

IMPLEMENTATION OF ELECTRONIC-BASED EARLY DETECTION OF PRESCHOOL CHILDREN'S GROWTH USING ELENCODE IN LAMONGAN

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ABSTRACT

This community service is carried out in Sugio Lamongan. Sugio village consists of five hamlets, namely Caron, Bulus, Gondangwaruk, Pandanan, and Sugio hamlets. To find out whether there are growth and development problems, it is necessary to detect early growth and development of preschool children, and one way so that preschool children get early detection of growth and development is to empower the community in this case by involving PAUD teachers. PAUD teachers can carry out early detection of growth and development continuously or continuously at the end of the semester, media or tools in the form of applications are needed so that PAUD teachers can carry out early detection of electronic-based growth and development. With the increase in science and technology, the internet can be reached in villages including Sugio village. The community service method is carried out with ELENCODE socialization lectures and assistance in implementing early detection of growth and development of preschool children with ELENCODE so that there is an increase in PAUD teacher knowledge about early detection of growth and development and improvement of electronic-based early detection skills of growth and development using ELENCODE.

Keywords: early detection, growth, development, ELENCODE

INTRODUCTION

Based on the BPS Lamongan 2020, states that Sugio Village is a village located in the Sugio sub-district, Lamongan district, East Java, Indonesia which has an area of approximately 366 hectares with the following details:

No	Area	Hectare
1	Field	291
2	Building or yard	55
3	Others	20
	Total	366

The geographical location of Sugio village is directly adjacent to the Kedumpring sub-district. Sugio village boundaries are as follows:

- In the north, it is bordered by Jubel Kidul village

- In the south, it is bordered by Karangsembih Galih Village and Kalipang Village
- In the east, it is bordered by the village of Sekarbagus
- In the west, it is bordered by SuFull Village and Lebakadi Village.

Sugio Village has a population of 5,664 people which is the village that accommodates the largest population in the Sugio sub-district, which is 8.53% of the total population of the sub-district. In Sugio village, the male population is 2839 people and the female population is 2825 people, while based on the age group of the Sugio community, there are 431 people aged 0-4 years, 5-9 years old 509 people, 10-14 years old 443 years old. people, ages 15-19 years as many as 485 people, ages 20-24 years as many as 342 people, ages 25-29 years in a total of 361 people, ages 30-34 years in a total of 406 people, ages 35-39 years

in 514 people, ages 40- There are 500 people aged 45-49 years, 384 people aged 50-54 years old, 376 people aged 50-54 years old, 282 people aged 55-59 years old, 209 people aged 60-64 years old and over 65 years old are 422 people. Sugio village has five hamlets, eleven RW, and thirty RT, each hamlet is led or controlled by a hamlet head (BPS Kabupaten Lamongan, 2020).

Sugio Village needs to be considered by residents with children aged because the population of children is very large compared to others to become the next generation with good quality human resources. To get good human resources, children must be able to grow and develop well according to their age. To be able to know the growth and development of children, it is necessary to detect the early growth and development of children (BPS Kabupaten Lamongan 2020, Maghfuroh 2021). Following the opinion of Supardan 2020 and Maghfuroh 2020, it is stated that the development of children needs special attention so that children can reach the stage of development according to their age so that early detection is needed.

There are five educational facilities for preschool children in Sugio Village, namely early childhood education (PAUD) Aisiyyah Busthanul Athfal 1, Muslimat, Pertiwi, Budi Luhur, and Melati. Each PAUD has a playgroup and a kindergarten (BPS Kabupaten Lamongan, 2020). Following the opinion of Imaduddin 2021 that PAUD teachers have a very important role in the development of preschool children. Of the twenty-one villages in Sugio sub-district, Sugio Village is the only village in the category of cell phone/mobile phone signal with a very strong signal compared to other villages in Sugio sub-district. (BPS Kabupaten Lamongan, 2020). Following the opinion of Jariono 2020, Laksono 2021, and Khaira 2021 stated that digitalization and information systems are very important in the current era because increasing technology can be a solution to some obstacles.

From the explanation above, it can be concluded that so that the implementation of early detection of growth and development of preschool children in Sugio village can run optimally, PAUD teacher participation is needed to be able to carry out early detection of electronic-based growth and development of preschool children because it is supported by a very strong telephone/mobile phone signal. Muslimin 2020 stated that community empowerment is very important to be able to improve people's welfare.

IMPLEMENTATION METHOD

A. Solutions offered

Implementation of early detection of child growth and development can be done at the posyandu in each village. Posyandu activities are usually carried out at times when preschool children aged three to six years are in PAUD schools so it is likely that children are not present at the posyandu. One of the solutions offered is posyandu cadres in collaboration with health workers visiting PAUD schools to carry out early detection of growth and development. However, this solution will provide an additional burden and require additional time in posyandu activities so that efficiency and effectiveness are needed in the early detection of growth and development activities by involving PAUD teachers. Where early detection activities for growth and development are carried out in PAUD schools by way of PAUD teachers making observations during learning activities. This is by Tarmini 2020 which states that one of the competencies of teachers is to be responsible for their students.

B. Approach Method

1. *Visual auditory kinesthetic* (VAK)

Visual auditory kinesthetic is a learning method for seeing, hearing, and moving (Parbawa 2019, Setiawan 2019). The VAK activity in this community service is the delivery of material about early detection of growth and development, then the practice of implementing early detection of child development that can be

seen and heard by PAUD teachers. Then it is continued with the direct practice of early detection of child development by PAUD teachers which automatically engages PAUD teachers in activities. In accordance with the opinion of Febrilyani 2019 stating that the Visual auditory kinesthetic method can increase knowledge.



Figure 1. Early detection training for growth and development using the Visual auditory kinesthetic method

2. ELENCODE Socialization

ELENCODE is the name of the application which stands for electronic detection of Child Growth and Development, namely the implementation of electronic-based early detection of growth and development. This application has been designed to minimize the possibility of errors that will be made by PAUD teachers. For example, age will also automatically come out after the PAUD teacher enters the check date and the child's date of birth, besides that, after entering the weight and height, the interpretation of the child's growth results will come out automatically. As for the child's development, a questionnaire will also automatically come out according to the criteria for the child's age so that there are no PAUD teachers' mistakes in using the questionnaire for children. After being socialized on how to use ELENCODE to PAUD teachers and immediately tested it until PAUD teachers could use it following the opinion of Maghfuroh 2016 stating that knowledge will affect one's skills.



Figure 2. Socialization of using the ELENCODE application

3. Hands-on practice

The direct practice of implementing early detection of child growth and development with ELENCODE by PAUD teachers to their students accompanied by a community service implementing team. Assistance is carried out aiming to provide solutions if there are difficulties or technical problems for PAUD teachers when carrying out early detection of growth and development in their students by using ELENCODE.



Figure 3. The practice of early detection of electronic-based growth and development using ELENCODE

RESULTS AND DISCUSSION

The procedure for implementing this detection of growth and development of preschool children with ELENCODE begins with the preparation of tools, namely the media that changes to electronic goods in community service, this is the Samsung S6 lite tablet which has displayed the ELENCODE application so

that high-school PAUD teachers click until a User and password appears. In this community service activity, there was an increase in knowledge of PAUD teachers, where previously PAUD teachers carried out early detection of preschool children's growth and development by measuring the child's weight, height, and head circumference and the results were documented without knowing the interpretation or results of whether the child's growth was normal, thin, lean, fat, or obese so that PAUD teachers are very enthusiastic and happy with this ELENCODE application.

Before this community service activity, the detection of child development had never been carried out, although teacher representatives had participated in the simulation training activity for early detection and intervention in growth and development (SDIDTK) held by the Lamongan district government in collaboration with the Nursing Academy and STIKES Muhammadiyah Lamongan which is now the University of Muhammadiyah Lamongan. in 2014 and 2015 because it was too difficult to do so. But after seeing this ELENCODE application, PAUD teachers felt helped and no longer had difficulties because they did not have to calculate the age of the child and determine which questionnaire to use for the child because by using ELENCODE the questionnaire would automatically come out according to the age of the child. According to Diana 2020, digital development can provide solutions for better development.

Several steps must be taken by PAUD teachers to be able to carry out early detection of electronic-based growth and development using ELENCODE, namely:

1. Write the link address that has been provided by the implementation team or directly click on the existing application on the Samsung S6 lite tablet.

2. Enter the user and password that has been given by the implementation team.
3. Fill in the data in the ELENCODE after logging in.
4. Complete the developmental pre-screening questionnaire in ELENCODE.
5. After all children have had early detection of growth and development, the results can be downloaded as evidence of activity documents and materials for further action.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. Visual auditory kinesthetic (VAK) can increase the knowledge and insight of PAUD teachers about the early detection of growth and development of preschool children.
2. ELENCODE can improve the implementation of early detection activities for preschool children's growth and development

Recommendations

ELENCODE can be used as an alternative implementation of electronic-based early detection of growth and development to be able to increase the achievement of early detection of growth and development and can improve the degree of public health, in this case, preschool children which will indirectly have an impact on improving the welfare of the community.

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