

# Early Reading Ability Assessment Instrument for Children Aged 5-6 Years in the Context of Early Childhood Education

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## Abstract

*The use of assessment instruments that have not been tested for validity can lead to inaccurate assessments of the early reading abilities of 5-6 year old children and result in inappropriate learning stimulation. This study aims to analyze the validity and reliability of instruments for assessing the early reading abilities of 5-6 year old children. The method used was Research and Research (R&R) with preliminary research, instrument development, and effectiveness testing stages, involving two kindergarten teachers as subjects and assessment instruments as research objects. The data collection instrument. was a non-test questionnaire used to assess the instrument's suitability. The data were analyzed using quantitative descriptive statistical analysis. The results showed a validity value of 0.2960 and a reliability value of 0.780, indicating that the instrument was valid and reliable. These findings imply the availability of an early reading assessment instrument that is suitable for use in supporting objective assessment and the development of early literacy in young children.*

**Keywords:** Early Reading, Instrument, Assessment, Early Childhood

## Article Info

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## 1. INTRODUCTION

Early childhood is the most crucial golden period in a child's development (Yang et al., 2021). During this period, children experience rapid physical, cognitive, social, and emotional growth, so the experiences and stimulation they receive will greatly influence their abilities, character, and potential in the future. One form of formal education that is crucial for early childhood is kindergarten education (Aboud & Alali, 2023). Early childhood education plays a role in optimizing children's potential, shaping positive motivation and attitudes towards learning, and preparing children to continue their education to the next level (Tajar Škaljo, 2021).

The learning process for children, especially at the early childhood education level, requires providing stimuli to support children's growth and development (Alfiah, 2023). One form of stimulation given to children is reading activities (Cuartas et al., 2023). Reading is a very important skill that is needed during school years. Reading in early childhood education is generally known as early reading (Sumarni et al., 2024). Early reading skills are understood as the ability to recognize

symbols or letter symbols and the sounds produced by those letters (Acha et al., 2023). Therefore, *Early Children Education (ECE)* teachers are expected to stimulate children with activities provided during the learning process. Every learning process always involves assessment or evaluation to determine the extent to which children have achieved the expected competencies (Munna & Kalam, 2021).

The current problem is the limited assessment instruments that can be used to measure children's abilities (Oktarina & Fatonah, 2021). The issues underlying this study were obtained from preliminary studies, which showed that early reading assessment practices in kindergartens are still not supported by standardized and tested assessment instruments. This situation limits teachers' ability to accurately and objectively assess children's early reading skills, meaning that the assessment results do not fully reflect the children's actual development. As a result, the assessment process tends to be simplistic and unsystematic, which could potentially affect the accuracy of the early reading learning evaluation. Teachers do not use standardized assessments, which are criteria regarding the scope, objectives, benefits, principles, and procedures of student outcomes used as a basis for assessment (Mustopa et al., 2021). Assessment reports compiled by teachers can include portfolios, work samples, assignments, and interactions through conversations (Widyasanti, 2021).

In overcoming these problems, instruments can be developed to assess the reading skills of children aged 5-6 years. Assessment instruments are compiled or created for teachers to make it easier to assess children's abilities and see how far students understand what is taught by educators (Prastiwi et al., 2023). Therefore, it is necessary to have instruments that teachers can use as a reference in assessing children's abilities in the classroom. The use of assessment instruments helps improve the quality of teaching by providing more accurate data to teachers regarding student development and strategies that can be used to help achieve the desired results (Brookhart S, 2020). The quality of teaching in each class depends on the quality of the assessment instruments used (Khadijeh & Amir, 2015). Thus, the development of assessment instruments is an important step in helping teachers monitor children's development more objectively (Khadijeh & Amir, 2015).

Reading assessment instruments for children are tools used by teachers to measure the extent to which children have mastered reading skills. The evaluations applied in schools generally vary, depending on the objectives and subjects being assessed (Faktur & Nomor, 2018). Early childhood is at the pre-operational stage, (Wulandari et al., 2023) children learn through observation of concrete objects and begin to describe the world around them through words, stories, and pictures. Therefore, kindergarten teacher assessment instruments are needed to observe the development of reading skills. The evaluation used in schools is adjusted to the purpose and subject matter (Nurjannah, 2023). It is often found that the assessment instruments used do not meet the required criteria, such as low validity. This is due to various factors, including limited time for analysis, the use of irrelevant sources, and the lack of updates to the assessment instruments to suit the abilities and development of children.

Although previous studies have shown that assessment instruments play an important role in helping teachers identify children's learning success (Prastiwi et al., 2023) and can be used to measure students' knowledge and understanding (Saputra et al., 2021), there is still limited research specifically developing assessment instruments to measure early reading skills in children aged 5-6 years. Most existing instruments still focus on general learning achievements, rather than specific aspects of early reading development that are appropriate for the characteristics of early childhood. Therefore, it is necessary to develop valid and reliable assessment instruments so that teachers can assess the early reading skills of 5-6 year old children more accurately. The purpose of research is to develop an assessment tool for teachers to facilitate the assessment of early reading skills in children aged 5-6 years, so that teachers can determine the extent of these children's early reading skills. Previous research shows that the use of assessment instruments helps teachers identify the level of success of children during the learning process (Prastiwi et al., 2023). Other studies also explain that assessment instruments can measure students' knowledge and understanding (Saputra, et., 2021). The assessment instrument for early reading skills for 5-6 year olds enriches the assessment instrument study developed from theories that examine the extent of early reading skills so that the developed instrument is valid and reliable. The purpose of this

## 2. METHODS

This research is classified as research development research (RDR). The procedure was carried out using the RDR. This study used a quantitative approach with a Research–Development–Research (RDR) design aimed at developing and testing the validity and reliability of an assessment instrument for early reading skills in children aged 5–6 years. The research was conducted in three stages, namely research (preliminary study) to identify the needs and problems of early reading assessment, development to compile indicators and instrument items, and research (product testing) to test the feasibility of the instrument. The research subjects consisted of two kindergarten teachers, while the research object was the early reading assessment instrument. Data collection was carried out using a non-test technique in the form of an instrument assessment questionnaire. The data obtained were analyzed using quantitative descriptive statistical analysis, including testing the validity and reliability of the instrument. Study (research), development, and product effectiveness testing (Sopacua et al., 2020). The following is the RDR model process. It can be seen in the Figure 1.

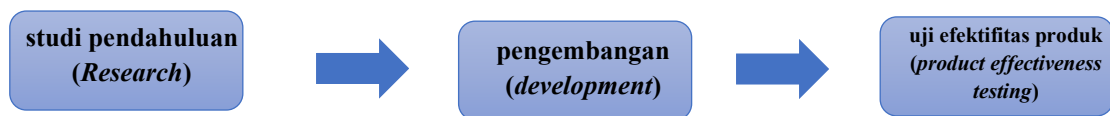


Figure 1. Stages of RDR

The subjects in this study consisted of two experts who acted as respondents, while the object of the study was the validity of the instrument for assessing early reading skills in 5-6 year old children in kindergarten. The data collection method used in this study was an instrument in a questionnaire with the aim of assessing the feasibility of the instrument for assessing early reading skills in 5-6 year olds. The feasibility of the instrument was reviewed from the aspect of content validity, which included the accuracy of the grid, the suitability of the indicators to the concept, and the integration between the instrument items and the indicators.

This instrument is designed to measure the development of children's early literacy skills, particularly in recognizing letters, syllables, words, and sentences. The aspects assessed include the child's ability to recognize and name letter symbols, pronounce letter sounds and letter combinations, arrange letters randomly or in word order, and string syllables into words and words into simple sentences. In addition, the grid also covers children's ability to place letters correctly, imitate word order, read simple sentences well, and match words with pictures. Children's interest in letter arrangement activities is also taken into account as part of the development indicators. The assessment of children's development is classified into four categories, namely Not Yet Appearing (BM), Beginning to Appear (MM), Developing as Expected (BSH), and Developing Very Well (BSB), which describe the frequency and consistency with which children demonstrate these abilities during learning activities.

The data analysis technique applied was quantitative descriptive statistical analysis. Instrument testing was conducted to determine the extent to which the instrument was suitable for use. The requirements for the research instruments tested in this study were validity and reliability tests. To test the validity of the instrument's content, the researchers used the assessments of two experts who were considered to be knowledgeable about the research variables. Instrument reliability analysis used the Percentage of Agreement formula. were assessed through validity testing of each statement item involving experts or specialists (expert judgment), then the assessment results were entered into a cross-tabulation table for analysis using the Gregory formula.

## 3. RESULT AND DISCUSSION

The research and development procedure was designed with a series of systematic steps taken by the researcher in developing the instrument, which were described in several stages. These steps were described in several interrelated stages, namely the preliminary study (research) stage, the development stage, and the product effectiveness testing stage, as follows.

*In the preliminary study stage (research)*

The Researchers collect preliminary data to obtain comprehensive information about the needs, problems, and actual conditions in the field that are related to the early reading abilities of 5-6-year-old children. This stage aims to obtain empirical data in developing instruments that suit the needs of teachers and the characteristics of early childhood. At the beginning of the observation, the researcher observed teaching and learning activities involving early reading activities, such as letter recognition, simple word pronunciation, and picture reading activities. Observations were conducted inside and outside the classroom to obtain a complete picture of how teachers teach early reading skills and how children respond to these activities. In addition to observation, the researcher also conducted in-depth interviews with teachers at school to explore information about the difficulties encountered in assessing the early reading skills of 5-6 year old children, the types of assessment instruments commonly used, and the expectations of Kindergarten X teachers regarding the ideal early reading instrument for 5-6 year old children. From the results of these observations and interviews, the researcher identified that teachers at Kindergarten X still experience difficulties in systematically assessing the early reading skills of 5-6 year old children due to the limitations of valid and practical instruments. These findings then became the basis for designing instruments that are more relevant and suitable for the needs in the field.

*Development Stage*

The researcher began designing the initial product in the form of an instrument for assessing the early reading abilities of 5-6 year old children. This stage began with the preparation of an instrument grid based on indicators of reading ability in 5-6 year old children, such as the ability to recognize letters, understand the meaning of pictures, recognize the initial sounds of words, and understand simple words. After that, the researchers compiled a non-test instrument in the form of a questionnaire designed to be used by teachers to assess early reading skills objectively. The instrument design also took into account the principles of educational measurement tool development, including clarity of language, suitability of indicators to assessment objectives, and applicability of the instrument in various learning contexts. At this stage, adjustments were also made to the instrument usage guidelines. so that kindergarten teachers could understand how to implement and assess the instrument correctly.

*Product Effectiveness Testing*

This stage aims to ensure that the developed instrument meets the criteria of content validity and is suitable for use. The initial process after designing the research instrument was for the researchers to seek expert judgment from linguists who are particularly competent in the field of early childhood education. These experts were asked to assess each item of the instrument using an expert judgment assessment sheet to evaluate and analyze each statement for content suitability to be assessed on a rating scale (1-4) by the expert. If deemed appropriate, the expert checked the valid and very valid option columns.

Based on the results of expert validation, researchers revised and refined the instrument in accordance with the input and suggestions provided by expert judgment. The revision process included improving the wording of the items, adjusting the indicators, and refining the implementation guidelines so that the assessment instrument would be easy to use by kindergarten teachers. The results of the reading assessment instrument for 5-6-year-old children from expert judgment. There were 19 statement items with values using a Likert scale, namely not yet developed (BM), beginning to emerge (MM), developing very well (BSH), and developing very well (BSB).

After analysis by expert judgment, the researchers continued with validity and reliability tests to ensure the validity of each statement item in the assessment instrument. The validity test was conducted in two B classes with 30 children aged 5-6 years. After completion, the data was tested using SPSS to determine the level of validity and reliability of each statement item in the assessment instrument. Several statement items were declared invalid based on the validity test results. Therefore, the invalid items were eliminated or discarded by the researcher, so that only valid items were used in the assessment instrument. The following are the results of the validity and reliability

tests of the assessment instrument grid for the reading skills of 5-6 year old children, which consists of 15 statements.

Based on the validity test results, the coefficient of the assessment instrument for early reading in children aged 5-6 years was very high. The validity test results for the instrument items from the trial conducted with  $N = 30$  participants. In general, it can be concluded that the instrument for assessing the early reading skills of children aged 5-6 years has met the criteria for suitability as a measuring tool. The test results show that all items in the instrument have a very good level of validity, so that each indicator used is truly capable of measuring the intended aspects of early reading skills. In addition, this instrument is also considered reliable because it has high consistency in providing measurement results. Thus, this assessment instrument is feasible and can be used reliably to assess the development of early reading skills in children aged 5-6 years in the context of early childhood education. At a significance level of 5% with a table  $r$  value of 0.2960, all 15 items of the instrument were declared valid. Furthermore, the reliability test results showed a Cronbach's Alpha value of more than 0.60, so the instrument was declared reliable. Thus, the instrument for assessing the early reading ability of 5-6-year-old children is suitable for use because it meets the criteria of validity and reliability.

Based on the results of data analysis, it can be concluded that the instrument for assessing early reading skills in children aged 5-6 years in this study is valid and reliable, because the Cronbach's alpha value is  $>0.60$ , meaning that the data is reliable. Thus, the assessment instrument designed, namely the early reading ability instrument for children aged 5-6 years, is declared suitable for use in assessing the early reading ability of children aged 5-6 years. This suitability is supported by several factors, as follows: (1) The assessment instrument for early reading skills in children aged 5-6 years is suitable for use because it meets the requirements for a valid instrument and its validity can be accounted for. According to (Marar et al., 2023), an instrument that is said to be valid is an instrument that has a high level of validity. Therefore, high validity is obtained because the early reading ability assessment instrument is designed based on theories related to early reading ability so that it is in accordance with the objectives to be achieved.

Reading skills in early childhood have different characteristics from reading skills in adults. At this stage, reading activities in children are called early reading skills, where children in the early stages associate written symbols with the corresponding sounds. These reading skills are rooted in language development, which can be fostered through a variety of communication experiences that are diverse, interactive, and meaningful for children (Viveronika & Christianti, 2020). The reading process in early childhood needs to take into account each child's level of development and characteristics (Sundberg, 2023). Early childhood is in the pre-operational phase, allowing children to begin using symbols and practicing basic logical thinking skills (Wienert, F. E. & Helmke, 2008). Based on this understanding, appropriate media and approaches are needed to foster early reading skills in children aged 5-6 years. This involves conducting appropriate assessments to determine the development of children's early reading skills.

This study is similar to those conducted by (Prastiwi et al., 2023) and (Saputra, et., 2021) in terms of the use of assessment instruments to measure children's abilities. Both studies emphasize that assessment instruments play an important role in helping teachers identify children's learning success rates and measure students' knowledge and understanding more objectively. However, previous studies have focused on assessing learning outcomes in general and have not specifically developed instruments to measure early reading skills in young children. This is in line with the principles of assessment in early childhood education which emphasize objectivity, accuracy, and meaningfulness of assessment results as a basis for designing follow-up learning that is appropriate to the needs and development of children (Zahroh et al., 2024).

The main difference in this study lies in its focus on developing an assessment instrument for early reading skills for children aged 5-6 years, which was designed based on the theory of early childhood literacy development. The instrument developed in this study has also undergone validity and reliability tests, with validity test results of 0.2960 and reliability of 0.780, indicating that this instrument is suitable for use in the context of early childhood education. This is in contrast to previous studies that have not reported detailed validity and reliability tests for the instruments used.

The justification for selecting the instrument in this study was based on the need for early childhood education teachers to have a practical assessment tool that is appropriate for children's developmental characteristics and can provide accurate data on children's early reading skills. The application of the RDR (Research-Development-Research) model in this study provides a strong foundation for developing an assessment instrument for early reading skills in children aged 5–6 years that is relevant to field needs. In the initial research phase, findings indicated that early reading instruction practices in early childhood education (PAUD) have been routine, but have not been accompanied by the use of systematic and standardized assessment instruments. Teachers tend to assess children's early reading skills based on general observations without clear indicators, resulting in subjective and inconsistent assessment results. This condition aligns with research stating that limited assessment instruments often hinder PAUD teachers in monitoring children's early literacy development objectively and continuously. (Kumar, 2024).

The results of the initial research phase also revealed that teachers experienced difficulty in determining children's early reading developmental milestones because the available instruments did not fully align with the developmental characteristics of early childhood. In fact, early literacy in early childhood differs from reading skills at elementary school age, as children are still in the early stages of connecting written symbols with sounds and meanings (Viveronika & Christianti, 2020). Therefore, early reading assessments must be designed contextually, authentically, and based on child development. These findings strengthen the argument that developing early reading assessment instruments is an urgent need in the context of early childhood education.

Based on these findings, the development phase focused on developing assessment instruments based on early childhood literacy development theory and indicators of early reading ability in children aged 5–6 years. The indicators developed included letter recognition, understanding the meaning of pictures, recognizing initial sounds of words, and understanding simple words. This instrument development process aligns with the view that good assessments must align learning objectives, developmental indicators, and assessment techniques (Affandi & Dini, 2021). Furthermore, the use of non-test instruments in the form of questionnaires is considered more appropriate for Early Childhood Education (ECE) because it allows teachers to conduct assessments naturally within the context of everyday learning (Yustiana & Kusumadewi, 2020).

During the development stage, attention to language clarity, indicator suitability, and the development of instrument usage guidelines are crucial aspects that strengthen the instrument's usability. This aligns with the principles of Early Childhood Education (ECE) assessment, which emphasize that assessment instruments must be easy for teachers to use and not disrupt children's play and learning (Hook., 2018). With clear guidelines, teachers can conduct assessments more consistently and objectively, allowing the results to be used as a basis for planning further learning that is tailored to the individual needs of children.

In the final research stage, the developed instrument was tested through expert validation and empirical testing to ensure measurement quality. Expert validation results indicated that most of the instrument items aligned with the early reading ability indicators for children aged 5–6, although some items needed to be revised or eliminated. This process demonstrates that instrument development is a reflective and ongoing process, as emphasized by (Mohammed & Khaleel, 2024) that instrument validity is a primary prerequisite for scientifically reliable measurement results. The results of the validity and reliability tests indicate that the instrument has a good level of validity and high reliability, as indicated by a calculated  $r$  value greater than the table  $r$  and a Cronbach's Alpha value above 0.60. These findings indicate that the instrument is capable of consistently and accurately measuring children's early reading abilities. This consistency is crucial in the context of early childhood education (ECE), as child development assessments must be able to capture gradual developmental changes while maintaining stability across the same indicator (Chambers, 2000).

Overall, the results of this study align with previous research emphasizing the importance of valid and reliable assessment instruments in supporting data-driven learning practices in ECE (Prastiwi et al., 2023). The main difference between this study and previous research lies in the focus on developing an instrument specifically designed to measure the early reading skills of children aged 5–6 years. This instrument has undergone a systematic validation and reliability testing process.

Therefore, the instrument developed in this study serves not only as a measuring tool but also as a pedagogical guide for teachers in understanding and stimulating children's early literacy development.

The implications of these findings indicate that the early reading ability assessment instrument developed using the RDR model can be used as an aid for early childhood education (PAUD) teachers in conducting objective, accurate, and continuous assessments of child development. Furthermore, this instrument can also serve as a reference for the development of other assessment instruments in PAUD, particularly in the area of early literacy. With the support of a valid and reliable instrument, teachers are expected to be able to design learning that is more responsive to children's needs and development, thereby making the early literacy learning process more meaningful and effective.

#### 4. CONCLUSION

This study successfully developed a valid and reliable assessment instrument for the early reading skills of 5-6 year old children. Through the Research, Development, and Product Effectiveness Testing (RDR) stages, an instrument with 15 statements that met the eligibility criteria was obtained. The validity test results showed a correlation value of 0.2960 and reliability with Cronbach's Alpha of 0.780, indicating that this instrument is suitable for use in assessing the early reading skills of early childhood. This instrument was designed based on theories of child development and early reading processes, so that it can provide an objective picture of children's abilities in recognizing letters, sounds, syllables, and simple words. Thus, this instrument can be an effective tool for early childhood teachers in assessing children's early literacy development as well as a reference in developing other assessment instruments in the field of early childhood education. The limitation of this study is that the instrument can only be used to assess early reading skills in children aged 5–6 years, so further research is needed to develop assessment instruments for a wider range of aspects and ages

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