Early Literacy Assessment among Kindergarten Teachers in Indonesia: A Phenomenological Study

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Abstract: The study aims to identify how kindergarten teachers perform early literacy assessments in the classroom and the challenges these teachers have in performing such assessments. During the study, the data were gathered through an in-depth interview in the form of a forum group discussion (FGD). Then, the phenomenological data were attained from 30 public and private Kindergarten teachers. The researchers could illustrate how these kindergarten teachers assessed their children's early literacy through these data. Furthermore, the study results show that the teachers' literacy knowledge has been sufficient and that the literacy programs for the children have been variously designed in each school. The teachers' techniques in performing the early literacy assessment are observation and documentation (portfolio), and the measurement of literacy skills itself refers to the scope of literacy. Concerning the findings, numerous obstacles and expectations that kindergarten teachers have are also discussed within the study.

Keywords: *Early literacy assessment, kindergarten teachers, phenomenology.*

Introduction

Reading is one of the essential skills that children should master (Burke et al., 2009; Coyne & Harn, 2006). Concerning the statement, the results from several studies show that reading skills that children master will impact their future success rate. For example, children who are still unable to read well until the end of the first grade can become poor readers by the time they make it to the fourth grade (Badian, 1982; Burke & Hagan-Burke, 2007; Solari, 2014). In addition, the results from other studies show that the poor reading skills of children have been associated with social problems in the future, such as dropouts, ditches, mischief, adolescent pregnancy, legal cases, and drug abuse (Fricke et al., 2016; McGill-Franzen, 1987; Pan et al., 2017). Then, reading failure in children often occurs in families with low socio-economic backgrounds (Bowey, 1995; Davis-kean, 2005). Departing from the explanation, early childhood education programs can serve as institutional education that prevents reading inability among children with low social and economic status. Reading failure in the future thus can be prevented by performing screening in the form of assessment in the school, performing normative monitoring, and providing early intervention to the children at risk (Carta et al., 2015; Coyne & Harn, 2006). Therefore, teachers should implement the prevention-oriented approach by performing valid early literacy assessments (Invernizzi et al., 2004; Justice et al., 2002; Lonigan et al., 2011). However, it is necessary to know what efforts are being made by teachers to measure early literacy in children in kindergartens. For this reason, it is necessary to examine the efforts made by teachers to assess children's early literacy and the obstacles and expectations that teachers want in assessing appropriate literacy and providing children's success.

Literature Review

Literacy refers to all activities involved in speaking, listening, reading, writing, and appreciating oral and written language (Inbar-Lourie, 2017). Similarly, literacy is the skills to identify, understand, interpret, communicate, calculate,

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and use written and printer materials in numerous contexts (Pinto et al., 2012; Zygouris, 2001). The two definitions are later revised in line with the national and international needs based on the different theoretical perspectives; thus, as an alternative, literacy can also be defined as the capacity for self-confidence in using language in all forms (Birgisdottir et al., 2020).

Early literacy is the initial literacy period before entering the conventional period. Early literacy skills develop during preschool, such as alphabetical insight, phonological awareness, letter writing, written language knowledge, and oral language (Cummings et al., 2011; Piasta & Wagner, 2010). Early literacy skills are sometimes known as "emerging" skills, "precursor" skills, "fundamental" skills, or "predictive" skills to differentiate these literacy skills from the more traditional skills such as decoding, oral reading, fluency, and reading material understanding, writing, and pronunciation.

The children's early literacy skills are shown through several types of knowledge, namely alphabet and written language conceptual knowledge (van Tilborg et al., 2014). Besides that, Four other aspects play a significant role in early literacy, and these skills are (a) quick automatic naming, which refers to the skill of naming an object quickly through the random sequence of letters, numbers, objects, or colors; (b) reading understanding, which refers to the skills of understanding or attaining meaning from texts; (c) syllable, which refers to the parts of the words that contain vocal or, in vocalized sound, vowel (e.g., the sound of /u/ in ugly); and (d) visual processing, which refers to the skills of matching or discerning the symbols that have been visually presented.

Some of the previously mentioned skills become the most robust predictors in defining child literacy achievement in the future (Adams et al., 2012; van Tilborg et al., 2014). In a more specific manner, these skills will define the children's ability to (a) identify the name of the printed letters; (b) identify the sounds associated with the printed letters; (c) identify that a single word can be broken down into several syllables (e.g., the word watermelon can be divided into /wa/ /ter/ /me/ /lon/); (d) identifying that a new word can be created only by altering the phoneme of the given the word; (e) naming the sequence of letters, numbers, objects, or colors quickly; (f) writing down their name quickly; (g) being able to imitate the letters that they have seen; (h) being able to memorize the content of the oral language; (i) being able to memorize simple instructions such as the steps of doing an assignment that a teacher has given; and (j) being able to memorize the preliminary part of a story in order to understand the next part of the given story. In the meantime, some of the skills that have been mentioned in the previous paragraph serve as moderate predictors, and these predictors are related to the ability to: (a) use textbooks or other printed materials; (b) be able to recognize and identify oral language within the given environment; (c) understanding how to express concepts, thoughts, and ideas into the words that should be uttered; (d) understanding other people when they are speaking; and (e) being able to observe the similarities and differences among the visual symbols such as capital letters, lowercase letters, and other signs that have been found in the surrounding area of the children.

According to Morrow (2014), early literacy assessment is divided into several types: authentic assessment, running notes and informal inventory, formal reading inventory, portfolio assessment, and standardized tests. The types of assessments are complementary. Following the principle of assessment for early childhood, the assessment must be comprehensive. Comprehensive means that children's assessments are obtained from various sources and complement each other to be used as a basis for decision-making by teachers. In addition, the assessments must align with the instructional objectives and consider best practices for holistic child development. Assessments that align with instructional objectives and function to improve the quality of learning are called formative assessments. Formative assessment also improves children's learning during learning, focusing on particular knowledge and skills, and teachers or children use the results.

Kindergarten teachers in formative assessment play a crucial role. Kindergarten teachers or early childhood education teachers are teachers, tutors, assistant teachers, accompanying tutors, youth assistant teachers, young mentor tutors, and caregivers in early childhood education units who are tasked with planning, implementing the learning process, and assessing learning outcomes, as well as conducting guidance, care, and protection of students (Education and Culture Minister Regulation, 2014). Kindergarten teacher competencies include four: pedagogic, personality, social, and professional (Indonesian Ministry of Education, 2014). The ability of teachers to conduct assessments is included in pedagogic competence. Competence to conduct assessments includes; being able to organize and make assessment reports, evaluation of processes, and learning outcomes of early childhood; able to determine the target scope of the assessment process and learning outcomes in early childhood; able to use the results of the assessment, development, and evaluation of programs for the benefit of early childhood development; and able to take reflective, corrective, and innovative actions in improving the quality of processes and outcomes of early childhood development.

The teacher's role in formative assessment is reflected in each step of the formative assessment. The stages of formative assessment that kindergarten teachers can do are setting targets, collecting evidence, providing feedback, and fixing targets again (McMillan, 2017; Morrow, 2014). First, setting clear learning targets. The literacy assessment given to children must refer to specific learning targets. For this reason, the teacher must first set learning objectives. Second, collect evidence of children's knowledge, understanding, and skills to identify the child's condition as the next stage. Data were collected in the form of observations of several types of assessments. Third, the teacher provides

feedback according to the needs of the child. At the time of feedback, the teacher supports and strengthens the child's knowledge and corrects and corrects the child's misunderstandings that are adapted to learning. The teacher then uses the teacher's findings in the second and third stages to improve learning to make changes in learning targets. Target improvement is the fourth stage. And so on until the same teaching will not be repeated and the child's skills improve.

Departing from these situations, the children's early literacy skills that become their predictors in the traditional literacy skills should be seriously screened by the teachers so that they can devise the appropriate instructional strategies within the learning process. This statement implies that teachers play a significant role in children's early literacy assessment. Thus, through this qualitative study, the researchers would like to describe the knowledge of the kindergarten teachers with their belief toward the importance of early literacy skills for the future of the children and the efforts that these teachers have pursued in performing the early literacy assessment for the children (D. Gullo, 2005; D. F. Gullo, 2005; Harlaar et al., 2008; Thompson, 2020). Specifically, the present study's objective is to describe these teachers' perspectives on early literacy and the early literacy assessment in light of the efforts they have pursued up to date. To support this idea, the researchers would like to propose three research questions as follows:

1. What do the teachers' perspectives on literacy?

2. How do the teachers perform the early literacy assessment for their children?

3. What are the obstacles that kindergarten teachers have found in performing the early literacy skills for the children?

Methodology

Research Design

The method that was adopted in the study was phenomenology. The researchers adopted phenomenology to understand and describe the phenomena of the kindergarten teachers' experiences performing literacy assessments on their children. The basis of phenomenology itself lies in the reduction of the individual experiences with the phenomena that become the universal essence of the description (Moustakas, 1994). Then, in the study context, phenomenology was adopted to identify how kindergarten teachers perform the early literacy assessment for their children.

Sample and Data Collection

A phenomenological study demands the involvement of a homogenous group of participants. Therefore, the participants selected for a phenomenological study should have significant and meaningful experiences concerning the phenomena under investigation (Moustakas, 1994). Therefore, within the study, the participants selected were teachers who had been teaching in either public or private kindergartens for more than five years. Then, the specific criteria of selection were as follows: (a) the selected participant should have attended the teacher training program by 2021; (b) the selected participant should have been teaching for more than five years, and (c) the selected participant should have attended several training programs that support their competencies. After the criteria for the sample selection, or the participant selection, had been defined, the researchers implemented the purposive sampling technique based on the given criteria. In gathering the samples, the researchers observed the synchronous discussion on the learning materials and the learning process and in-depth interviews with teachers and school principals. On this occasion, the teachers discussed literacy and how they would perform the early literacy assessment for their children. In order to elicit the findings, the researchers distributed a questionnaire to the teachers who attended the Focus Group Interview (FGI) so that the researchers would have complementary data. During the FGI, researchers ensured that the participants compiled all data that had been classified. At the same time, the researchers also ensured the participants that the identity of the teachers had been coded. The phenomenological data were collected from an average of 30 female kindergarten teachers who were 33 years old. These teachers served their kindergarten institutions based on government funds for public kindergartens and student tuition for private kindergartens.

Data Gathering Method: The phenomenological interview model was chosen to collect data through in-depth interviews (Yuksel-Arslan et al., 2016). Data collection was carried out for two days. The first interview, in the form of FGI, lasted for 120 minutes. During the interview, the researcher asked several questions about the teacher's views on children's literacy, how they carried out literacy assessments for children, their efforts to foster literacy in children, to the obstacles faced when conducting assessments for children. In addition to the phenomenological interview model, the researchers also distributed questionnaires. In distributing this questionnaire, each participant was asked to fill out a questionnaire containing his name, age, year of service, name of Kindergarten, type of Kindergarten (public/private), contact number, training attendance status, and the name of the training program he had attended. The results of the interviews and FGI were recorded and then transcribed. At the same time, instructional design documentation and initial literacy assessment were also collected through the observation form.

Instruments: The data gathering instruments implemented in the study were: pre-interview, phenomenological interview, and focused group interview. The researchers developed all instruments and verified them with two experts

before conducting the data-gathering activities. These experts were from the Department of Early Childhood Education and the Department of Educational Evaluation.

Pre-Interview: The pre-interview activities were performed to select the samples or the participants. The researchers developed the questions for pre-interview activities focusing on the participant's willingness to participate in the study.

Phenomenological Interview: The phenomenological interview served as the primary data-gathering method within the study. Seven questions dealt with the teachers' literacy knowledge, the way that the teachers performed the early literacy assessment of their children, the obstacles that the teachers dealt with during the assessment, and the expectation of the teachers toward the early literacy assessment of their children. These questions were included in the study as Appendix A.

Focused Group Interview: The participants discussed their study perceptions at the end of the data-gathering activities. During this interview, the researchers recorded the teachers' opinions under their permission to attain detailed data for the study triangulation.

Analyzing of Data

The data in the phenomenological study were analyzed using the data analysis model proposed by Moustakas (1994). The general procedures of the data analysis consisted of three stages; (a) phenomenological reduction, (b) imagination variation, and (c) essence. The stage of phenomenological reduction consists of several steps. The first step was to list all the relevant expressions. In this step, the researchers listed all the statements, and all these statements had equal value. When the statements were irrelevant, repetitive, or overlapping with the study's phenomena, the researchers should drop these statements. Then, the existing data were coded and later described in the meaning of the texture-composing phenomena. Then, in the second step, the researchers sorted both the fixed and changing statements to view the consistency of the statements from the participants. Through the second step, the researchers categorized the codes into several themes. Afterward, these data were broken down into several units of meaning so that one code would have a single meaning. Next, in the third step, the researchers categorized several codes into the main themes of the statement.

Furthermore, in the fourth step, the researchers compared several data sources to validate the consistency of the statements. In this regard, the themes reported from the interviews were compared to the assessment documents attached to the observation form. In the meantime, still in this regard, the focused group discussion ensured apparent accuracy and representation from all data sources. Last but not least, in the fifth step, the researchers described the individual texture of the participants. In light of the statement, texture description referred to the narrative that explained the samples' perception of the given phenomena. The researchers created the texture description, defined it as the experience of the samples, used the interview transcriptions through verbalization, and explained the units of meaning in the narrative format to understand what the teachers had comprehended.

Moving forward, the stage of imagination variation consists of several steps. As the first step, the researchers created the individual structural description of the participants. In this step, the researchers imagined how an experienced had taken place and then created the structure of the experience. In other words, the researchers created the texture description and inserted the texture description into the structural description to explain how the experience had taken place. Then, the researchers constructed the composite (combined) structural description in the second step. The combination process from numerous individual structures became the units of shared meaning and reflected the participants' overall experiences. The experiences' general feature explained the importance of performing the early literacy assessment for the children.

Eventually, the researchers synthesized the texture and structure into the expression within the essence stage. The objective of this stage was to define the essence of the experiences. Therefore, the researchers created two narrations that consisted of textural description and structural description, assigned the unit of meaning by coding the responses from each sample or participant, and defined the unit of ordinary meaning from the list of the unit of meaning; in sum, there were seven units of composite meanings that the samples or the participants had (Table 1).

Validity: The validity of the qualitative study referred to the trustworthiness of the data interview. Concerning the statement, the researchers should perform several steps to ensure the validity of the results within the study. First, the researchers were involved in the bracketing (epoch) process. The process was implemented to avoid personal assessment within the study (Ashworth, 1999). Second, the researchers performed the member-checking process utilizing their interview transcription to verify their understanding of the researchers (Ashworth, 1999; Hiapa & Danso, 2020; Yuksel-Arslan et al., 2016). Thus, the interview transcription in MS Word files was sent to the participants to be checked. During such a horizontalization process, the researchers sent the codes back to the participants as the researcher collaborators after the participants had deleted the irrelevant information. Third, the researchers made statements of subjectivity, including prejudice and the belief in how the teachers performed the early literacy assessment on the children. The statements of subjectivity were written before the data analysis; consequently, the assessment made by the researchers might change after the analysis process with the involvement of the in-depth data

of participants' experiences (Yuksel-Arslan et al., 2016). Fourth, or the last step, the researchers held the focused group interview and the assessment planning document checking to verify the data.

Findings / Results

1. The Importance and Usefulness of Literacy for Children's Lives

Referring to the teachers' perception as the participants in the study, the teachers have conceptually understood the appropriate definition of literacy. According to their perception, the direction of literacy leads toward the reading and writing skills of the children.

"(Literacy refers to) the ability of the children in reading symbols and writing. In this regard, the children already understand the given shape and picture." (R1, vi)

"(Literacy refers to) the ability to read, write, count, and communicate with other people. In this regard, literacy is related to the children's understanding toward what other people (their relatives) have said." (R7, vi)

Some teachers consider literacy as a form of literacy expansion dealing with the needs of each state. It is done through the definition of literacy itself.

"(Literacy is) a set of skills that refer to the individual skills in reading, writing, speaking, counting, and solving problems on a certain level of expertise. Literacy deals not only with merely writing letters; there should also be numeric literacy and literacy on the symbol and figure reading." (R3, vi)

According to the teachers, such literacy skills are necessary for children to solve numerous problems in daily life. The children's inability to translate numerous directions that they do not understand makes them considered to be illiterate.

"The concept of reading, writing, and counting can be implemented into the context of daily life, such as viewing the picture of someone throwing garbage into a bin and not turning on the lights during broad daylight. However, sometimes we forget to do that, which makes us illiterate." (R11, vi)

From such teacher perception, it can be concluded that literacy is essential and has been functionally helpful for children in solving numerous problems in their life. In terms of skills, these literacy skills include listening, speaking, reading, and writing. Such fundamental skills in literacy can be used for all life aspects, namely numerical literacy, reading literacy, and alike.

Table 1. Results of Conceptual Items

Conceptual Items	Results
Definition of Literacy	Literacy refers to the language skills that consist of listening, speaking, reading, and writing skills (reading symbols and writings) that are necessary for attaining and providing information and solving problems within daily life.
Literacy Program	A literacy program refers to a program of reading books and telling stories. The storytelling activities are performed through numerous visits to the production places around the Kindergarten, such as carpentry, soya bean factory, tailors, radio stations, etc.
Facilities for Supporting Literacy	The facilities that support literacy may include a reading corner, numerous books and magazines available in classrooms, children's stories from the public educational radio station, and a mobile library.
Literacy Assessment Method or Technique	The literacy assessment method or technique may consist of observation (in the form of anecdotal notes), portfolio analysis, and artwork analysis based on the objectives and the indicators of children's developmental achievement.
Assessment Results Analysis	The data are categorized into four categories, namely, not develop (ND), start developing (SD), developing under expectation (DUE), and developing very well (DVW). The teachers' references of the category are made regarding the curriculum.
Teachers' Obstacles in Performing Assessment	Since the children have different sets of skills, the observation process is performed directly with the massive number of children and the support of the parents.
Teachers Expectation	A standardized and teacher-friendly assessment tool is expected to be available to measure the children's literacy skills.

2. Child Literacy Activities

Based on the participant's experience, the essence of literacy has encouraged them to perform numerous literacy activities that help the children develop their literacy. The activities of reading books together are the main activity that becomes the target of the literacy program for the students; consequently, numerous methods for introducing reading materials to the children, such as series of picture cards, procurement of numerous story books, and procurement of

numerous magazines have been facilitated by the teachers in the classroom.

"As far as we can remember, in our school, the children are invited to listen to the teachers who read aloud some stories before the main activities. As the teachers read aloud, the children listen to them." (R17, vi)

"In addition to the children's main activity in our classroom, we also prepare reading corners complete with the books. Some books are equipped with pictures and are very suitable for little toddlers." (R3, vi)

"We make serial picture cards and procure many textbooks and magazines in the classroom." (R15, vi)

"We also find the government's involvement within the procurement of the textbooks for the children through the mobile library units that target the schools and the educational radio facilities that contain stories for children." (R7, vi)

"Every once in two weeks, a mobile library unit comes to our school, and the children are allowed to read the textbooks available for the mobile library unit." (R25, vi)

"In our school, we use the radio broadcasts from the Ministry that contain several stories. Then, we share these stories with the children and, afterward, ask them to tell the stories they have listened to." (R26, vi)

The portion of the literacy activities performed and the methods implemented are also various concerning the development of the literacy activities and the establishment of oral language among the children through the storytelling activities.

"In our institution, we implement the storytelling activities once every two weeks. We do these before the main activities." (R4, vi)

"Every Saturday, the children are invited to meet the nearby carpenters, and then they are asked to mention the tools they found in the workshop (R23, vi). Afterward, the children are asked to go outside to the surrounding environment and later to find the items they see in nature, such as pebbles and rocks. When they have done finding these items, the children are asked to make numbers from these items." (R24, vi)

"... Then, we often invite the children to meet the tailors and to visit the nearby soybean factory." (R25, vi)

"... Indeed, we visit 'Dolanan Anak' (lit. Children Toys) Private Radio Station. In the radio station, the children come forward to read and tell stories that lead to the communication device as the main theme." (R7, vi)

The teachers also tell several other activities that have been performed to stimulate the oral language for the child's literacy development. Examples of these activities are free drawing and construction playing.

"The children are invited to discuss pictures drawn through free drawing activities. Afterward, they are invited to build towers with blocks, and then they are asked to tell the stories about their towers." (R16, vi)

The kindergarten teachers' literacy programs are dominant in reading books and telling stories. The storytelling activities are performed through visitations to the business venues nearby the kindergartens. Such activities are beneficial for assisting the children in attaining both written and oral information. At the same time, these activities can also be contemplated as something that delivers new information to other people.

3. Literacy Assessment Made by the Teacher

During the process, the teachers measure the children's literacy skills regarding the activities performed. In this regard, observation has become the primary method teachers use to check children's literacy skills through the activities that the teachers have intentionally designed to develop their literacy.

"The instrument that has been used for assessing the literacy of the children is observation. Through observation, we invite the children to have conversations under the format of technical assessment." (R21, vi)

"When the children are invited to take a walk, they can tell what they have seen." (R16, vi)

"(We) measure (the literacy of the children) through certain activities. For example, an object is displayed to the children. So that they can talk about the object with their perception." (R3, vi)

"(We) measure (the literacy of the children) by inviting them to play some games, and afterward we observe how the children understand the game activities that they have played." (R13, vi)

Teachers have also developed assessment tools to measure the children's early literacy mastery.

"With the assessment or instrument tools that the teachers have already had, for example, the teachers can define whether the children have been able to read well or have just learned about letters. The main point is that the teachers assess the children using the assessment instruments." (R19, vi)

In addition to observation, the participants also used other techniques to measure the children's literacy skills. For example, they use portfolios and artwork of the children. They put the portfolio and the artwork into the children's

developmental rubric, which consists of four categories; not develop (ND), start developing (SD), developing under expectation (DUE), and developing very well (DVW). This form of teacher assessment is available in Appendix B.

"The literacy assessment is available in the form of the children's portfolio and artwork." (R20, vi)

"... up to date, the reference of the assessment still consists of Not Develop (ND), Start Developing (SD), Developing Under Expectation (DUE), and Developing Very Well (DVW). These categories ease us to ...." (R18, vi)

4. Early Literacy Indicators in Children Refer to the Curriculum

The indicators of literacy skills among the children are apparent from their skills in identifying letters, being able to do storytelling, mentioning a particular voice or sound, and identifying the function of an object.

"When the children are taught about letter introduction employing learning media and when asked to mention the letters, they already memorize the letters, and they can mention the name of the letters right." (R17, vi)

"In terms of language, the children have been able to mention certain voices/sounds such as the cat voice, the dog voice, the sound of a passing car, the sound of a passing airplane, and the sound of a train." (R6, vi)

"When an object is displayed before the children, they understand it well and can mention it appropriately. At the same time, when numbers are displayed before the children, they can mention the numbers well. These activities aim to understand the children." (R18, vi)

Despite the above achievements, the participants still suffer from certain obstacles in measuring literacy, especially in the benchmark of child literacy development. The reason is that literacy development differs from child to child.

"Indeed, we have some difficulties since the development of the children is different from one to another. Some children are fast-response while the others are slow-response." (R20, vi)

"Sometimes, there are some things that make us difficult to use the different assessment tools in different situations. For example, when we use observation as our assessment tool, we should develop child literacy, which can be a peculiar obstacle for us. A similar situation also applies when we have to assess the students' artwork; we have obstacles in dealing with this situation. These situations are indeed our challenges in assessing the children's literacy because, up to date, we still rely on the use of ND, SD, DUE, and DVW. These categories facilitate us in assessing literacy, but we still have to deal with the obstacles in assessing child literacy development." (R18, vi)

In addition to the obstacles in designing the children's literacy assessment tools, the teachers also suffer in assessing them during their literacy progress.

"... (we have) difficulties because we do not see the process directly ... but we only see the picture / the artwork. How should we assess the literacy of the children then?" (R19, vi)

The teachers use the assessment implemented for measuring the children's literacy to design the learning instructions in the classroom. The reason is that the teachers refer to the assessment of the learning objectives presented as developmental achievement indicators, which can be found in the early childhood education curriculum. The early childhood education curriculum that contains the aspects of children's development is available in Appendix C.

"There are certain objectives in assessing the literacy of the children. Departing from these objectives, we can view the children's developmental achievement indicators and identify how far the children have developed." (R12, vi)

"(These indicators) can serve as the feedback for the follow up in the future with regards to what the children would like to be after having viewed their development." (R15, vi)

"(These indicators) serve as the basis for all aspects of formality assessment. Afterward, we got the results that serve as the benchmark for defining the subsequent activities. For example, when the children have been able to imitate letter shapes, we can teach them to compose words." (R22, vi)

Discussion

Based on the data, the kindergarten teacher's literacy knowledge is correct. Literacy is said to be the ability to listen, speak, read and write. This view follows the opinion of Inbar-Lourie (2017) that literacy is an activity of spoken and written language. Teachers also already know that literacy is helpful for their lives. According to this opinion, literacy is needed to communicate and solve problems in life (Birgisdottir et al., 2020).

The efforts of the teachers in supporting and stimulating the children have been the principal capital in assisting child literacy development (Gallant & Moore, 2008; Oncu & Unluer, 2015; Vezzosi, 2006). This statement follows the facts obtained in the research, and the data shows that the efforts of the teachers in providing literacy activities for children have been carried out in various forms. Teachers have tried to improve learning with various literacy activities. This effort is supported by the teacher's understanding of the importance of literacy for the future development of children. However, literacy activities at home need to be increased because families play an essential role in building literacy in

children. The teacher's opinion about the involvement of parents is to help boost children's literacy. It is because the original roots of literacy are in the family (Gilkerson et al., 2017; Harlaar et al., 2008; Morrow, 2014; Weigel et al., 2017).

The development of the assessment that the teachers have performed for the literacy of the children is pursued by categorizing the children into not developing (ND), start developing (SD), developing under expectation (DUE), and developing very well (DVW). The data for the four categories are attained through observation, portfolio analysis, and the children's artwork. The teachers' efforts in processing the observation results within the assessment of the child's literacy have been reasonable, following McMillan's (2017) opinion that observation is used to assess children's development, especially in literacy. Teachers in assessing early literacy use formative assessment. The type of assessment used by the teacher is still too general, not under Morrow's (2014) opinion, which explains that the types of literacy assessment for children include running notes and informal inventory, formal reading inventory, and standardized tests. To make decisions, teachers need to strive for the data obtained to be comprehensive and from various types of assessments. In addition, informal assessments in the form of anecdotal notes, checklists, and portfolios that teachers often use have many shortcomings. Following the teacher's opinion regarding the assessment they make. For example, the standards of the four categories might be different from one teacher to another. The difference thus results in the different standards that later define the different qualities of kindergarten graduates. As a result, at the national level, teachers have difficulties in determining and assuring the achievement of the literacy development that the children have mastered. This finding is in line with the problems of the teachers in developing the learning assessment. In light of this finding, the researchers suggest that the teachers consider the obstacles in measuring since there should be an assessment tool that measures the children's overall literacy skills. As a result, the target of early literacy development is not only the letters but also the other activities that help the children to elicit their literacy skills (Invernizzi et al., 2004; Justice et al., 2002; Lonigan et al., 1998; Purpura et al., 2011).

The initial literacy indicator used by the teacher refers to the curriculum. Teachers use this standard to develop informal assessments for children. The stages of formative assessment used by the teacher are appropriate. The first stage in determining the objectives refers to the curriculum. The second stage is collecting data from observations, anecdotal notes, and checklists. In the third stage, in providing feedback, the teacher does not appear to have carried out a feedback process per the data obtained. The form of informal assessment used by teachers is minimal and varied, which is a factor that can make it difficult for teachers to make decisions in providing feedback. At the same time, feedback in formative assessment used by teachers improves learning and the quality of teaching (McMillan, 2017).

Conclusion

Kindergarten teacher literacy knowledge is sufficient about the actual concept of literacy. Teachers have also made efforts to support children's literacy in various forms of exciting literacy activities for children. The way teachers conduct child literacy assessments has been carried out in the form of informal formative assessments. However, the assessment has not effectively improved the quality of learning because the teacher has not provided effective feedback. This constraint was caused by the fact that the collected data had not been comprehensively obtained, especially on the overly general data collection tool obtained from the teacher.

Recommendations

Teachers need a proper early literacy assessment tool to measure children's early literacy skills and immediately address children's literacy problems as early as possible. Formal literacy assessments are needed to complement the informal assessments teachers in schools have carried out. For this reason, it is necessary to develop an initial literacy assessment that teachers can use practically and allows for the use of technology in assessments for children. It is also necessary to investigate further whether the assessment used by the teacher can be a benchmark to see the progress of children's literacy from time to time. The most important thing that needs attention is whether the assessment for children can improve the teacher's learning instructions, like the function of formative assessment, which is essential to improve the learning process so that children experience academic progress.

Limitations

This study only interviewed teachers and schools without considering the opinions of children and parents. Direct observations to observe the process of implementing the assessment were also not carried out, considering the location of the schools that were spread out made it difficult for researchers to observe the learning process directly.

Authorship Contribution Statement

Christianti: Conceptualization, design, analysis, writing. Retnowati: Editing/reviewing, supervision. Wening: Critical revision of manuscript. Hasan: Editing/reviewing, final approval. Retnawati: Statistical analysis, data analysis/interpretation.

References

Adams, G., Cathers, S., Swezey, J., & Haskins, T. (2012). Response to "dynamic indicators of basic early literacy skills (DIBELS)" by Kamii and Manning. *Journal of Research in Childhood Education*, *26*(4), 427–434. https://doi.org/10.1080/02568543.2012.711801

Ashworth, P. (1999). "Bracketing" in phenomenology: Renouncing assumptions in hearing about student cheating. *International Journal of Qualitative Studies in Education*, *12*(6), 707–721. https://doi.org/10.1080/095183999235845

Badian, N. A. (1982). The prediction of good and poor reading before kindergarten entry: A 4-year follow-up. *Journal of Special Education*, *16*(3), 309–318. https://doi.org/10.1177/002246698201600306

Birgisdottir, F., Gestsdottir, S., & Geldhof, G. J. (2020). Early predictors of first and fourth grade reading and math: The role of self-regulation and early literacy skills. *Early Childhood Research Quarterly*, *53*, 507–519. https://doi.org/10.1016/j.ecresq.2020.05.001

Bowey, J. A. (1995). Socio-economic status differences in preschool phonological sensitivity and first-grade reading achievement. *Journal of Educational Psychology*, *87*(3), 476–487. https://doi.org/10.1037/0022-0663.87.3.476

Burke, M. D., & Hagan-Burke, S. (2007). Concurrent criterion-related validity of early literacy indicators for middle of first grade. *Assessment for Effective Intervention*, *32*(2), 66–77. https://doi.org/10.1177/15345084070320020401

Burke, M. D., Hagan-Burke, S., Kwok, O., & Parker, R. (2009). Predictive validity of early literacy indicators from the middle of Kindergarten to second grade gnet. *Journal of Special Education*, *42*(4), 209–226. https://doi.org/10.1177/0022466907313347

Carta, J. J., Greenwood, C. R., Atwater, J., McConnell, S. R., Goldstein, H., & Kaminski, R. A. (2015). Identifying preschool children for higher tiers of language and early literacy instruction within a response to intervention framework. *Journal of Early Intervention*, *36*(4), 281–291. https://doi.org/10.1177/1053815115579937

Coyne, M. D., & Harn, B. A. (2006). Promoting beginning reading success through meaningful assessment of early literacy skills. *Psychology in the Schools*, *43*(1), 33–44. https://doi.org/10.1002/pits.20127

Cummings, K. D., Kaminski, R. A., Good, R. H., & O'Neil, M. (2011). Assessing phonemic awareness in preschool and Kindergarten: Development and initial validation of First Sound Fluency. *Assessment for Effective Intervention*, *36*(2), 94–106. https://doi.org/10.1177/1534508410392209

Davis-kean, P. E. (2005). The influence of parent education and family income on child achievement : The indirect role of parental expectations and the home environment. *Journal of Family Psychology*, *19*(2), 294–304. https://doi.org/10.1037/0893-3200.19.2.294

Education and Culture Minister Regulation. (2014). *Education and culture minister regulation No. 84 tahun 2014*. https://bit.ly/3E89TXd

Fricke, S., Szczerbinski, M., Fox-Boyer, A., & Stackhouse, J. (2016). Preschool predictors of early literacy acquisition in German-Speaking children. *Reading Research Quarterly*, *51*(1), 29–53. https://doi.org/10.1002/rrq.116

Gallant, D. J., & Moore, J. L. I. I. I. (2008). Ethnic-based equity in teacher judgment of student achievement on a language and literacy curriculum-embedded performance assessment for children in grade one. *Educational Foundations*, *22*(1/2), 63–77.

Gilkerson, J., Richards, J. A., & Topping, K. J. (2017). The impact of book reading in the early years on parent–child language interaction. *Journal of Early Childhood Literacy*, *17*(1), 92–110. https://doi.org/10.1177/1468798415608907

Gullo, D. F. (2005). *Understanding asssessment and evaluation in early childhood education*. Teachers College, Colombia University.

Harlaar, N., Hayiou-Thomas, M. E., Dale, P. S., & Plomin, R. (2008). Why do preschool language abilities correlate with later reading? A twin study. *Journal of Speech, Language, and Hearing Research*, *51*(3), 688–705. https://doi.org/10.1044/1092-4388(2008/049)

Hiapa, G. B., & Danso, G. (2020). The usage of smartphone photography and its impact on professional photography in Ghana. *The International Journal of Humanities & Social Studies*, *8*(2), 261–271. https://doi.org/10.24940/theijhss/2020/v8/i2/hs2002-070

Inbar-Lourie, O. (2017). Language assessment literacy. E. Shohamy (Eds.), *Language testing and assessment, encyclopedia of language and education* (pp. 257-270). Springer, Cham. https://doi.org/10.1007/978-3-319-02261-1_19

Indonesian Ministry of Education. (2014). *National early education standard No. 137 years 2014.*

Invernizzi, M., Justice, L., Landrum, T. J., & Booker, K. (2004). Early literacy screening in Kindergarten: Widespread implementation in virginia. *Journal of Literacy Research*, *36*(4), 479–500. https://doi.org/10.1207/s15548430jlr3604_3

Justice, L. M., Invernizzi, M. A., & Meier, J. D. (2002). Designing and implementing an early literacy screening protocol: Suggestions for the speech-language pathologist. *Language, Speech, and Hearing Services in Schools*, *33*(2), 84–101. https://doi.org/10.1044/0161-1461(2002/007)

Lonigan, C. J., Allan, N. P., & Lerner, M. D. (2011). Assessment of preschool early literacy skills: linking children's educational needs with empirically supported instructional activities. *Psychology in the Schools*, *48*(5), 488–501. https://doi.org/10.1002/pits.20569

Lonigan, C. J., Burgess, S. R., Anthony, J. L., & Barker, T. A. (1998). Development of phonological sensitivity in 2- to 5-year-old children. *Journal of Educational Psychology*, *90*(2), 294–311. https://doi.org/10.1037/0022-0663.90.2.294

McGill-Franzen, A. (1987). Failure to learn to read : Formulating a policy problem. *Reading Research Quarterly*, *22*(4), 475–490. https://doi.org/10.2307/747703

McMillan, J. H. (2017). *Classroom assessment : Principles and practice that enhance student learning and motivation*. Pearson education.

Morrow, L. (2014). *Literacy development in the early years : Helping children read and write* (7th ed.). Pearson Education Limited.

Moustakas, C. (1994). *Phenomenolagial research methods*. International Education and Professional Publisher. https://doi.org/10.4135/9781412995658

Oncu, E. C., & Unluer, E. (2015). Examination of preschool teachers' approaches to early literacy. *Procedia - Social and Behavioral Sciences*, *191*, 1043–1047. https://doi.org/10.1016/j.sbspro.2015.04.656

Pan, J., Kong, Y., Song, S., McBride, C., Liu, H., & Shu, H. (2017). Socio-economic status, parent report of children's early language skills, and late literacy skills: A long term follow-up study among chinese children. *Reading and Writing*, *30*(2), 401–416. https://doi.org/10.1007/s11145-016-9682-4

Piasta, S. B., & Wagner, R. K. (2010). Developing early literacy skills: A meta-analysis of alphabet learning and instruction. *Reading Research Quarterly*, *45*(1), 8–38. https://doi.org/10.4324/9780429433061

Pinto, G., Bicozzi, L., Gamannossi, B. A., & Vezzani, C. (2012). Emergent literacy and early writing skills. *The Journal of Genetic Psychology*, *173*(3), 330–354. https://doi.org/10.1080/00221325.2011.609848

Purpura, D. J., Hume, L. E., Sims, D. M., & Lonigan, C. J. (2011). Early literacy and early numeracy: The value of including early literacy skills in the prediction of numeracy development. *Journal of Experimental Child Psychology*, *110*(4), 647–658. https://doi.org/10.1016/j.jecp.2011.07.004

Solari, E. (2014). Longitudinal prediction of 1st and 2nd grade English oral reading fluency in ELL. *Journal of Adolescence*, *74*(4), 274–283. https://doi.org/10.1002/pits.21743

Thompson, C. M. (2020). *Instructional strategies teachers use to improve literacy performance of children in poverty.* [Doctoral dissertation, Walden University]. https://bit.ly/3y8GKHI

van Tilborg, A., Segers, E., van Balkom, H., & Verhoeven, L. (2014). Predictors of early literacy skills in children with intellectual disabilities: A clinical perspective. *Research in Developmental Disabilities*, *35*(7), 1674–1685. https://doi.org/10.1016/j.ridd.2014.03.025

Vezzosi, M. (2006). Information literacy and action research: An overview and some reflections. *New Library World*, *107*(7–8), 286–301. https://doi.org/10.1108/03074800610677272

Weigel, D. J., Martin, S. S., & Lowman, J. L. (2017). Assessing the early literacy skills of toddlers: The development of four foundational measures. *Early Child Development and Care*, *187*(3–4), 744–755. https://doi.org/10.1080/03004430.2016.1236089

Yuksel-Arslan, P., Yildirim, S., & Robin, B. R. (2016). A phenomenological study: Teachers' experiences of using digital storytelling in early childhood education. *Educational Studies*, *42*(5), 427–445. https://doi.org/10.1080/03055698.2016.1195717

Zygouris, V. (2001). *Emergent literacy*. University of Central Florida.

Appendices

Appendix A. List of Interview Questions

1. In your opinion, what is literacy?

2. Up to date, what have you done to assess/measure child literacy?

3. Do you have difficulties in measuring the literacy skills of the children? Please explain!

4. Based on your response to the previous question, what would you like to recommend or suggest to ease the process of measuring a child's literacy skills?

5. What are the literacy activities that you have performed in Kindergarten?

6. What obstacles have you found when the literacy skills that have been designed do not progress smoothly?

7. What would you like to recommend or suggest to overcome the obstacles in implementing literacy skills that have been designed?

Appendix B. Teacher Literacy Assessment Sheet

Indicator: (Assignment) Children can arrange the word "b a t i k c l o t h" correctly.

Category	Score	Description
Developing Very Well (DVW)	4	The child can arrange and read the letters well
Developing Under Expectation (DUE)	3	The child can arrange the letters well
Start Developing (SD)	2	The child can arrange the letters, but the arrangement is incorrect
Not Develop (ND)	1	Children are unable to arrange the letter

Assignment:

The checklist has/has not appeared.

Child Performance Assessment

Name: Aqila

Knowledge and language ability (Literacy)

Basic Competence	Attitude	Indicator of Developmental Achievement	Has Appeared	Has Not Appeared
Language 3.12 – 4.12	• Learning about early literacy by playing games • Showing early literacy skills through numerous artworks	Children can arrange the letters "b a t i k c l o t h" and read the letter composition correctly	✓	

Appendix C. The curriculum of Child Language

Scope of Development	Level of Developmental Achievement	
	4 – 5 years old	**5 – 6 years old**
Understanding Language	- Paying attention to the words uttered by other people (mother tongue or other dialects) - Understanding two commands that have been given at the same time - Understanding the stories that have been read - Understand vocabularies for stating adjectives - Listening and discerning sounds in Bahasa Indonesia	- Understand several commands that have been given at the same time - Repeating more complex sentences - Understanding the rules of the game - Being fond of and appreciating reading materials
Using Language	- Repeating simple sentences - Asking questions by using appropriate sentences - Responding questions appropriately - Expressing feelings using adjectives - Mentioning the familiar words - Sharing opinions with other people - Stating reasons for something or disagreement - Telling again stories/tales that used to be heard - Engaging in conversation	- Responding to more complex questions - Mentioning groups of pictures that share similar sounds - Performing oral communication, internalizing vocabularies, and identifying symbols as preparation for reading, writing, and counting activities - Arranging simple sentences in complete structures (subject-verb – adverb) - Possessing more words for stating ideas to other people - Continuing some parts of stories/tales that have been told - Showing an understanding of the concepts in the storybooks
Literacy	- Recognizing symbols - Identifying sounds of surrounding animals/objects - Making meaningful scribbles - Imitating (writing and spelling) the letters from A – Z	- Mentioning the familiar symbols of letters - Identifying the sound of preliminary letters from the surrounding objects - Mentioning the group of pictures that share a similar preliminary voice/letter - Understanding the relationship between the voice and the shape of the letters - Reading the children's name - Writing the children's name - Understanding the meaning of the words within the stories