

# Community empowerment through the use of Roptar as a child development stimulation tool

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## ABSTRACT

The Corona Virus Disease 2019 (Covid-19) outbreak has had a major impact on all aspects of life, the implications of the pandemic are not only on the socio-economic aspects but also have an impact on the health sector<sup>1</sup>. The health impact is not only felt by parents but also on children. The impact of the covid pandemic on children can take place in the short, medium and long term. Children are hidden victims of the covid-19 pandemic. The impact of the Covid-19 pandemic on children includes problems with immunization, social mental problems, and child development, especially in the personal social aspect. <sup>2</sup> Out of 80 million children in Indonesia, around 30% of children have the opportunity to experience serious and various impacts due to the pandemic. <sup>3</sup> This community service activity carried out to assist the Community Health Center program in conducting Detection Stimulation Activities, Early Developmental Intervention (SDIDTK) carried out by Kindergarten Teachers or PAUD Teachers. In carrying out the assistance, Kindergarten teachers and PAUD teachers use educational media which is a representation of the SDIDTK book in the form of a Rotating Wheel educational game tool (hereinafter abbreviated as ROPTAR) specifically for health promotion efforts, SDIDTK which can be done by Kindergarten teachers or PAUD teachers. So it is hoped that the companion can provide SDIDTK optimally based on appropriate and fun references. Posttest evaluation results of 93.33% target knowledge in the good category exceeds the target indicator set  $\geq 80\%$ . Community empowerment through increasing knowledge about stimulation of child development is seen as one of the important points in empowering the community for early detection of child development<sup>6</sup>. ROPTAR is an interesting alternative media besides the Developmental Pre Screening Questionnaire (KPSP) as a tool for stimulating child development<sup>8</sup>, this is indicated by the response to using ROPTAR getting the lowest score of 9.5 out of the highest score of 10.

## KEYWORDS

Community empowerment;  
Rotartars;  
Stimulation of Child  
Development



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## 1. Introduction

Since the establishment of the Corona Virus Disease 2019 (Covid-19) outbreak as a national Non-Natural Disaster by the President of the Republic of Indonesia Number 12 of 2020, it has had a major impact on all aspects of life, the implications arising from the pandemic are not only on socio-economic aspects but also have an impact on health sector. The health impact is not only felt by parents but also on children. The impact of the covid pandemic on children can take place in the short, medium and long term. Children are hidden victims of the covid-19 pandemic. The impact of the Covid-19 pandemic on children includes problems with immunization, social mental problems, and child development, especially in the personal social aspect <sup>2</sup>. Out of 80 million children in Indonesia, around 30% of children have the opportunity to experience serious and various impacts due to the pandemic. The results of the 2018 East Java provincial health research report, Batu City amounted to 22.14% of children not having a MCH book, development results in children aged 0-59 months were only 46.70% of the target of 98%. The results of the achievement of the frequency of growth and development monitoring of 75.82% have not reached the set target of 85%.

Research on stimulation of child development has been researched by previous researchers as a reference in this community service. Knowledge and actions related to stimulating the development of stunted children were studied by Krisnana [1]. The relationship between the home environment in infancy and children's movement behavior was studied by Kracht [2]. The Mother Class Program for Improving the Ability of Mothers to Stimulate the Growth and Development of Children in the Village of Dawan Bali was researched by Sulisnadewi [3]. Assessment of the neurodevelopment of HIV-infected children exposed to HIV and treated early: a study protocol investigated by Strehlau [4]. Cognitive development researched by Crotty [5]. Neurodevelopment in HIV-infected, early-treated infants participating in a developmental stimulation program compared with controls was studied by Strehlau [6]. The relationship between malnutrition/psychosocial factors and developmental outcomes of children in extreme poverty in Ethiopia was investigated by Worku [7].

The biocontrol and plant growth promoting properties of two avocado rhizobacteria regulated by the emission of volatile and volatile compounds was studied by Cortazar-Murillo [8]. Gross Motor Skills in Children with Cerebral Palsy and Intellectual Disabilities was studied by Djuric-Zdravkovic [9]. Effects of home-based play-assisted stimulation on the developmental performance of children living in extreme poverty: a randomized single-blind controlled trial investigated by Worku [10]. Quality of Career-Child Interaction in Early Childhood Care Centers in Bangladesh: Measurement and Training was researched by Helmerhorst [11]. Gross Motor Skills in Children with Cerebral Palsy and Intellectual Disabilities was studied by Djuric-Zdravkovic [9]. A 5-year retrospective record review of hospital-based low-vision rehabilitation in Thailand was investigated by Chotikavanich [12]. Promoting interactive skills and thinking among early child care professionals: studying protocols for a randomized wait-list controlled trial comparing the Circle of Safety approach to care as usual in center-based childcare (project SECURE) researched by Smith-Nielsen [13]. Quality of Interaction in Norway's ECEC for Toddlers Measured by the Caregiver Interaction Profile Scale (CIP). studied by Bjørnstad [14]. "Stuck in ICU" was researched by Henderson [15].

A Longitudinal Approach to the Relationship between Sleep, Behavioral Adjustment, and Maternal Depression in Preschool Children was studied by Cha [16]. Promoting Adolescent Mental Health through Cognitive Behavior Group Therapy and Family Psychoeducation was researched by Florensa [17]. Soziogene Entwicklungsstörungen: Umfrage zu Prävention und Management in der pädiatrischen Grundversorgung was studied by Fegeler [18]. Three types of regulatory signals for juvenile hormone production in the female linden insect, *Pyrrhocoris apterus* were investigated by Hodkova [19]. 'I have learned to love children and provide opportunities for play with peers': A feasibility study of training programs to support parents of young blind children in Malawi researched by Lynch [20]. Global Disabilities was researched by Scharf [21]. Daily interaction between staff and children aged 1-5 years in ECEC Norway was studied by Baustad [22]. A comparative exploration of the pedagogical quality of parent-led and regular child care centers in the Netherlands was investigated by Fukkink [23]. 'Maybe I'll lend a helping hand.... maybe not to help the eye but a different kind of help': an analysis of the care and support of blind children in a community in Malawi studied by Gladstone [24].

Initial Investigation of Psychoneurological Symptoms in Low-Income Mothers was researched by Salomon [25]. The effect of PAUD training and video interaction guidance on teacher interactive skills was investigated by Jilink [26]. Effect of Career Interaction Profile Training on Caregiver-Child Interaction in Dutch Child Care Centres: A Randomized Controlled Trial studied by Helmerhorst [27]. Developmental assessment and early intervention for children with developmental delays: A case study in South Australia by Mardiyanti [28]. Care, stimulation, and nutrition of children aged 0-2 in Malawi—a caregiver's perspective; "Who's holding the baby?" studied by Gladstone [29]. The effect of early intervention on infants at very high risk of developing cerebral palsy: a systematic review investigated by Hadders-Algra [30].

The results of interviews with Dharma Wanita Kota Batu women through the whatsapp group during the pandemic, parents in Batu City were more preoccupied with the problem of distance education for their children, parents did not understand how to assess or stimulate children's development, most parents left it to teachers and cadres at Posyandu. Given the situation mentioned above, the servant intends to implement the research results by empowering the community, especially kindergarten teachers and PAUD teachers in Batu City through educational preventive activities about stimulating child development.

## 2. Method

The implementation of community service activities is carried out in several stages:

### a. Preparation phase

1) Coordination with the community service implementation team through internal meetings in order to optimize tasks during the implementation of community service activities.

2) Preparation of tools and materials/media needed for community court activities. At this stage the implementer develops a developmental book as a guide for the teacher in assessing development or stimulation. Consumable materials will be prepared before the activity takes place.

3) Arrange for permits to carry out activities to agencies related to program partners (Kesbangpolinmas and the Batu City Education Office).

4) Assessment and approach to partners, namely the Eka Mandiri Foundation (Head of the Foundation) and the head of the Kindergarten.

5) Hold preparatory meetings for coordination with the Foundation, representatives of teachers and heads of TK/PAUD, along with all members of the community service team for activity orientation.

### b. Implementation Stage

As for the activities carried out in the stage of implementing community service activities regarding "Using ROPTAR as a Development Stimulation Tool".

## 3. Results and Discussion

This community service activity has been well implemented, which was attended by 30 kindergarten teachers and PAUD teachers. Activities have been carried out in accordance with the plan as many as 3 meetings, which were held at the Bina Praja Building, Batu City.

### A. Activity Results

#### 1. Characteristics of Cadre Participants in the Training

The Characteristic Frequency Distribution of Kindergarten Teachers and PAUD Teachers in Batu City in 2022 is shown in table 1. The table shows that the majority of participants are aged 21-30 years (63.33%), have a bachelor's degree (56.67%), have been teachers for 6 – 10 years (60%), and Head of Kindergarten (43.33%).

**Table 1.** Characteristic Frequency Distribution of Kindergarten and PAUD Teachers in Batu City in 2022

No	Characteristics	Amount (n)	Percentage (%)
A.	Age		
1	21-30	19	63.33
2	31-40	10	33.33
3	41-50	1	3.33
	Amount	30	100
B.	Education		
1	D4	3	10
2	S1	17	56.67
3	S2	10	33.33
	Amount	30	100
C.	Old Teacher		
1	1 – 5	9	30
2	6 – 10	18	60
3	10 - 15	3	10
	Amount	48	100
D.	Position		
1	Kindergarten head	13	43.33
2	Kindergarten teacher	10	33.33
3	PAUD teacher	7	23.33
	Amount	48	100

## 2. Attendance in Activities

Attendance in community service activities is shown in table 2. From the table, it is known that the target attendance in community service activities is 100%, exceeding the target indicator set by the 90% servant.

**Table 2.** Attendance in Community Service Activities

No	Presence	Amount (n)	Percentage (%)
1	1st Activity	30	100
2	2nd Activity	30	100
3	3rd Activity	30	100

## 3. Knowledge of Cadres Before and After Activities

Descriptive Statistics of Knowledge Before and After the Training are shown in table 3. The table shows that the average pretest score is 15.5 in the category of sufficient knowledge (46.67%), while the average posttest is 18.03 in the category of good knowledge (93.33%).

**Table 3.** Knowledge Descriptive Statistics Before and After Training

Evaluation	Amount (n)	Median	Average±SD	Category
Pre Test	30	16(11-18)	15,5±3,07	Enough (46,67%)
Post Test	30	15(15-20)	18±1,79	Good (93,33%)

## 4. Results of Evaluation of Community Service Activities

Evaluation of Activities Based on the Number of Participants is shown in table 4. The table shows that the evaluation of the activities as a whole shows that the activities are in the good category (96.24%).

**Table 4.** Activity Evaluation Based on the Number of Participants

Mean±SD	Median (Min-Max)	Category
77,19±7,07	76,5(63-90)	Baik (96,24%)

Evaluation of Activities Based on Activity Objectives is shown in Table 5. The table shows that the results of the evaluation on the process of providing material went smoothly which was attended by 30 teachers. It can be seen in the activity evaluation table that the participants had assessed good results, namely consisting of participants assessing the minimum score of 8 and maximum 10, the explanation of the material saw the lowest score of 8 and the highest 10, the time allocation given also received a positive response from mentoring team, although with the lowest score of 7 but the maximum score is 10, the relevance of the material also gets a good response with the lowest score of 8 and the maximum score of 10, activity management gets the lowest score of 7 but the maximum score is 10, the presentation from the resource person also gets a positive response with the lowest score of 8 and the highest score of 10, the availability of materials with the lowest score of 8 and the highest given is 10, the overall causality of the activities provided by the facilitator was also positively assessed by the participants with the lowest score of 8 and the highest 10. Responses to the use of ROPTAR received a positive response with the lowest score of 9.5 from the highest score of 10.

**Table 5.** Activity Evaluation Based on Activity Objectives

No	Evaluation	Amount (n)	Median	Average ±SD
1	Achievement of Activity Objectives	30	8,5(8-10)	9,12±0,67
2	Explanation of the Material	30	9,5(8-10)	9,38±0,68
3	Time Allocation	30	9(7-10)	9,04±1,11
4	Material Relevance	30	9,5(8-10)	9,33±0,74
5	Activity Management	30	9(7-10)	8,73±2,08
6	Resource Presentation	30	10(8-10)	9,47±0,62
7	Material Availability	30	10(8-10)	9,52±0,58
8	Overall Activity Causality	30	10(8-10)	9,59±0,53
9	Response to the use of ROPTAR	30	9,5(8-10)	9,38±0,68

### .B. Achieved Outcomes

This Community Service Activity has been carried out starting from February 2022. All activities can be carried out even though they are still in Endemic conditions. By continuing to carry out the health protocol (prokes) that has been recommended by the Government in all community service activities. All stages of activities have been carried out with the following outputs:

- a. The Development Book is shown in Figure 1
- b. Intellectual property (copyright): IPR Certificate No: EC00202213666 shown in Figure 2



Fig. 1. Manual for using the Spinning Wheel



Fig. 2. IPR The Roptar handbook



**Fig. 3.** Implementation of Service Activities

Implementation of Community Service Activities is shown in Figure 3. The picture shows that the activity was carried out at the Bina Bhakti Praja Building, Jalan Panglima Sudirman No. 98 Batu City, Activity Participants consisted of 13 Kindergarten and Early Childhood School Principals, 10 Kindergarten Teachers, and 7 PAUD Teachers.



**Fig. 4.** Group photo after the opening of the service

The group photo after the opening of the service is shown in Figure 4. The picture shows that the front row is in order from left to right: Head of the Eka Mandiri Foundation, Mrs. Dra Mistin, M.Pd, Head of the Education Office, Mrs. Dr. Eny Sekar, M.Pd, Mayor of Batu, Mrs. Dewanti Rumpoko, M.Si, Servant, Head of Women and Children Empowerment, Ms. Yumey, and Mrs. Chairperson of the Batu City DPRD, Mrs. Wati, S.Pd. Back row: representatives from each school.



**Fig. 5.** Explanation of the use of ROPTAR

Explanation of the use of ROPTAR is shown in Figure 5. The figure shows that the Head of community service accompanied by the Head of the Batu City Education Office is explaining the use of ROPTAR (swivel wheel) shown in Figure 6, along with the algorithm.



**Fig. 6.** ROPTAR front view

#### 4. Conclusion

This Community Service activity is carried out from February to August 2022. All activities are carried out offline (face to face) and can be carried out even though they are still in Endemic conditions. By continuing to carry out the health protocol (prokes) that has been recommended by the Government in all community service activities. The presence of the target in community service activities of 100% attendance exceeds the indicator set at 90%, this shows that community empowerment can be carried out even in pandemic/endemic conditions 7. Posttest evaluation results of 93.33% target knowledge in the good category exceeds the target indicator set  $\geq 80\%$ . Community empowerment through increasing knowledge about stimulation of child development is seen as one of the important points in empowering the community for early detection of child development<sup>6</sup>. ROPTAR is an interesting alternative media besides KPSP as a tool for stimulating child development<sup>8</sup>, this is indicated by the response to using ROPTAR getting the lowest score of 9.5 out of the highest score of 10.

#### Acknowledgment

Special thanks to the internal funder for community service from the Poltekkes Kemenkes Malang.

#### Author Contribution

Activity plan in order to implement the solution offered Use of Roptar as a Child Development Stimulation Tool.

#### Funding

Special thanks to the internal funder for community service from the Poltekkes Kemenkes Malang.

#### Conflict of Interest

The authors declare no conflict of interest.

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