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Early Childhood Education Teachers in Indonesia: Validity and Reliability of Preschool Child Development Surveillance Instruments

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Abstract

The purpose of this study was to test the validity and reliability of preschool development surveillance instruments that researchers had made.

There were 3 instruments tested for validity and reliability, namely a developmental surveillance instrument aged 36-48 months, a surveillance instrument aged 49-60 months, and a surveillance instrument aged 61-72 months. In each instrument, there are 7 indicators of child development, namely the development of gross motor, fine motor, language, personal social, religious, and moral values, cognitive, and art. Each indicator consists of 2-item questions, so the total number of questions in the instrument is 14 for each.

validity test using the product moment test and reliability test using the alpha Cronbach coefficient test with data analysis using SPSS for Windows 26.

Surveillance instruments for the development of preschool children aged 36-48 months, 49-60 months, and 61-72 months have high reliability and good validity in assessing the development of preschool children at the level of surveillance carried out by early childhood education teachers so that their use can be expanded.

Keywords: *Instruments, Validity, Reliability, Child development, Surveillance.*

1. INTRODUCTION

Early detection of cases of child development disorders (such as speech and language disorders, attention deficit hyperactivity disorder, Down syndrome, mental retardation, and cerebral palsy) can be structured through early development detection activities. The levels of early detection of developments include surveillance, pre-screening, screening, and diagnostic evaluation. Early detection of child development in Indonesia still faces various challenges. In addition to the large number of children who need early detection, there are challenges in limited health personnel, so developmental surveillance is necessary that involves the community, one of whom is early childhood education teachers. Developmental surveillance is an activity to recognize early signs and

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symptoms of developmental disorders, especially early warning signs in a general population of children child development surveillance is very important to improve the quality of child health care because of the cost of carrying out child development surveillance is 100 times lower than child care. with a diagnosis of a developmental problem [1][2][3][4].

The recommended instrument for surveillance of child development so far is to use maternal and child health books which are intended for all medical personnel. The developmental instruments in the maternal and child health book can be filled out by the family or health cadres. If it is found that the child has not been able to do at least one, then the family can take the child to the doctor/midwife/nurse [3][5]. At the early childhood education level, the implementation of early detection is the Stimulation of Detection and Early Intervention of Growth and Development, which is carried out by health workers (doctors, midwives, nurses, nutritionists, and health educators) and development detection is developmental pre-screening [5]. At the early childhood education teacher level there are no specific developmental surveillance instruments and no technical guidelines/guidelines for implementing child development surveillance. Based on Permendikbud No.146 of 2014 article 2 that the 2013 curriculum for early childhood education, one of which consists of guidelines for early detection of child development contains strategies for finding obstacles to child growth and development [6]. Based on Permendikbud No.137 of 2014 Article 1 that the Standards for the Level of Achievement of Early Childhood Development are criteria regarding the abilities achieved by children in all aspects of growth (weight, height, and head circumference) and aspects of development (religious and moral values, gross motor skills, fine motor, cognitive, language, social emotional and art) [7].

Based on [8][1] in Brazil the implementation of child development surveillance ranging from 4.6% to 30.4% is still below expectations because in general the activities carried out are weight measurement, vaccination, and nutritional counseling, therefore deviations in development detected too late at a time when the child already has signs of severe deterioration making intervention difficult. Based on the results of research [9] at Posyandu Puskesmas Lamongan, the coverage of early detection of growth and development of toddlers from 98 was found to be 41.8% not good.

If a child experiences even the slightest developmental problem, if it is not detected early and not handled properly, it will affect human resources in the future. Whatever the form of child development disorder problems, if early detection is carried out routinely, interventions for developmental disorders in children can be carried out immediately so that the higher the possibility of achieving the goals of child development disorder interventions so that children can reach developmental stages according to their age [10][4][11]. If the implementation of developmental surveillance is inadequate, it will hinder timely identification and referral if the child has developmental problems, which in turn will also delay intervention and will affect the child's development [12][13].

According to [14] one of the efforts to implement the healthy paradigm, among other things, is carried out through monitoring promotive-preventive efforts and community empowerment as the mainstream of health development, as well as strengthening community empowerment referring to an approach to strengthening that is directed, comprehensive, interrelated and realistic, supported by human resources adequate human resources.

Based on Permenkes RI No.25 of 2014 Article 22 Paragraph 2 that Stimulation of Early Detection and Developmental Intervention in children aged 12-72 months is carried out every six months, and based on Permenkes RI No.66 of 2014 article 4 that monitoring of child growth and development can carried out in kindergarten by kindergarten teachers in collaboration with parents and health workers [15][11][5]. To increase the reach and coverage of toddlers and preschoolers who receive early detection services for growth

and development, it is necessary to network with institutions that carry out early childhood education [5]. If a child is diagnosed with developmental problems at school age, it will affect learning outcomes, low participation in school activities, and low learning function compared to children who do not experience developmental problems [8], so continuous surveillance of development is needed in early childhood education so that if a child's developmental problems are found, they immediately get intervention and can achieve development according to their age. Developmental surveillance of preschool children is highly recommended as children prepare to enter school age [16].

2. METHOD

This research study was conducted in 2022 to create a preschool child development surveillance instrument for early childhood education teachers which was developed from a developmental surveillance instrument for health workers and parents of children. Consecutive sampling was used in the Lamongan sub-district area which met the inclusion criteria, namely preschool children aged 3-6 years and participating in offline learning activities for six months or one semester with a total of 122 preschool children. This research was conducted quantitatively for the validity and reliability of surveillance instruments. The steps in the research methodology are illustrated in Figure 1.

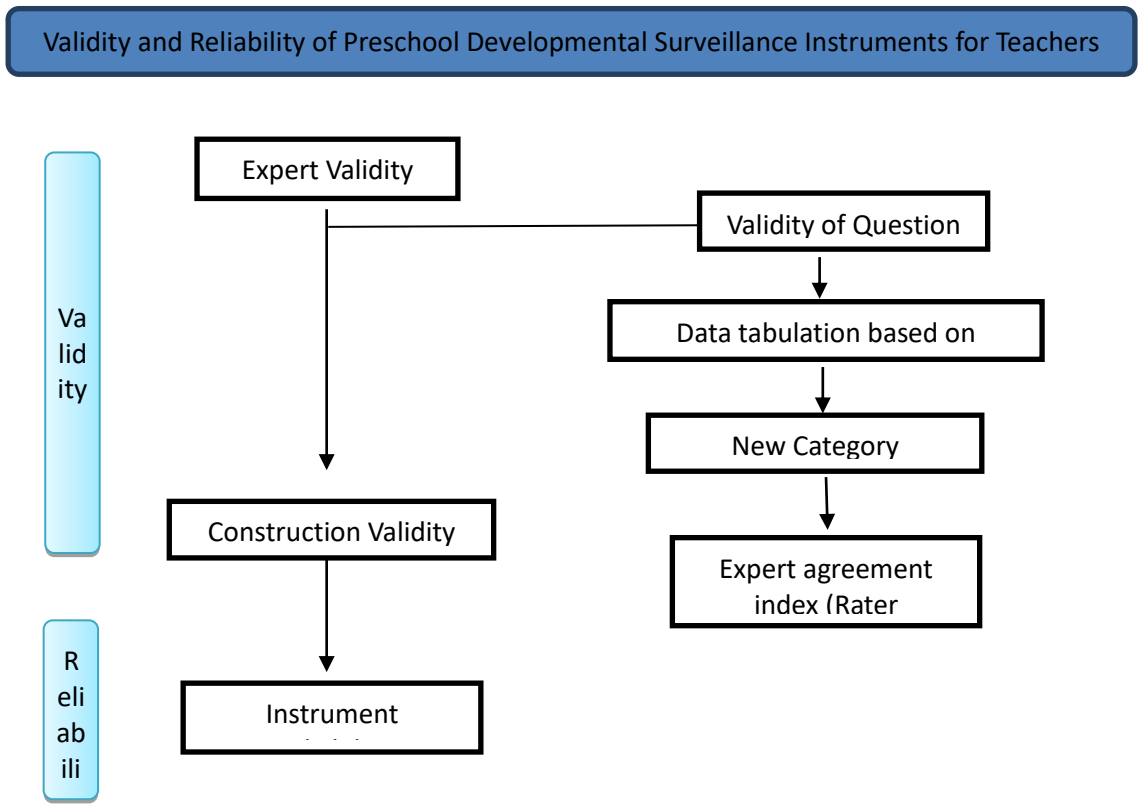

Figure 1. Process Validity and Reliability of the Preschool Development Surveillance Instrument for Early Childhood Education Teachers

2.1 Validity of Question Items

The validity of the items was given to two experts to see the suitability between the items and the indicators that had been determined. The validity of the items is done by giving questions to experts with the answer choices according to Gregory, namely irrelevant, less

relevant, quite relevant, and very relevant. This is [17] which states that testing the validity of the items can be done by giving the items to experts the field.

2.2 Data tabulation based on Gregory

Tabulation of the data on the validity of the items by the expert by giving a score from the answer from the expert. The score used is Gregory which was expanded by [18] namely irrelevant score 1, less relevant score 2, quite relevant score 3, and very relevant score 4.

2.3 New category Validation

New category validation was carried out with weak and strong relevance. Weak if score 1 and score 2, strong if score 3 and score 4.

2.4 Expert agreement index (Rater Agreement)

To calculate the expert agreement index (rater agreement), a contingency table of two experts with strong and weak relevance is first made. Then the scores of the two experts were entered and the expert agreement index (Rater agreement) was calculated using a formula based on Gregory, namely the comparison of the number of items from the two experts with a strong relevance category to all item items.

The Gregory formula in [18] is as follows :

Table 1. Contingencies for calculating the Gregory index

		Expert 1	
		weak	strong
Expert 2	weak	A	B
	strong	C	D

$$\text{Content validity coefficient} = \frac{D}{(A+B+C+D)}$$

Interpretation based on the results of calculating the agreement index of the two experts, namely the validity is low if the agreement index is less than 0.4, the validity is medium (Mediocare) if the agreement index is 0.4-0.8 and the validity is high or very valid if the agreement index is more than 0.8.

2.5 Construction validity

Construction validity is calculated using the product moment test. From the product moment calculation results compared to the critical value of the correlation table, the value of r is at a significant level of 5%. The test criteria are if the r-count value > r-table value then the question is said to be valid, and vice versa if the r-count value < r-table value then the question is said to be invalid [19].

2.6 Instrument reliability

Test the reliability of the preschool development surveillance instrument to show how far the instrument can be trusted by measuring a symptom at different times and showing the same results as the Chronbach alpha coefficient. From the results of alpha Cronbach if the value of alpha Cronbach ≥ 0.6 then the question is reliable and if alpha Cronbach <0.6 then the question is not reliable [19].

3. RESULTS AND DISCUSSION

3.1. Expert Validity

3.1.1 Validity of Question

Table 2. Results of item validity assessment by Expert Validity on preschool child development surveillance instruments for early childhood education teachers

Question Item Number	Surveillance instrument age 36-48 months		Surveillance instrument age 49-60 months		Surveillance instrument age 61-72 months	
	Expert 1	Expert 2	Expert 1	Expert 2	Expert 1	Expert 2
1	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
2	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
3	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
4	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
5	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
6	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
7	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
8	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
9	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
10	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
11	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
12	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
13	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant
14	very relevant	very relevant	very relevant	very relevant	very relevant	very relevant

The results of the item validity assessment by Expert Validity on the preschool child development surveillance instrument for early childhood education teachers found that Expert 1 and Expert 2 gave ratings in very relevant categories in questions number 1 to question number 14 on the surveillance instrument age 36-48 months, 49-60 months, and 61-72 months. Assessment is very relevant for experts because in preparing the items the researcher adjusts to the indicators that have been made, namely the development of gross motor, fine motor, language, personal social, religious, and moral values, cognitive and artistic [4][11][7].

3.1.2 Data tabulation based on Gregory

Table 3. Gregory-based tabulation of data on preschool child development surveillance instruments for early childhood education teachers

Question Item Number	Gregory Scale 36-48 Months old surveillance instrument		Gregory Scale 49-60 Months old surveillance instrument		Gregory Scale 61-72 Months old surveillance instrument	
	Expert 1	Expert 2	Expert 1	Expert 2	Expert 1	Expert 2
1	4	4	4	4	4	4
2	4	4	4	4	4	4
3	4	4	4	4	4	4
4	4	4	4	4	4	4
5	4	4	4	4	4	4
6	4	4	4	4	4	4
7	4	4	4	4	4	4
8	4	4	4	4	4	4
9	4	4	4	4	4	4
10	4	4	4	4	4	4
11	4	4	4	4	4	4
12	4	4	4	4	4	4
13	4	4	4	4	4	4
14	4	4	4	4	4	4

Data tabulation based on Gregory found that expert 1 and expert 2 gave very relevant assessments and if included in the Gregory scale obtained a score of 4 in questions number 1 to number 14 on surveillance instruments age 36-48 months, 49-60 months, and 61- 72 months. This is [18] which states that score 1 is not relevant, score 2 is less relevant, score 3 is quite relevant, and score 4 is very relevant.

3.1.3 New Category Validation

Table 4. Results of the validation of new categories in the preschool child development surveillance instrument for early childhood education teachers

Question Item Number	Surveillance instrument age 36-48 months		Surveillance instrument age 49-60 months		Surveillance instrument age 61-72 months	
	Expert 1	Expert 2	Expert 1	Expert 2	Expert 1	Expert 2
1	strong	strong	strong	strong	strong	strong
2	strong	strong	strong	strong	strong	strong
3	strong	strong	strong	strong	strong	strong
4	strong	strong	strong	strong	strong	strong
5	strong	strong	strong	strong	strong	strong
6	strong	strong	strong	strong	strong	strong
7	strong	strong	strong	strong	strong	strong

8	strong	strong	strong	strong	strong	strong
9	strong	strong	strong	strong	strong	strong
10	strong	strong	strong	strong	strong	strong
11	strong	strong	strong	strong	strong	strong
12	strong	strong	strong	strong	strong	strong
13	strong	strong	strong	strong	strong	strong
14	strong	strong	strong	strong	strong	strong

The results of the new category validation showed that expert 1 and expert 2 gave 4 so that they could be included in the new strong category in questions number 1 to question number 14 on surveillance instruments age 36-48 months, 49-60 months, and 61-72 months. This is [18] which states that the new category is weak relevance if score 1 and score 2, and strong relevance if score 3 and score 4.

3.1.4 Expert agreement index (Rater Agreement)

Table 5. Results of the expert agreement index (Rater agreement) on preschool child development surveillance instruments for early childhood education teachers

	Expert agreement index Surveillance instrument age 36-48 months		Expert agreement index Surveillance instrument age 49-60 months		Expert agreement index Surveillance instrument age 61-72 months	
Expert agreement index	1	1	1	1	1	1

The results of calculating the validity coefficient obtained from the expert agreement index (Rater agreement) yielded a value of 1 in the surveillance instrument age 36-48 months, 49-60 months, and 61-72 months. The value of the expert agreement index 1 indicates that the instrument has high validity or is very valid. This is [18] which states that the results of calculating the agreement index of the two experts have low validity if the agreement index is less than 0.4, Medium validity (Mediocare) if the agreement index is 0.4-0.8 and validity is high or very valid if the index deal more than 0.8.

3.2. Construction validity

The construction validity test was given to 122 children age 36-72 months and the result was that the calculated r value was greater than the r-table value in questions number 1 to number 14 on surveillance instruments aged 36-48 months, 49-60 months, and 61 -72 months listed in the table below.

Table 6. Results of the construction validity test of preschool child development surveillance instruments for early childhood education teachers

Question number	r count Instrument age 36-48 Months (N=29)	r count Instrument age 49-60 Months (N=40)	r count Instrument age 61-72 Months (N=53)
	r table 0.367	r table 0,312	r table 0,2241
Question 1	0,709	0,414	0,426
Question 2	0,394	0,586	0,546
Question 3	0,524	0,557	0,413
Question 4	0,398	0,573	0,394

Question 5	0,651	0,582	0,383
Question 6	0,401	0,588	0,289
Question 7	0,579	0,683	0,550
Question 8	0,518	0,823	0,695
Question 9	0,561	0,734	0,615
Question 10	0,377	0,731	0,410
Question 11	0,458	0,660	0,747
Question 12	0,776	0,525	0,611
Question 13	0,606	0,617	0,391
Question 14	0,403	0,762	0,470

In the validity test on 29 children with an r table of 0.367 the surveillance instrument for the development of preschool children aged 36-48 months, the results obtained from the construction validity test results on questions number 1 to number 14 obtained the lowest r count results in question number 10 of 0.377 and the highest r count in question number 12 with r count 0.776 where the results of all r count in question number 1 to 14 above r table are above 0.367 so it can be concluded that questions number 1 to question number 14 on the surveillance instrument for the development of preschool children aged 36- 48 months declared valid.

In the validity test on 40 children with an r table of 0.312 the surveillance instrument for the development of preschool children aged 49-60 months, the results obtained from the construction validity test results on questions number 1 to number 14 obtained the lowest r count results in question number 1 of 0.414 and the highest r count in question number 8 with r count 0.823 which results of all r counts in question number 1 to 14 above r table which is above 0.312 so it can be concluded that questions number 1 to question number 14 on the surveillance instrument for the development of preschool children age 49- 60 months declared valid.

In the validity test on 53 children with an r table of 0.2241, the surveillance instrument for the development of preschool children aged 61-72 months obtained the results of the construction validity test results in questions number 1 to number 14, the lowest r count was obtained in item number 6 of 0.289 and r The highest count is in question number 11 with r count 0.747 which results of all r counts in question number 1 to 14 above the r table which is above 0.2241 so it can be concluded that questions number 1 to number 14 on the child development surveillance instrument preschool age 61-72 months is declared valid.

This is [19] which states that an item is said to be valid if the r-count value > r-table value, and vice versa if the r-count value < r-table value then the item is said to be invalid.

3.3 Instrument reliability

The reliability test was given to 122 children aged 36-72 months and the result was that the calculated r value was greater than the r-table value in questions number 1 to number 14 in the surveillance instrument aged 36-48 months, 49-60 months, and 61- 72 months listed in the table below.

Table 7. Results of the reliability test of preschool child development surveillance instruments for early childhood education teachers

Question number	Alpha Cronbach reliability test results Instrument age 36-48 months (N = 29)	Alpha Cronbach reliability test results Instrument age 49-60 months (N=40)	Alpha Cronbach reliability test results Instrument age 61-72 months (N=53)
Question 1	0.723	0.751	0.712
Question 2	0.745	0.745	0.700
Question 3	0.739	0.746	0.716
Question 4	0.737	0.737	0.717
Question 5	0.724	0.745	0.718
Question 6	0.739	0.740	0.725
Question 7	0.735	0.736	0.705
Question 8	0.735	0.729	0.700
Question 9	0.736	0.733	0.708
Question 10	0.741	0.733	0.721
Question 11	0.740	0.739	0.688
Question 12	0.722	0.743	0.702
Question 13	0.732	0.731	0.706
Question 14	0.740	0.723	0.705

In the reliability test of the development surveillance instrument for preschoolers aged 36-48 months on 29 children, the results of the reliability test on questions number 1 to number 14 obtained the lowest alpha cronbach result on item number 12 of 0.722 and the highest cronbach alpha on item number 2 with the result cronbach alpha 0.745, where all cronbach alpha results in questions number 1 to 14 obtained alpha cronbach values ≥ 0.6 so it can be concluded that questions number 1 to number 14 on the development surveillance instrument for preschool children aged 36-48 months are stated reliable.

In the reliability test of the development surveillance instrument for preschool children aged 49-60 months in 40 children, the results of the reliability test on questions number 1 to number 14 obtained the lowest alpha cronbach results in item number 14 of 0.723 and the highest cronbach alpha in item number 1 with results cronbach alpha 0.751, where all cronbach alpha results in questions number 1 to 14 obtained a cronbach alpha value ≥ 0.6 so it can be concluded that questions number 1 to number 14 on the developmental surveillance instrument for preschool children age 49-60 months are stated reliable.

In the reliability test of the surveillance instrument for the development of preschool children aged 61-72 months in 53 children, the results of the reliability test on questions number 1 to number 14 obtained the lowest alpha cronbach result in item number 11 of 0.688 and the highest cronbach alpha in item number 6 with the result cronbach's alpha 0.725, where all cronbach's alpha results in questions number 1 to 14 obtained alpha cronbach values ≥ 0.6 so it can be concluded that questions 1 to 14 in the surveillance instrument for the development of preschool children age 61-72 months are stated reliable.

This is [19] which states that an item is said to be reliable if the cronbach alpha value is ≥ 0.6, and vice versa if the cronbach alpha value is <0.6 then the item is said to be unreliable.

4. CONCLUSION

This research study shows that the validity of the item items by expert validity was found to be very relevant in the fourteen items both in the developmental surveillance instrument for preschool children aged 36-48 months, 49-60 months, and 61-72 months. Data tabulation based on Gregory obtained a score of 4 on fourteen good items on the preschool development surveillance instrument age 36-48 months, 49-60 months, and 61-72 months. The validation of the new category found a strong category in fourteen items both in the surveillance instrument for the development of preschool children aged 36-48 months, 49-60 months, and 61-72 months. The expert agreement index (Rater agreement) obtained a good value of 1 in the surveillance instrument for the development of preschool children aged 36-48 months, 49-60 months, and 61-72 months. The results of the construction validity showed that the value of r was greater than the r-table, which means that the fourteen questions were declared valid both in the preschool development surveillance instrument aged 36-48 months, 49-60 months, and 61-72 months. The results of the reliability of the instrument obtained an alpha value of more than 0.5 and less than 0.7, which means that the fourteen questions were stated to be reliable both in the surveillance instrument for the development of preschool children aged 36-48 months, 49-60 months, and 61-72 months.

The results of this study can be used by future researchers for developmental surveillance research for early childhood education teachers in conducting developmental surveillance on their students aged 36-48 months, 49-60 months, and 61-72 months.

References

[1] N. Collet and S. H. Eickmann, “Child development surveillance : intervention study with nurses of the,” vol. 23, no. 5, pp. 954–962, 2015, doi: 10.1590/0104-1169.0272.2636.

[2] R. Coelho, J. P. Ferreira, R. Sukiennik, and R. Halpern, “Desenvolvimento infantil em atenção primária: uma proposta de vigilância,” J. Pediatr. (Rio. J)., vol. 92, no. 5, pp. 505–511, 2016, doi: 10.1016/j.jped.2015.12.006.

[3] A. Suryawan, Practical tips for early anticipation of child development (I ed.). Kupang: IDAI cabang Nusa Tenggara Timur Indonesia, 2017.

[4] Soetjiningsih, Child Development Growth. Jakarta: EGC, 2017.

[5] Direktorat Kesehatan Departmen Kesehatan Keluarga, Guidelines for Implementation of Stimulation, Detection, and Early Intervention of Child Development at the Level of Basic Health Services. 2016.

[6] Kementerian Pendidikan Nasional, Curriculum 2013 Early Childhood Education, vol. 8, no. 33. Indonesia, 2014, p. 37.

[7] K. P. Nasional, National Standards for Early Childhood Education, no. 137. Indonesia, 2014, p. 2014.

[8] M. de F. C. Caminha, S. L. da Silva, M. de C. Lima, P. T. Á. C. C. de Azevedo, M. C. dos S. Figueira, and M. Batista Filho, “Surveillance of Child Development : An Analysis of Brazil’s Situation,” Rev. Paul. Pediatr., vol. 35, no. 1, pp. 102–109, 2017, doi: 10.1590/1984-0462/;2017;35;1;00009.

[9] P. N. P. Dita Roykhana N, Besar Tirto H, “Factors Associated with the Evaluation of the Early Detection Program for Toddler Growth and Development at Taman Posyandu at the Lamongan Health Center,” J. Kesehat. Masy., vol. 6, no. 1, pp. 724–733, 2018, [Online]. Available: http://ejournal3.undip.ac.id/index.php/jkm.

[10] A. Fadhli, Children's Health Smart Book. Yogyakarta: Pustaka Anggrek, 2010.

[11] Menteri Kesehatan Republik Indonesia, Regulation of the Minister of Health of the Republic of Indonesia Number 66 of 2014 concerning Monitoring Growth, Development and Growth and Development Disorders of Children. Indonesia, 2014, pp. 1–23.

[12] and P. D. Dennis Drotar, Terry Stancin, “Selecting developmental surveillance and screening tools,” Pediatr. Rev., vol. 29, no. 10, pp. e52-8, 2008.

[13] S. Porter, R. Qureshi, B. A. Caldwell, M. Echevarria, W. B. Dubbs, and M. W. Sullivan, “Developmental surveillance and screening practices by pediatric primary care providers,” Infants Young Child., vol. 29, no. 2, pp. 91–101, 2016, doi: 10.1097/IYC.0000000000000057.

[14] H. H. Rachmat, Strengthening public health efforts and community empowerment in the health sector in Indonesia. Yogyakarta: Gadjah Mada University Press, 2018.

[15] Menteri Kesehatan Republik Indonesia, Regulation of the Minister of Health of the Republic of Indonesia Number 25 of 2014 concerning Child Health Efforts. Indonesia, 2014.

[16] P. H. Lipkin and M. M. Macias, “Promoting Optimal Development: Identifying Infants and Young Children With Developmental Disorders Through Developmental Surveillance and Screening,” Pediatrics, vol. 145, no. 1, 2020, doi: 10.1542/peds.2019-3449.

[17] T. R. Knapp and R. O. Mueller, The Reviewer ’ s Guide to Quantitative Methods in the Social Sciences. New York and London: Routledge Taylor and Francis Group, 2010.

[18] H. Retnawati, Quantitative Analysis of Research Instruments. Yogyakarta: Parama Publishing, 2015.

[19] A. Riyanto, Health Research Methodology. Yogyakarta: Nuha Medika, 2020.

[20] Herman, Rafiek, M., Agustina, T., Saddhono, K., Malabar, S., Saputra, N., and Purba, R. Exploring the Metafunctions to Improve EFL learners’ Writing Ability in the Perspective of Systemic Functional Linguistics. Research Journal in Advanced Humanities, 4(2). 2023. DOI: https://doi.org/10.58256/rjah.v4i2.1195

[21] Hanif, A., Herman, H., Mudinillah, A., and Rahmi, P. W. L. Development of the QUIZIZZ Platform as an Interactive Quiz-Based Learning Media for Arabic Language Lessons at Madrasah IBTIDAIYAH. International Journal of Membrane Science and Technology, 2023, Vol. 10, No. 2, pp. 372-384. 2023. https://doi.org/10.15379/ijmst.v10i2.1207

[22] Purba, A., Herman, Tukiyo, Purba, R., Fatmawati, E., and Saputra, N. The effect of the online learning process and independent learning process on improving students’ achievement. Journal of Namibian Studies, 33, pp. 978–990. 2023. DOI https://doi.org/10.59670/jns.v33i.547