Analysis Of ESD-Based Critical Thinking Attitude Assessment Rubric In Elementary Schools

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Abstract. ESD (Educational for Sustainable Development) is one of UNESCO's priority programs as an alternative in the education field and it is expected to direct students to realize a sustainable life as well as develop students' critical thinking in their following life. Critical thinking is one of the eight key ESD competencies. The research objective was to determine the application of attitude assessment used by educators in elementary schools. This research was qualitative research with a descriptive approach. The subjects of this research were 6 elementary school classroom teachers in one of the schools in Pangandaran Regency. Data collection techniques used interview techniques and documentation studies on the attitude assessment rubric used by the teacher. The results indicated that there were 3 domains of ESD (Educational for Sustainable Development) that were related to the applicable curriculum (2013). The analysis results showed that there were 50% of the rubrics covering social, economic, and environmental. However, only 25% of the assessment rubrics used critical thinking indicators to assess students' attitudes. Furthermore, the development of an instrument for assessing critical thinking based on ESD (Educational for Sustainable Development) was required

Keyword: Attitude assessment, critical thinking, ESD.

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INTRODUCTION

Educational for Sustainable Development (ESD) is one of the priority goals of the 17 sustainable development goals in the world. This sustainable development was established by the United Nations (United Nations) during the general assembly in New York in 2015. ESD was formed due to awareness of social, economic, cultural, and environmental issues from various aspects, such as global warming, climate change, water and clean environment crises that cause hunger and poverty. Problems from various aspects such as poverty, injustice, and climate change are the background for establishing the SDGs (The Sustainable Development Goals). Education is the main and fundamental thing to achieve global development goals. It is in line with Gunamantha (2010) who states that "the 21st century recognizes that education is fundamental to achieve sustainable goals". Rickman et al. (2017) argues that ESD aims at developing competencies that empower individuals to reflect on their own actions, considering their current and future social, cultural, economic and environmental impacts, from a local and a global perspective. Based on those statements, it can be interpreted that Educational for Sustainable Development (ESD) aims to develop individual competencies to reflect on their actions by considering current and future social, cultural, economic, and environmental impacts and looking at local and global perspectives

As a fundamental matter, education needs to respond to the challenges of the 21st century in cultivating the values, attitudes and skills required so that sustainable development growth is encouraged. Therefore, a teacher plays an essential role in implementing and realizing Educational for Sustainable Development (ESD) goals, especially in the education field. Hoffman & Siege (2018) said that education is an instrument to support the process of sustainable development. Indonesian government stipulates law no. 59 of 2017 concerning implementation achievement Sustainable Development Goals that aim for guard enhancement well-being economy Public in a manner continuous guard continuity community social life , quality life as well as inclusive development and implementation of capable governance guard quality life from one generation to next

generationIn its implementation, Educational for Sustainable Development has been integrated into thematic learning in the 2013 curriculum for elementary school.

Education Sustainable Development (ESD) should be integrated into all curricula in Early Childhood Education, Elementary Schools, Secondary Schools, technical and vocational education, and College (Tristananda, 2018). In Thing this , teacher means have not quite enough big answer _ for give understanding to students about importance awareness environment . Teachers are also tasked with educating students in protecting the environment in everyday life (Karlina, 2017). Teachers must be able to manage learning well, taking into account learning conditions, learning methods, and learning outcomes so that learning is more meaningful and directed (Idrus, 2017). According to Rahman (2019), there were 66.7% of teachers who donot understand, realize, and apply ESD in learning due to lack of ESD socialization. It can be concluded that ESD in the education field is less implemented by several schools. Moreover, ESD- based learning tools in elementary schools are not supported.

In order for ESD to be applied in the education field, especially Elementary Schools, it is necessary to develop ESD-based learning tools, including Lesson Plan, Student Worksheets, learning media, teaching materials, education assessment rubric, attitude assessment rubric, and skills assessment rubric. One of the competencies that should be developed and measured related to the eight key competencies of ESD is critical thinking competence. Critical thinking competence is necessary to determine a person's ability to question norms, practices, and opinions to consider values, perceptions and placing or positioning in a sustainable living environment (UNESCO, 2017). Assessment or measurement of students' critical thinking competence is not only cognitive aspect, but also the ESD-based critical thinking attitude assessment rubric as a developed instrument to measure students' critical thinking level. This competency needs to be possessed by every individual in order to be able to compete now and in the future. It similar to Riyono (2020) which states that education is not only a cognitive aspect, but also the development of students' attitudes and skills. However, teachers are still lacking in assessing attitudes and skills in the learning process (Amran, 2018).

The research of Suci Nurlailah (2021) entitled "Pengembangan Instrumen Assessment Sikap Berpikir Kritis Berbasis ESD pada Materi Perubahan Iklim di SD" conducted a similar study. She only developed the attitude assessment rubric that was available in the 2013 curriculum. Besides that research conducted by Setyaningrum about practice learning ecoliteracy Education oriented to development sustainable state that learning enough good reviewed from results conditions , methods and results related learning with ecoliteracy. Nadia Nahariy (2021) also conducted a linear study entitled "Analisis Rubrik Penilaian Keterampilan Berpikir Kritis Berbasis ESD di Kelas Tinggi Sekolah Dasar". She analyzed the skills rubric. In fact, a common problem in this field is the availability of rubrics or formats for assessing knowledge, attitudes, and skills. However, researchers want to discover the number, application, and use of the Educational for Sustainable Development (ESD)-based attitude assessment rubric as evaluation material and discover how to apply and use the Educational for Sustainable Development (ESD)-based attitude assessment rubric so that sustainable development goals are achieved.

It can be concluded that the teachers lack knowledge or difficulties in applying and using the critical thinking skills assessment rubric. Based on the description above, the researchers analyzed the rubric used to measure Educational for Sustainable Development (ESD)-based attitude competencies so that there was a development of a rubric for assessing critical thinkingattitudes.

METHOD

This research method was descriptive qualitative. Descriptive research is research that describes a phenomenon without testing hypotheses. According to Anggito & Setiawan (2018), qualitative research is collecting data in a natural setting with the intention of interpreting the phenomena, where the researcher is the key instrument. Data sources

sampling is conducted purposively and snowball. The collection technique is triangulation (combined). Data analysis is inductive/qualitative. In addition, the results of qualitative research emphasize meaning rather than generalizations. Then , descriptive research can be interpreted as research with the aim of gathering information about a phenomenon or social symptoms without having to test certain hypotheses. In a sense, researchers only need to describe what is in accordance with the results of data collection (Zellatifanny & Mudjiyanto, 2018). Meanwhile, Ramadhan (2021) states that descriptive research is research by describing a research result. In conclusion, qualitative descriptive research is a method that aims to collect information on a phenomenon or social phenomenon and the researcher only describes the results according to the research. So, qualitative descriptive research is a research method in a simple qualitative approach with a plot that begins with an explanatory process or event which in the end can be generalized into a conclusion from the event (Yuliani, 2018).

The research was conducted at 4 elementary schools in Pangandaran Regency with eight classroom teachers from 4 schools as research subjects. The research techniques were interviews and documentation studies. The research instruments were interview guidelines and document study checklists related to Educational for Sustainable Development (ESD). Table 1.1 was a blueprint of interview guidelines.

Table 1. Blueprint of Interview Guidelines

Research Aspects	Indicator	Description
Knowledge, understanding and application of ESD in learning	Knowledge of ESD	Responding to knowledge of Educational for Sustainable Development in the education field (Elementary School)
	Understanding of ESD	Responding to an understanding of Educational for Sustainable Development in education field (Elementary School)
	Application of ESD in learning	Teachers' response to the implementation of Educational for Sustainable Development inside and outside the learning process inelementary schools
	ESD Opinion in learning activities	Answers from teacher responses tolearning involving ESD
The cause of the problem	Describes teacher ignorance of ESD	The teachers' reasons for the lack of knowledge about ESD and the reasons for Educational Institutions not implementing ESD
	Presenting ESD problems in learning (development of an attitude assessment rubric related to ESD)	The reason teachers have difficultydeveloping an attitude assessment rubric related to ESD

Research Aspects	Indicator	Description
	Describe the teachers' lack of understanding of ESD (if misunderstanding occurs)	The reason for the teachers' lack of understanding of ESD in learning devices
ıhibiting factors for the application of ESD	Explaining things that are unavailable (learning tools) based on ESD	Answers regarding the reasons for the unavailability of ESD-based learning tools
	Explaining the difficulty factors for teachers in developing an ESD- based attitude assessment rubric	Responses about the teachers' difficulties in developing an ESD- based attitude assessment rubric
ɔlution	Presenting solutions for developing ESD-based learning devices	Solutions for developing learning tools, especially the ESD-based critical thinking attitudes assessment rubric for teachers

Researchers used an interactive analytical model from Miles and Huberman, including data reduction, data presentation and conclusions. Researchers collected teacher data in Pangandaran Regency by interviewing 8 teachers. Then, the researchers analyzed the learning tools, especially the attitude assessment rubric used by the 8 teachers. Then, the data was presented in an organized manner and conclusions were drawn from the entire data.

RESULTS AND DISCUSSION

After interviewing the 8 teachers, the researcher summarized the general description of the interview results in the following table:

Table 2 Interview Results

School		INDICATOR							
		Understand and Comprehend ESD		Applying ESD in learning		Using an attitude assessment rubric related to ESD		Having difficulty using the ESD-based attitude assessment rubric	
		Yes	No	Yes	No	Yes	No	Yes	No
Public Elementary School 1 X	Class VA	☑		☑			☑		☑
	Class VI	☑		☑		☑			☑
Public	**Class IV**	☑		☑			☑	☑	

School		INDICATOR							
		Understand and Comprehend ESD		Applying ESD in learning		Using an attitude assessment rubric related to ESD		Having difficulty using the ESD-based attitude assessment rubric	
		Yes	No	Yes	No	Yes	No	Yes	No
Elementary School 4 X	**Class VI**		☐		☐		☐	☐	
Public Elementary School 5 X	**Class IV**	☐			☐		☐	☐	
	Class V		☐		☐		☐	☐	
Public Elementary School 3 Y	**Class V A**	☐		☐		☐		☐	
	Class VI		☐		☐		☐	☐	
Total (%)		62,5%		50%		25%		75%	

Based on Table 1.2, 62.5% of teachers realized Educational for Sustainable Development (ESD). It meant that some teachers have only heard the term, but they did not understand its meaning. Then, 50% of teachers understood the term Educational for Sustainable Development (ESD) and understood its application in education (Elementary Schools). Furthermore, 50% of teachers have implemented the Educational for Sustainable Development (ESD) concept in learning. However, the application was conducted unconsciously and planned by the teacher to realize the 17 Sustainable Development Goals. This concept was available in the 2013 curriculum thematic books used by teachers or students in schools.

Even so, there was one teacher who realized and interpreted the application of Educational for Sustainable Development (ESD) in learning so that this concept can be implied in learning with the appropriate Basic Competency (KD) in the 2013 curriculum. Then, 25% of teachers used the ESD-based assessment rubric. It was conducted by teachers who applied and developed their own assessment rubrics. Finally, 75% of teachers had difficulty using the critical thinking assessment rubric because it was rarely used and unavailable in the teacher's book.

Researchers interviewed 8 teachers regarding Educational for Sustainable Development (ESD) and the implementation of ESD in learning and its assessment tools. The description results of the interview were as follows: Interviews were conducted with class V-A and class VI teachers from Public Elementary School 1 X. The class V-A teacher said that assessment was an essential thing to conduct every day for the teacher to measure several aspects (spiritual, social/attitude, knowledge, and skills) of each student. However, sometimes teachers only focused on assessing cognitive aspects using clear and simple scoring rubrics. In addition, cognitive aspects were easier to develop than other aspects. Apart from the knowledge aspect, teachers rarely conducted rubric development activities for other aspects of the 2013 curriculum because of the many administrative demanded of

the 2013 curriculum.

However, in fact the teacher has implemented learning related to Educational for Sustainable Development (ESD) because Basic Competence (KD) and material in class V was sustainable development. Furthermore, the class VI teacher succeeded in applying the critical thinking attitude assessment rubric with Educational for Sustainable Development (ESD) due to awareness and concern for sustainability. The attitude assessment rubric was prepared personally with material considerations on that day.

However, teachers did not develop rubrics for assessing critical thinking attitudes in implementing learning every day. At first, teachers had difficulties in developing several learning tools items because of the number of administration in the 2013 curriculum. However, it could be overcome by discussions among teachers in Teacher Working Group activities. In addition, the learning device format can be simplified as needed to facilitate use.

The interviews results with fourth grade teachers and sixth grade teachers from Public Elementary School 3 X revealed that assessment was essential for assessing each student with different abilities. Assessment of KI-1 to KI-4 (KI 1: Spiritual, KI-2: Social, KI-3: Knowledge, KI-4: Skills) required alignment to determine the outstanding abilities of each student. Sixth grade teachers were familiar with the term Educational for Sustainable Development (ESD) and applied it in learning even from material in the 2013 curriculum thematic books. However, the teachers did not develop an assessment rubric to assess attitudes or critical thinking based on Educational for Sustainable Development (ESD). The teacher only used and utilized rubrics that were available in other references. Attitude assessment was only done through rare observations. They had difficulty in using and developing attitude assessment rubrics

Meanwhile, the interviews results with grades IV and grade V teachers from Public Elementary School 5 X revealed that they realized the term Educational for Sustainable Development (ESD). However, they did not realize the importance of implementing it in the elementary school environment. In addition, there was still a lack of socialization or instructions for implementing ESD in learning or school activities, especially elementary schools. However, one of the teachers did not know the term Educational for Sustainable Development (ESD). He said, "Apparently, that is a difficult thing for a senior teacher". He also desired the socialization of Educational for Sustainable Development (ESD) so that teachers, especially elementary school teachers could apply it in learning and stimulate students' sensitivity to sustainable development. Even if the contribution was small or little.

Finally, the interviews were conducted with the teachers in class V - A and class VI from Public Elementary School 3 Y. The class V – A teacher stated that he already realized about Educational for Sustainable Development (ESD) from seminar. He understanded and applied it in learning. In addition, class V materials contain Basic Competency in Natural Sciences and Social Sciences subjects. For example, Basic Competency in Natural Sciences contains analysis of the water cycle and its impact on earth phenomenon and the survival of living things. Then the Basic Competency in Social Science contains the role of the economy to improve people's lives in the social and cultural fields so that the unity and integrity of the Indonesian Nation is great. These competencies can be studied and discussed more deeply in relation to Education for Sustainable Development (ESD). These competencies could be studied and discussed more deeply in relation to Educational for Sustainable Development (ESD). The application of ESD in subjects could sharpen students' sensitivity to the social and living environment. Using the rubric for assessing critical attitude was difficult. Careful observation was required during the learning process. It was different from the knowledge aspect which can be seen from the results. Someway, the results reflected the learning process.

Apart from interviews, researchers also conducted a documentation study of the learning tools used. The researcher analyzed the Basic Competency in the Lesson Plan related to Educational for Sustainable Development (ESD). The analysis results of the

Educational for Sustainable Development (ESD)-based critical thinking assessment rubric documentation were as follows:

Table 3 The analysis results of the critical thinking assessment rubric documentation in Lesson Plan

Aspect	Teacher's BookTheme 8 Sub-theme 2 for fourth grade		The fourth grade Lesson Plan for Theme 8 Sub-theme 2		The fifth gradeLesson Plan for Theme 6 Sub-theme 1		The sixth gradeLesson Plan for Theme 4 Sub-theme 1		Total (%)
	Available	Unavailable	Avail able	Unavailable	Avail able	Unavailable	Avail able	Unavailable	
There isan attitude assessment rubric	☑		☑		☑		☑		100 %
Procedures and assessment criteria are obvious	☑			☑	☑		☑		75 %
There is compatibility with thelearning objectives	☑		☑			☑	☑		75 %
The rubric contents are related to Educational for Sustainable Development (ESD).		☑		☑	☑		☑		50%
The rubric uses critical thinking indicators		☑		☑		☑	☑		25 %
There is a description column in the attitude assessment rubric	☑			☑	☑			☑	50 %

Based on the documentation study results, there was 100% of the attitude aspect assessment rubric in the Lesson Plan or the teacher's book as a basic guideline for implementing learning. Furthermore, several obvious assessment criteria procedures have been presented in the attitude assessment rubric in the teacher's book or lesson plans. It was evidenced by 75% of them had clear assessment criteria procedures in the attitude

assessment rubric. There was 75% of the assessment rubric related to the learning objectives. There was a 50% section that is suitable for Educational for Sustainable Development (ESD), namely social, economic, and cultural. It was because Basic Competence in the 2013 curriculum contains Educational for Sustainable Development (ESD) on certain learning materials. However, only 25% of the assessment rubrics use critical thinking indicators to assess students' attitudes during the learning process. 50% of the assessment rubric provided a description column to explain students' attitudes during the learning process.

Educational for Sustainable Development (ESD) and critical thinking aspects in the 2013 curriculum were interrelated. By thinking critically, students could think about their future in order to continue to survive. In addition, Educational for Sustainable Development (ESD) approach could enhance contextual learning with relevance between the content and the students' environment. Similar to Laurie (2016) who stated that the Educational for Sustainable Development (ESD) approach could increase the relevance of learning. In addition, it could assist students to recognize their existence in the surrounding. Similar studies have been conducted in several countries, one of which is Sweden. Several Swedish teachers did not comprehend Educational for Sustainable Development (ESD), while 70% of teachers desire and require training on sustainable development (Borga, 2014). Moreover, the Educational for Sustainable Development (ESD) concept was included in every subject in Sweden so that ESD issues were integrated (Pauw, 2015).

Critical thinking is one of the important abilities of students to improve rational and reflective thinking through the learning process (Ramadhanti & Agustuni, 2021). Critical thinking can also stimulate individuals to fulfill their intellectual needs so that they develop. Measuring a person's critical thinking skills could use the critical thinking attitude assessment rubric. Critical thinking assessment rubrics can be developed based on critical thinking indicators (Amalia, 2014). According to Facione (2011), critical thinking indicators are interpretation, analysis, evaluation, inference, explanation, and self-regulation. These six indicators could be used to measure students' critical thinking skills during the learning process.

CONCLUSION

Based on the results, it can be concluded that the term Education for Sustainable Development (ESD) has been caught and recognized by teachers. However, the lack of information on Educational for Sustainable Development (ESD) causes difficulties for teachers to recognize and integrate ESD in the learning process. In addition, they should develop a critical thinking assessment rubric based on Educational for Sustainable Development (ESD). There are 2 of 8 teachers who developed their own Educational for Sustainable Development (ESD)-based critical thinking assessment rubrics. The analysis results of several learning tools discover that 50% of the assessment rubrics integrated Educational for Sustainable Development (ESD). However, only 25% of rubrics utilize critical thinking indicators. Indirectly, the materials in the 2013 curriculum have provided content related to Educational for Sustainable Development (ESD). There are 3 domains of ESD, namely material on the economy, social, and culture. Thus, teachers should develop learning tools based on Educational for Sustainable Development (ESD).

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