child's score is below 80 the score range is 70-79 for 1 child. In the very good category, the participant's score is above 80 is in the 80-89 range for 3 children, the score range is 90-99 for 5 children, and 5 children got a score of 100.

In the circle chart, participants' test scores are expressed as percentages. If detailed, the test scores of the participants are a percentage of 4.5% of the incoming participants in the poor category, 18% of children fall into the sufficient category, a number 4.5% were in the good category, and a maximum of 72.71% of children were in the category very good category. So it can be concluded based on the test results achieved This activity succeeded in making participants understand STEAM-based games well conceptual and practical because the total score obtained in the categories sufficient, good, and very good exceeds 70%.

This PKM activity does not only stop on January 15 2024, However, activities are followed up asynchronously via the WhatsApp application. The next activity is for children to try to make games and demonstrate it. Each child is asked to create a game according to the format agreed at the initial meeting. Manufacturing activities This game runs until January 15, 2024. For the implementing team, the output of this PKM

includes PKM activity reports, scientific publications in community service journals, publications in the media online masses.

4. CONCLUSION

The service has been completed well and is running smoothly from January to March 2024. Stages Most PKM activities have been completed on time. This stage begins with planning the PKM concept, manufacturing proposals, creating materials, establishing collaboration with partners, up to implementation of activities. Then proceed with the final stage of This PKM activity is the preparation of a final report that shows achievement of all expected PKM outcomes. Details of PKM output are as follows: 1) PKM activity reports, 2) Scientific publications in Community service journal, 3) Publication on online mass media

interpretation of reported research results.

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