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Agreement Levels of Kindergarten Principals and Teachers to Determine Teaching Competencies and Performance

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Abstract: This research aimed to analyze the levels of agreement between kindergarten teachers and principals in identifying the assessment of teachers' teaching competencies and performance. The study was designed under a quantitative approach using a survey. It implemented a non-probability sampling technique with purposive sampling. The sample of the population comprised of 173 kindergarten teachers and 101 principals in Semarang District, Indonesia, or a total of 274 respondents. The data were collected through a questionnaire and analyzed using Cohen's Kappa coefficient to measure the levels of agreement between raters and Pearson Chi-Square test was also utilized to determine the differences in perceptions among principals and teachers. The findings showed that the levels of agreement between raters were averagely in the no agreement category, implying the existence of differences in perceptions among teachers and principals. The involvement of a multi-rater strategy in such research is a rare effort, especially for the Early Childhood Education (ECE) level in Indonesia. Researches regarding teaching competencies and performance generally only involve single rater, either teachers or principals who judge themselves on their competencies and performance, thus the results tend to be subjective. In conclusion, the assessment of teaching competencies with the relation of cognitive abilities was conducted through a test that considered subjective questions and case analysis to evaluate the teachers' skills based on their performance and self-description. Both personal and social assessments utilized self-assessment forms or autobiographies, which were completed with specific themes. Meanwhile, the performance assessment was observed with the assessment rubric and comparison with the learning process performed by an individual educator.

Keywords: *Agreement level, competence, kindergarten teacher, teaching performance.*

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Introduction

The quality of knowledge, skills, and behavior are the main attributes used by teachers to carry out their educational roles at schools. Teachers play important roles in developing human resources in the education process (Muijs et al., 2014; Sidik, 2016). Competent educators are needed (Balitbang Kemendikbud, 2017) to guide the students' learning process, especially during their early years. Good quality of education is the right for every child, as a means to optimize their potentials. The quality of education should be adjusted with the international policy framework, which is designed as the "education for all". A number of previous studies mentioned that variations of preschool education qualities might lead to the unequal conditions of children's learning process, development, and welfare (Sheridan et al., 2009; Sylva et al., 2010)

A number of countries, including Indonesia do not emphasize the urgency of preschool education despite its potential in accommodating the children's needs during their early growth. It helps them to reach adulthood and prepare their readiness for higher education. As part of the human resources, teachers can greatly affect the success and efficiency of preschool education (Alkan, 2005; Manning et al., 2019). It is impossible to optimize children's development without the presence of qualified teachers despite a sophisticated curriculum (Browell, 2000; Canales & Maldonado, 2018; Ho-Ming & Ping-Yan 1999; Saracaloglu et al., 2009; Somers & Si-korova 2002). Therefore, teacher assessment should be conducted to measure their competencies, as a strategy to design the appropriate frameworks and inputs regarding the urgency of qualified teachers (Cochran-Smith & Fries, 2005; Korthagen, 2004; Wilkerson & Lang, 2007). To sum up, more numbers of studies on the exploration of teachers' competencies should be considered.

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Competencies reflect teachers' comprehension of their students' learning process and self-actualization (Hakim, 2015). Porter (2011) stated that the pedagogical, personality, social, and professional competencies should be utilized to determine, measure, and evaluate teachers' performance. Optimum teaching performance is associated with four main competencies, including pedagogic, personal, social, and professional competencies (Poro et al., 2019; Pratiwi, 2013).

Pedagogical competence includes the capability in establishing an easy-to-understand learning process to optimally support the students' development (Kunter et al., 2013). The understanding of the curriculum can assist teachers to suit and create contextually and responsive teaching and the appropriate learning environment for both teachers and their students' needs (Druzhinina et al., 2018). The availability of a superior pedagogical competence will also boost an interesting and fun learning situation (Ramdhani et al., 2012).

Teachers' personalities reflect the quality of their images (Pantic & Wubbels, 2010). It is continuously developed through their active, anticipatory, responsive, dynamic, and creative attitude and initiatives regarding the implementation of the learning tasks. Personality is an aspect that influences teaching performance. As a consequence, teachers should constantly achieve progress in their self-development to improve their qualities (Akomolafe, 2013; Pahrudin et al., 2016).

Social competence is reflected through the teachers' daily performance. It is nourished by the combination of knowledge, skills, and personal attributes, which are observable, measurable, and evaluable (Gedviliene et al., 2014; Reitz, 2012) and should be optimally developed to professionalize the educators (Lozancic, 2018).

Meanwhile, professional competence is developed during the higher education period with a major in early childhood education and certification. Professional competence implies the comprehension of the educational foundation that enables the teachers to implement proper knowledge and skills to expand the available educational theories. This type of competence depends on the teachers' understanding of the theories, skills, and practice (Swart et al., 2019), which are the determining factors of the teachers' success (Kunter et al., 2013; Mizel, 2010).

Amalia and Saraswati (2018) mentioned that teachers should continuously improve their teaching skills to enhance their competencies since the quality of the learning process is defined by their competencies (Zamri & Hamzah, 2019). The competencies will also facilitate them to improve their efficient performance (Romstein & Stakovic, 2017). Teacher's self-development should be enforced by the utilization of ICT in order to enhance the learning quality. However, the utilization of ICT by kindergarten teachers is relatively low due to their low resources (i.e lack of training of teachers) (Sultana & Shahabul Haque, 2018).

Porter and Jelinek (2011) stated that good teaching performance should measure the teachers' competencies in conducting teaching plans, assessment, and further development. Teachers are the backbones that play the central roles in the achievement of education quality (Hamda, 2018), as the consequence, they are obliged to develop their competencies to reach the goals of qualified education (Avalos, 2011).

The development of ECE teachers in Indonesia is part of the Directorate of Teacher Development and Education Personnel's programs. Teacher Competency Test (*Uji Kompetensi Guru/UKG*) is a method to measure teachers' competencies. The UKG mainly assesses the basic competencies of ECE, which subsequently becomes the basis of the teacher coaching program. Ministry of Education and Culture revealed that the number of kindergarten teachers in Indonesia reached 356,779 educators during the 2019/2020 academic year. Of which, 53.70% were equipped with an ECE background, 45.20% with non-ECE background, while the remaining 1.10% were high school graduates or equivalent.

It is urgent to meet the academic qualifications of ECE teachers since teachers with ECE-specialized backgrounds have different quality of performance compared to those with non-ECE-specialized backgrounds (Yuslam et al., 2017). Low quality of teaching performance implies that the teachers have not attempted their best in carrying out their role as educators (Ashraf et al., 2015). Teaching performance is important, as it can define the learning activities that essentially can support the students' development (Mizel, 2010; Rabo, 2018; Syslova, 2019). Teachers with high performance tend to have positive attitudes in performing their responsibilities through the implementation of discipline, seriousness, and quality maintenance (Pratiwi, 2013).

This study aimed to identify the variables that define the assessment of ECE teachers' competencies and performance. It involved a number of school teachers and principals. A number of previous studies have revealed the relation of teaching competencies and performance (Hamda, 2018; Taridi & Dono, 2019; Utami & Latiana, 2018; Wardoyo, 2015). However, Indonesia has not implemented the inclusion of a multi-respondent strategy in ECE-related research. Previous studies tended to only involve either teachers or principals in assessing their competencies (Jaya, 2019; Lestari et al., 2016; Sari & Setiawan, 2020) or school principals (Utami et al., 2020). There was no record of any research attempts that aimed to determine the agreement test among principals and teachers in terms of competencies and performance. The involvement of multi-respondents was expected to produce more reliable and comprehensive data to minimize subjectivity and achieve accuracy during the analysis.

Literature Review

A number of literature reviews have revealed various studies related to teaching competencies and performance. Those studies were relevant to the current study.

Teaching Competencies

Competence is a set of attitudes, values, abilities, skills, and knowledge in a particular context (Romstein & Stakovic, 2015). It facilitates teachers to implement their professional duties as educators. The mastery of competence implies the teachers' ability to translate the curriculum into meaningful learning activities based on effective learning principles in managing the class and students (Gallego & Caingcoy, 2020). Kindergarten teachers are expected to work professionally by applying their knowledge into daily learning through a structured, contextual, and responsive manner based on the needs of the students.

Previous studies revealed that competencies could significantly contribute to the quality of teaching performance (Siri et al., 2020). Teaching competencies boost learning activities and motivate teachers to create remarkable contributions with their performance (Hakim, 2015). Yuslam et al. (2017) mentioned that ECE teachers' academic competencies varied based on the categorization of those with ECE-specialized and non-ECE-specialized graduates. This condition creates gaps in performance among them. The gaps are even more visible in terms of the implementation of learning practices. Teachers with non-ECE-specialized academic qualifications are physically capable of teaching. However, they lack teaching abilities in reflecting the characteristics of their students since it is not in their "souls".

The global schooling system recognizes quality as the most important factor that affects students' learning outcomes (Akareem & Hossain, 2016). The improvement of human resource quality requires the role of teachers as professional educators. They are obliged to improve the quality of education at schools, in which their professionalism becomes the key to achieve appropriate and successful learning.

Taking their roles as educators, teachers are expected to possess good knowledge and understanding of competencies to become role models with the utmost values of noble character and professionalism. Professional teachers should have sufficient proficiency, skills, and abilities to perform their duties. Meanwhile, competent teachers will be able to create an effective, enjoyable, and better learning environment through proper class management to assist the students in achieving their optimal levels.

Teaching Performance

Teaching performance refers to the observable pedagogical practices that manifest in the teachers' abilities and competencies. Thus, good teaching performance will improve the quality of students (Suarez & Toro, 2018). Emotional intelligence, organizational commitment, competencies, organizational culture, leadership style, financial and non-financial compensations, as well as training and career development are a number of factors that determine teaching performance (Purba et al., 2018).

Teaching performance defines teachers' competencies. Yustiyawan (2016) mentioned ECE teachers' teaching performance as the spearhead in achieving the students' successful growth and development. Teaching competencies will also significantly affect teaching performance (Lauchande et al., 2017).

ECE-specialized teaching performance should be considered in achieving the quality of education, as part of the strategies in facing both current and future challenges. Teaching performance relates to the teachers' abilities in planning, implementing, and assessing the learning quality based on its process and the results (Hamid et al., 2012). Teaching performance is measurable based on the delivery of tasks and learning quality. It is reflected by the tasks that the teachers hand out to their students during the classroom activities.

Research Problem

Teaching competencies and performance have widely been discussed in various studies, suggesting that teaching competencies and performance receive more attention as the underlying aspects that determine the progress of human resources. In implementing the classroom tasks, teaching performance is influenced by teachers' competencies. A low competence will result in the issues of effectiveness and achievement of educational goals. To improve teachers' quality, an accurate and continuous evaluation should be considered to set up further policies that can boost the teachers' competencies.

Research Questions

The study formulated the following research questions:

1. How are the levels of agreement among the teachers and principals in the assessment of teachers' teaching competencies?

2. What is the proper assessment to measure the teachers' competencies?
3. How are the levels of agreement among the teachers and principals in the assessment of teachers' teaching performance?
4. What is the proper assessment to measure the teachers' performance?

Research Focus

This study tended to analyze the levels of agreement among the teachers and principals in identifying the assessment of teaching competencies and performance.

Methodology

General Background

This study highlighted social and dynamic problems, in addition to the analysis of their solutions through quantitative research design. It discussed the perceptions of principals and teachers on teaching competencies and performance. The measurement utilized two raters, including principals and teachers, in which the teachers should assess themselves, while the principals should deliver their points of view regarding the teachers' competencies and performance. Based on the assessment of the two parties, the levels of agreement were analyzed based on four teaching competencies and performance of kindergarten teachers in Semarang District.

Participants

The population consisted of 1,367 teachers. The research utilized a non-probability sampling with purposive sampling technique by selecting the data sources based on certain considerations. The utilization of a purposive sampling technique was due to the various criteria of the samples under the study. The samples included the teachers from the Association of Indonesian Kindergarten Teachers (*Ikatan Guru Taman Kanak-Kanak Indonesia/ IGTKI*) in Semarang District that actively participated in regional level meetings. The teachers and principals involved in this research had previously stated their consents to be the respondents.

A total of 274 respondents were involved in this study, consisting of 101 kindergarten principals and 173 teachers in Semarang District. The study involved two raters to assess the teachers' teaching competencies and performance. The respondents voluntarily collected the data by referring to the ethics and written approvals. The respondents included the kindergarten teachers in ten sub-districts in Semarang District with a number of characteristics as shown in Table 1.

Table 1. Socio-Demographic Characteristics of the Respondents

No	Demographic Characteristics	Teachers		Principals	
		Total	%	Total	%
1.	Gender				
	Male	2	1.2	1	1.0
	Female	171	98.8	100	99.0
2.	Age				
	18-40	87	50.3	23	22.8
	41-60	84	48.6	78	77.2
	>60	2	1.2	0	0
3.	Educational Qualifications				
	High School	26	15.0	9	8.9
	Diploma	2	1.2	1	1.0
	Bachelor	145	83.8	91	90.1

Note: Respondents consisted of teachers (N = 173) and principals (N = 101)

Data Collection

The teachers' competencies and performance were measured using a Likert scale pattern, which consisted of 54 items. Before the data collection, the researchers compiled an instrument grid. The measurements included teaching competencies, which consisted of pedagogical competencies, personal competencies, social competencies, and professional competencies; in addition to the assessment of teaching performance. The performance regarded the assignments that measured the teachers' abilities in leading the teaching process, starting from planning, implementation, and assessment.

The variables were categorized into sub-variables, indicators, and benchmarks of statements from the respondents. The statements of the questionnaire were defined based on four intervals that respectively mark their opinions, ranging from *very inappropriate* (1), *inappropriate* (2), *appropriate* (3), and *very appropriate* (4).

The Likert scale questionnaire used in this study consisted of even intervals (1-4) with no midpoint to avoid bias. This study utilized a multi-rater assessment regarding the teaching competencies and performance, in which the principals assessed the teachers and the teachers also assessed themselves. In order to avoid biased responses, the researchers included four intervals of the questionnaire, thus the respondents would not opt for neutral answers to prevent unclarity of opinions (Chyung et al., 2017).

The instrument validity and reliability tests were implemented after the finalization of the instrument. The validity test functioned to detect the extension of the performance based on the questionnaire. The determination of validity was made by adding the item score and the total score. If the sum revealed a value greater than r_{tab} , the instrument items should be stated valid. The r_{tab} for the 39 samples ($N = 39$) was .308. Additionally, the reliability test aimed to reveal the consistency of the questionnaire in measuring the same symptoms by producing an accurate score with a small measurement error. The following Table 2 shows the results of the validity and reliability tests of the research instrument.

Table 2. Instrument Validity and Reliability

	Item	r		Item	r		Cronbach's Alpha Value	
		Teacher	Principal		Teacher	Principal	Teacher	Principal
Pedagogical	1	.548	.808	8	.770	.891	.826	.886
	2	.651	.794	9	.573	.831		
	3	.474	.451	10	.432	.348		
	4	.642	.813	11	.573	.516		
	5	.651	.484	12	.676	.741		
	6	.518	.518	13	.554	.445		
	7	.343	.463	14	.490	.561		
Personal	1	.719	.424	9	.758	.647	.926	.887
	2	.835	.549	10	.674	.372		
	3	.746	.792	11	.657	.340		
	4	.546	.840	12	.745	.897		
	5	.315	.748	13	.715	.671		
	6	.700	.661	14	.730	.887		
	7	.592	.412	15	.614	.505		
	8	.855	.479	16	.858	.690		
Social	1	.787	.608	6	.714	.803	.821	.897
	2	.433	.720	7	.656	.734		
	3	.443	.848	8	.674	.538		
	4	.643	.836	9	.741	.872		
	5	.837	.626	10	.362	.657		
Professional	1	.759	.787				.752	.807
	2	.795	.814					
	3	.493	.563					
	4	.724	.781					
	5	.757	.803					
Performance	1	.870	.854	6	.854	.849	.920	.932
	2	.829	.894	7	.750	.672		
	3	.768	.895	8	.824	.799		
	4	.867	.787	9	.630	.686		
	5	.704	.832					

Note: Sample of validity and reliability tests (N=39)

The research activity was implemented under the consent of the respondents. Their agreement was recorded in the consent statement in the questionnaire. During the process, the teachers assessed themselves, while the principals used different questionnaires to assess the teachers. The results of both raters were then tabulated.

Data Analysis

As the study comprised of multiple respondents, the levels of agreement on the perceptions of principals and teachers were determined using Cohen's Kappa coefficient analysis. The classification of the agreement between the raters utilized the value suggested by Cohen (Porter & Jelinek, 2011) as shown in Table 3.

Table 3. Levels of Agreement Based on Kappa Coefficient

Kappa Values	Levels of Agreement
<.0	No Agreement
.0 - .20	Slight
.21 - .40	Fair
.41 - .60	Moderate
.61 - .80	Substantial
.81 - 1.0	Almost Perfect

Cohen's Kappa functioned to measure the difference of levels of agreement between the raters with standard values ranging from -1 (absence of the agreement) to 1 (perfect agreement). Cohen suggested the interpretation of the Kappa values ranging from slight, fair, moderate, substantial, to perfect agreement indicated by .0 to .2; .21 to .40; .41 to .60; .61 to .80; and .81 to 1.0.

Cohen's Kappa analysis could measure the levels of agreement between raters, while the Pearson Chi-Square test determined the differences in perceptions among the school principals and teachers. Cohen's Kappa analysis could also signify the levels of agreement of respective indicators regarding the assessment of teaching competencies and performance between the raters. In addition, the Pearson Chi-Square test was utilized to identify the differences in perceptions among principals and teachers.

Results

A total of 101 principals assessed 173 teachers through the questionnaire. The assessment included the quality of teaching competencies and performance. The descriptive statistical details of the findings, which consist of mean, standard deviation, and correlation matrices are shown in Table 4.

Table 4. Descriptive Statistics and Correlation of Study Variables

Rater	Variable	N	Min	Max	Mean	SD	1	2	3	4	5
Teacher	Pedagogical	173	33	53	43.28	3.50	1				
	Personal	173	38	62	50.92	4.13	.608**	1			
	Social	173	23	39	31.35	3.02	.530**	.697**	1		
	Professional	173	13	19	16.29	1.43	.542**	.474**	.545**	1	
	Performance	173	19	35	27.97	2.95	.575**	.614**	.734**	.664**	1
Principal	Pedagogical	173	32	52	42.46	3.91	1				
	Personal	173	22	62	50.63	4.89	.684**	1			
	Social	173	18	39	31.25	3.33	.675**	.738**	1		
	Professional	173	9	19	16.02	1.77	.575**	.623**	.690**	1	
	Performance	173	11	35	28.01	3.45	.603**	.647**	.691**	.685**	1

Note. *<.01; **<.05; 1=Pedagogical, 2=Personal, 3=Social, 4=Professional, 5=Performance

The descriptive statistical analysis of the five variables, including pedagogic, personal, social, professional, and performance competencies show a low standard deviation (SD) of each variable, implying that the data points tend to approach the mean of the data set. A higher mean value compared to the standard deviation indicates a good representation of data distribution. Meanwhile, the correlation among the five variables is significant at $p < .05$.

Levels of Agreement in Competence Assessment

Variations between raters are measurable through various situations that evaluate the same phenomenon, such as teaching competencies. Based on the results of Cohen's Kappa analysis, the levels of agreement between raters are shown in the following Figure 1.

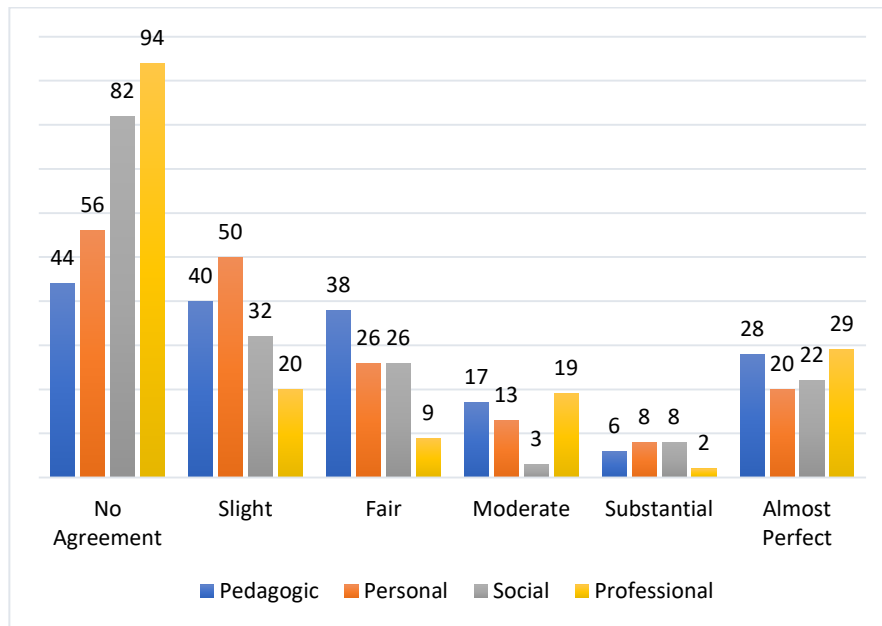


Figure 1. Levels of Agreement Regarding Teaching Competencies

The levels of agreement between raters signify the largest value in the statement of *no agreement* for respective variables of competencies. To conclude, there is a significant difference in perceptions of competencies among the teachers and principals.

Analysis of Teaching Competencies

The four teaching competencies were further examined with two statements comprising of the highest and lowest agreement values of respective competencies. The Pearson Chi-Square test was utilized to analyze the differences in perceptions among the principals and teachers. Meanwhile, the answers of the respondents were utilized to identify the tendency of their potentials and competencies. Table 5 shows the statements with the highest and lowest categories.

Table 5. Categorization of Competencies from Raters

Competencies	Items	Kappa Value	χ^2	p	T > P	T < P
Pedagogic	1 Teachers develop flexible curricula or provide alternatives that allow children to choose their activities.	.390	32.118	.000	✓	
	5 Teachers spontaneously implement learning activities without designing a lesson plan.	.322	35.181	.000	✓	
	13 Teachers determine the scope of the assessment process and student learning outcomes.	.211	102.29	.000	✓	
	9 Teachers analyze every learning process to find the strengths and weaknesses of the learning implementation.	.135	27.531	.000	✓	
Personal	15 Teachers give commands in a fun manner using an easy-to-understand instructions.	.375	28.095	.000		✓
	28 Teachers reflect pride of being educators and have faith in themselves.	.269	19.361	.004	✓	
	18 Teachers love to do positive habits.	.082	8.688	.192	✓	
	26 Teachers are able to handle debates among students and provide appropriate solutions.	.032	4.314	.634	✓	
Social	39 Teachers stay quiet and speak when deemed necessary.	.257	29.783	.000		✓
	37 Teachers are embarrassed to discuss with colleagues, especially about learning problems at school.	.253	26.696	.000	✓	
	33 Teachers are able to collaborate as an educational unit with other stakeholders.	.119	96.007	.000		✓
	36 Teachers put manner in talking to other people.	.112	7.362	.118	✓	
Professional	45 Teachers explain the learning materials in a simple and attractive manner to students.	.237	28.811	.000	✓	
	42 Teachers conduct a thorough evaluation, starting from the learning process to the students' learning outcomes.	.164	10.034	.123		✓
	41 Teachers provide a daily activity plan based on the daily plan.	.119	12.794	.172	✓	
	44 Teachers prepare annual and semester activity plans based on the levels of students' achievements.	.119	23.269	.001		✓

Note: T>P = Teachers' assessment is greater than principals; T<P = Teachers' assessment is smaller than principals

The results of Kappa analysis on the items with the highest and the lowest scores in each competence showed overall assessments based on self-reports. The principals' assessments tended to have a fair level of agreement on items observed by others, as well as the assessments made by observing behavior and activities related to the teachers. Meanwhile, a slight level of agreement was generated on items that required an in-depth analysis of the object observed.

The results of the calculation analysis based on the cross-tabulation as shown in Table 5 signified that teachers tended to give higher assessments compared to the school principals. For instance, the rate of teachers' pedagogical competence was higher, as they led a major role in daily classroom activities through direct interaction with the students. In other words, the teachers possess an ideal knowledge of how the learning process should be implemented, starting from planning, implementation, to evaluation.

Levels of Agreement in Teaching Performance

Based on Cohen's Kappa coefficient, the perceptions among principals and teachers measured through the questionnaire regarding the teaching performance appraisals produced a number levels of agreement as shown in Figure 2.

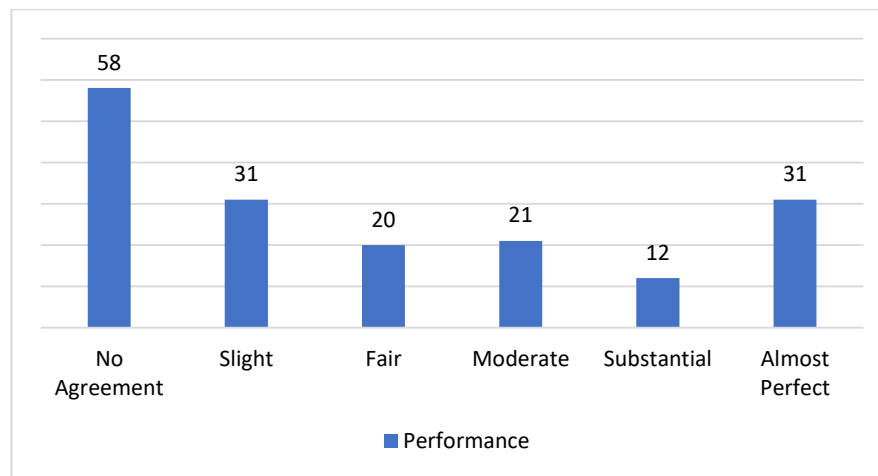


Figure 2. Levels of Agreement Regarding Teaching Performance

The levels of agreement among the principals and teachers in assessing teaching performance were averagely in the status of *no agreement* that reached 58 responses followed by *almost perfect* that secured 31 responses. It indicated a significant difference in perceptions of both raters regarding the teachers' teaching performance.

Analysis of Teaching Performance

Teaching performance is the result of the quality and quantity achieved by the teachers in performing their duties based on the given responsibilities. Based on the levels of agreement between principals and teachers regarding the teaching performance, two statements were selected to determine the highest and lowest values using the Pearson Chi-Square test. The respondents were identified through the answers given to the object as previously conducted in the analysis of competencies as shown in Table 6.

Table 6. Categorization of Performance from Raters

	Items	Kappa Value	χ^2	p	T > P	T < P
52	Teachers prepare assignments for students if they complete the tasks before the class ends.	.336	52.053	.000	✓	
48	Teachers master the knowledge that they convey to the students.	.323	47.877	.000		✓
49	Teachers perform proper learning activities based on the lesson plan (e.g.: appropriate distribution of timing).	.183	21.567	.001		✓
53	Teachers assess the students based on the given learning objectives.	.182	13.289	.035	✓	

Note. T>P = Teachers' assessment is greater than principals; T<P = Teachers' assessment is smaller than principals.

Based on the Kappa analysis, the assessment of teachers' teaching performance based on self-reports and the principals' assessment tended to have a fair level of agreement on items that could be observed by others. Meanwhile, a slight level of agreement was obtained on the items that required an in-depth analysis of the assessed object.

Table 6 shows the analysis associated with the calculated answers from the cross-tabulation. The results reveal that teachers and principals were balanced in assessing the teaching performance, as one of the items was considered higher by the others. The teachers gave a higher score than the principals in the use of assessment items based on the predetermined learning objectives. Meanwhile, the principals gave a higher score on the implementation of learning activities based on the activity plans.

Discussion

The study averagely generated no agreement between raters in the assessment of teachers' teaching competencies and performance. It indicated the differences in perceptions among the teachers and principals. The involvement of a multi-rater strategy in such research is a rare effort, especially for the ECE level in Indonesia. Researches regarding teaching competencies and performance generally only involve single rater, either teachers or principals who assess themselves on their competencies and performance, leading to subjective interpretations.

A subjective self-assessment may occur due to the desire to maintain a positive self-image (Firyomanto et al., 2016), in addition to the systematic tendencies to overestimate or underestimate something (Kim, 2019). Through this research, the researcher conducted a further analysis of how the assessment of teaching competencies and performance should be performed to generate valid, accurate, and objective data for self-evaluation and development of the teachers, educational institutions, and quality improvement programs at the ECE level.

The equivalent interpretation of Kappa values regarding the agreement between raters was rarely reached due to the variations of observers (McHugh, 2012). Agreement level is measurable in any situation where two or more independent observers evaluate the same phenomenon, such as the performance of teachers and principals. When the assessment among raters shows a low agreement, partially or totally, further identification of the causing factor of the disagreement is required (Nichols et al., 2010).

As shown in Table 5, teachers recorded a high pedagogical competence due to their major roles in performing the daily learning activities through direct interaction with the students. In other words, the teachers possess an ideal knowledge of how the learning process should be implemented, starting from planning, implementation, to evaluation. They also recorded a high personal competence, especially in delivering assignments by using easy-to-understand instructions for the students. With this regard, a high rate from the principals' assessment was produced due to the observable items without having to conduct an in-depth analysis (Dockterman, 2017).

Skills, abilities, knowledge, understanding, beliefs, and moral values possessed by the teachers in completing their teaching responsibilities are considered as competencies as well (Pantic & Wubbels, 2010). Teaching activities are associated with the process of material presentation using systematic and creative skills to produce optimal learning outcomes. According to Chouhan and Srivastava (2014), competence is a collection of certain factors that should be achieved for a particular role in a certain organization.

Teachers as educators need competencies to perform their roles and responsibilities (Zamri & Hamzah, 2019). Their competencies should also be developed and implemented based on sustainable education development (Bertschy et al., 2013). An assessment is required to map their qualities and measure the development of their competencies. Competence mapping can facilitate the institutions to achieve a more complete understanding of the teachers' abilities (Maheshkar, 2015). This is important because teachers are one of the most dominant factors that determine the success of education (Sumaryanta et al., 2018).

Based on a series of analyses, the assessment of teachers' pedagogical and professional competencies could be measured using two instruments, including the observation form to determine the teachers' performance and a self-assessment questionnaire (Manutede et al., 2015). The second instrument signifies the relation of competencies and cognitive abilities using subjective questions and case analysis.

Regarding the assessment of personal and social competencies, the self-assessment questionnaire accommodated self-descriptions or autobiographies under certain themes that discuss the teachers' attributes. Self-assessment is interpreted as a learning experience that functions to develop the learning process by identifying any strengths, weaknesses, and suggestions required for improvement (Ndoye, 2017). Manutede et al. (2015) stated that the self-assessment questionnaire could also function to assess the development of teachers' competencies.

Self-assessment is a self-correction method that facilitates the achievement of the goals in the learning process and outcomes (Wijayanti & Mundilarto, 2015). With the utilization of a self-assessment questionnaire, teachers can conveniently analyze themselves by identifying their strengths and weaknesses, as part of their self-reflection for further self-development as educators. The results of the competence assessment tend to be more accurate through the combination of various aspects in the assessment items.

The assessment of teaching performance on the teachers' behavior combined the cognitive assessment through test and interview. Teaching performance was assessed through a direct non-participant observation by the raters or observers. The observation was performed to provide information regarding the teachers' performance in the classroom, as most of the main aspects of teaching are displayed through their interaction with the students in classroom activities (OECD, 2013; Elliott, 2015). It could be performed using an assessment rubric to generate the structure in developing consistency of evaluators and reduce subjectivity in the evaluation results (Milanowski, 2017).

Teachers' performance was also evaluated to complete the observation together with the shreds of evidence, such as lesson plans and children's learning outcomes (Milanowski, 2017). Following the data collection, the evaluators reviewed and interpreted the evidence through the comparison with the assessment rubric. As a consequence, the evaluators should compare the teachers' performance with the assessment rubric and available evidence to reach the optimum accuracy. Feedback is also another aspect that should be considered after the evaluation to support improvement (Taylor & Tyler, 2012).

Conclusion

The study revealed the levels of suitability among the principals and teachers in assessing teaching competencies and performance, which averagely resulted in a disagreement. It indicated the difference in perceptions among them. Following further analysis, assessment items were identified to generate an accurate evaluation in assessing the teaching competencies and performance.

The assessment of teaching competencies with the relation of cognitive ability was conducted through a test that considered subjective questions and case analysis to evaluate the teachers' skills based on their performance and self-description. Both personal and social assessments utilized a self-assessment form (autobiographies) which was completed with specific themes. Meanwhile, the performance assessment was observed with the assessment rubric followed by the comparison with the learning process carried out by an individual educator.

Recommendations

Based on the findings, the researchers propose a number of suggestions, including the organization of further researches that considers the involvement of multiple respondents to examine the teachers' teaching competencies and performance. With this regard, teachers are responsible to meet the standard by implementing self-development and complying with the education policies to maintain the quality of their performance. A continuous evaluation is also considered urgent since the teachers' performance tends to increase under the provision of assessment.

Limitations

This research has been optimally implemented based on scientific procedures. However, a number of limitations still exist in terms of the focus on the factors that affect teaching performance. The factors include four variables of competencies, including pedagogic, personal, social, and professional competencies. Meanwhile, other determining factors were excluded from the consideration.

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