CHAPTER I
INTRODUCTION

1.1 Background of Study

Industrial revolution 4.0 had a big influence on human life. The technology develops rapidly and becomes more sophisticated. Schwab (2017), explains that artificial intelligence, the internet of things, autonomous vehicles, robotics, bio and nanotechnology, 3-D printing, quantum computing, material science, and energy storage are rising in IR 4.0. Because of this, human work has become easier and less time-consuming. Furthermore, Hussin (2018) points out that the education field also changes besides economy and governance. Education would combine the real and virtual worlds (Benešová & Tupa, 2017). It meant that technology would be used and integrated into the process of teaching and learning. According to Ahmadi (2018) technology provides language learners wider access to find lots of learning sources. Besides, it is also able to make the process of learning more interactive and meaningful for the students (Raja & Nagasubramani, 2018). This era required individuals who could operate technology, cooperate, communicate effectively, and solve a problem (Albahlal, 2019). Therefore, education needs to be adjusted with IR 4.0 requirements.

Global education was currently being reformed to form students who could use technology and solve complex problems related to competitive life (Anagün, 2018). This education is known as 21st-century learning, which

requires students to master several skills to meet the needs of IR 4.0. Three scopes of skills must be focused on in 21st-century learning, namely: 1) learning and innovation skills, 2) information, technology, and media skills, and 3) life and career skills (Farisi, 2016 in Ashraf et al., 2017). Furthermore, learning and innovation skills cover critical thinking and problem solving, creativity, communication, and collaboration, known as 4C (Inggriyani, 2018). Regarding this issue, the curriculum should be arranged and designed based on the standard of 21st-century education with the expectations of teachers and students could have 21st-century skills and competencies (Dewi, 2019). Moreover, Sahin (2009, in Rosdiana et al., 2020) points out that new approaches and new methods are needed to develop the learning skills as well as to accomplish the aims of 21st-century learning. In addition, the learning method used also needs to engage both the teacher and the students to build collaboration, active, communicative, and creative learning (Rosdiana et al., 2020). Afterward, in its implementation, the teacher must also prepare a lesson plan and an assessment to evaluate the learning and teaching process that has been taking place (Rosdiana et al., 2020).

Moreover, the implementation of authentic assessment in Indonesia has encountered many obstacles. It is proven by Saputra et al., in 2019. They find that English teachers of secondary schools in West Java often encounter problems implementing the authentic assessment. Even though they already attend a training program for the 2013 Curriculum, they still face some issues related to validity, reliability, evidence transformation, and subjectivity (Saputra et al., 2019). Moreover, in the reliability issue, it is explained that

the teachers do not use any rubric to assess the students (Saputra et al., 2019). Wangid et al., in 2017, also discovered the same problem. English teachers in Yogyakarta are still incapable of fully performing the authentic assessment based on the 2013 Curriculum standard (Wangid et al., 2017). Based on their findings, the teachers find it difficult to formulate the operational verbs assessment indicators, achievement indicators, rubric, scoring, and assessment criteria. On the other hand, the implementation of authentic assessment by elementary school teachers in Serang has been going well. However, they still have some obstacles, such as the teacher's and students' readiness, time allocation, incomplete assessment instruments, and the use of authentic assessment (Fadillah et al., 2020). The problem with implementing authentic assessment for young learners in Indonesia needs to be resolved.

Moreover, the current condition of the world that is hit by the Covid-19 outbreak has made education change. Education cannot be done face-to-face but via online learning to reduce Covid-19 cases. As a result, Indonesia's Ministry of Education and Culture has decided to implement online learning from March 24, 2020 (Mendikbud, 2020 in Yuzulia, 2021). This new situation was an obstacle, especially for teachers who could not use technology. It was difficult for them to teach as well as to do an assessment. It could be seen from Bhuana and Apriliyanti's (2020) study. Many English teachers of junior and senior high schools in Cimahi had difficulty transferring the learning activities in offline lesson plans into online lesson plans. They were also difficult to design and deliver the materials because they were not familiar with different kinds of learning-based applications.

Yulianto and Mujtahid (2021) also have found that 12 English teachers in Surakarta faced some obstacles in implementing online assessments. These barriers were connection problems, assessment validity, and lack of student enthusiasm. The students live in a rural area, making it difficult to get a stable connection. It was difficult for them to access the assessment, reducing the students' enthusiasm to complete the assessment. Furthermore, the most crucial thing was that the teacher could not monitor students in completing the assessment (Yulianto & Mujtahid, 2021). It becomes invalid when the students do not submit it due to the connection or finish it with their parents' help. In addition, Abduh (2021) also points out that integrity issues are the main problem of online assessment. Students have a great opportunity to cheat and do plagiarism. Besides, technical problems and connection instability affect the validity and reliability of the assessment (Abduh, 2021). In the offline context, teachers also experience problems carrying out authentic online assessments.

As a follow-up regarding this issue, preliminary observation was conducted in two elementary schools in Buleleng using interviews with teachers and students and observation. There are several results collected regarding the implementation of assessment for English subjects. First, both schools use K-13 or curriculum 2013, the latest curriculum in Indonesia. Second, there was English subject for 4, 5, and 6-grade students in both schools. However, it is only as local content or *muatan lokal*. It is described in Minister of Education and Culture Regulation number 79 of 2014 concerning Local Content in the 2013 Curriculum (Sugianto & Hasibin,

2020). Third, the schools already used the 2013 syllabus, which is in line with the implemented curriculum. Fourth, based on the interview with the teachers, they have mentioned that they used several 21st teaching methods, such as project-based learning and cooperative-based learning. However, they did not assess the students' process in completing the project. They only assessed the product created by students. Fifth, during online learning, teachers had difficulty conducting the teaching and assessment process due to technology operation and connection problems from the students. Moreover, the students' assessment result was in doubt since the teacher could not monitor the students in completing the task. Sixth, both teachers use written tests, oral tests, performance assessments, and project assessments for the assessment types. However, about the assessment instruments, both teachers reveal that they rarely used rubric as an assessment instrument due to the time efficiency. Due to the excessive number of classes handled, they prefer to assess the students' work by guessing rather than using a rubric. Next, about the assessment feedback, sometimes they gave the students comments related to their assignment.

From all of those preliminary findings, it can be stated that the assessment process on teaching and learning English in elementary school is not yet under 21st-century learning. Besides that, students' process in finishing the task is neglected. It is contrary to what is emphasized in authentic assessment, which is currently recommended by the 2013 curriculum and 21st-century learning. Moreover, there is no assessment tool

used and involved. The absence of an assessment instrument would lead to a biased assessment.

Based on those issues, there is an urgency to develop an assessment instrument regarding authentic assessment implementation. Teachers must assess the students with the appropriate assessment tool, whether in face-to-face or online learning situations. As an assessment tool, a rubric is the right solution for this problem. According to Chowdhury (2019), the rubric assists the students' learning development because it provides them with feedback. Besides helping the teachers to assess the students' work and performance more effectively, rubrics also assist the students in acquiring specific skills and knowledge (Chowdhury, 2019). Furthermore, it is explained that rubric makes the assessment more reliable, valid and transparent (Chowdhury, 2019). It is proven that rubric assessment could solve the problem that the English teachers of elementary schools have in assessing the students. The teachers should use rubric assessment to provide the students with clear feedback to help them improve their English skills.

However, the design of the rubrics assessment was adjusted with the teaching method used. In this case, the design of the rubric assessment was based on the characteristics of discovery, problem-based learning, project-based learning, and task-based language learning methods. The reason for using those teaching methods was to promote 21st-century learning. It is proven by Haryati (2017) in her article. Ward (2013: 40, in Haryati, 2017) explains that the learning process in discovery learning requires the students to discover, discuss and solve a problem. Whereas, by using problem-based

learning (PBL), the students could increase their problem-solving skills in a real-life situation, critical thinking skills, and self-learning training. Then, by implementing a project-based learning method (PjBL), the students were training their 4C skills to solve a problem and produce a project as a result of their learning process. Meanwhile, task-based language learning is beneficial to improve students' communication skills, interaction skills, and critical thinking skills (Celik, 2017). These teaching methods were already following the needs of the 21st century.

This study was conducted to help the English teachers assess the elementary students' English skills by using an authentic assessment rubric. It focuses on the criteria of a good assessment rubrics and how to design it based on the teaching methods and the lesson's topics. Moreover, the product of this study was designed to have the flexibility to be used in offline and online learning. Particularly, it was designed for discovery, problem-based learning (PBL), project-based learning (PjBL), and task-based language learning, which then adapted to the topic of grade 4 elementary school students. Through the novelty of this study, it was hoped that it would promote and improve the implementation and the development of authentic assessments, especially for young learners in Indonesia.

1.2 Problem Identification

Some problems were obtained from the preliminary observation conducted in some elementary schools in Buleleng. First, there is no assessment for the students learning process. It was only focused on the students' learning product. Second, the assessment used is still inappropriate

without using any rubric. The teachers only gave scores, and feedback was rarely given. The students found it difficult to improve their English skills since they did not get an explanation about their mistakes. Third, in online learning, the teacher could not monitor the students, and it turned out invalid and unreliable because the student's integrity was questioned. As a result, the assessment process cannot run as what curriculum expected.

According to the problem identified authentic assessment rubric to help the teachers and the students' needs to be developed. Through the use of authentic assessment rubrics, the assessment could be more objective because it has several aspects with different ranges of score and description. Besides, the students were also provided with feedback to know about their English ability. Most importantly, it could be used in an offline and online learning context. Furthermore, the rubrics were designed based on four teaching methods: discovery, problem-based learning, project-based learning, and task-based language learning to maximize the implementation of the 21st learning.

1.3 The Limitation of the Problem

This research was limited in developing authentic assessment rubrics for the first semester of grade 4 elementary students in Buleleng. It was designed for offline and online learning. Moreover, it followed the syntax of discovery learning, problem-based learning, project-based learning, task-based language learning, and the topic of English subject for the first semester of grade 4 students.

1.4 Research Question

According to the background of the study, there are two research questions formulated as follows,

1. What are the criteria for designing authentic assessment rubrics for assessing students in grade 4th who are taught using discovery learning, problem-based learning, project-based learning, and task-based language learning in an offline and online learning context?

2. How to design authentic assessment rubrics for assessing 4th-grade students who are taught using discovery learning, problem-based learning, project-based learning, and task-based language learning in an offline and online learning context?

3. How is the quality of 4th-grade assessment rubrics developed using discovery learning, problem-based learning, project-based learning, and task-based language learning method?

1.5 Research Objectives

The objectives of this study were developed as follows,

1. To investigate the criteria used in designing authentic assessment rubric for discovery learning, problem-based learning, project-based learning, and task-based language learning in offline and online learning for grade 4.

2. To design and develop authentic assessment rubrics for assessing 4th-grade students who are taught using discovery learning, problem-based

learning, project-based learning, and task-based language learning in offline and online learning.

3. To investigate the quality of 4th-grade assessment rubrics developed using discovery learning, problem-based learning, project-based learning, and task-based language learning method.

1.6 The Expected Specification of the Product

The expected specifications of the product in this study were as follows,

1. It was expected that this research would develop authentic assessment rubrics for offline and online learning to assess students, especially students who are taught using discovery learning, problem-based learning, project-based learning, and task-based language learning.

2. It was expected that the authentic assessment rubric could be used to assist English teachers in assessing 4th-grade students based on each method applied, namely discovery learning, problem-based learning, project-based learning, and task-based language learning in offline and online learning.

1.7 Research Significances

There were two kinds of research significances expected to be obtained in this study: theoretical significance and practical significance.

1. Theoretical significance

   This research was expected to be able to give a contribution to the educational field, especially in developing tools for conducting

assessments. Therefore, the learning process could run accordingly with the learning goals that the students must achieve.

2. Practical Significance

   a. Teacher

   Through this research, it was hoped that it could assist teachers in doing assessments in offline or online learning situations by using an authentic assessment rubric, especially for students taught using discovery learning, project-based learning, problem-based learning, and task-based language learning.

   b. Students

   For the students, it was expected that through this study, they would be assessed from all of the activities done, not the product only. Besides, it was hoped that they could get a better explanation of what aspects they have to improve to meet the learning outcomes.

   c. For other researchers

   It was hoped that this research could be used to support further research related to authentic assessment, especially in assessment tools about rubrics.

1.8 Assumption and the Limitation of the Development

The limitations of the development of authentic assessment rubric in this study were as follows,

1. The product developed in this research, authentic assessment rubrics, was used for offline and online learning. It was designed based on discovery learning, problem-based learning, project-based learning, and task-based language learning syntaxes. Besides, it was also adjusted with the topic taught for the first semester of 4th-grade students. Therefore, this rubric assessment is only for students in grade 4.

2. The authentic assessment rubric developed in this study needs to be improved in the future and adapted to the development of education.

1.9 Definition of Key Terms

To avoid the possibility of misunderstanding or misinterpretation of the problems discussed in this study, some of the terms used were defined as follows:

1.9.1 Conceptual Definition

a. Authentic assessment

This is the type of assessment used in the 2013 Curriculum. By using this assessment, the students' knowledge, attitude, and skills are measured (Suarimbawa et al., 2017). Teachers could implement various kinds of test and non-test methods through authentic assessment. Moreover, it enables students to take part in how they achieve the learning goals.

b. Young learners

The young learner is a term for students aged 0 to 15 years old (Sukmawati, 2018). Based on this age range, they can be

kindergarten, elementary, and junior high school students. They have very different characteristics from adult learners.

c. **Rubric**

A rubric is a kind of authentic assessment instrument used to ease the teachers in conducting the assessment. It can be used as a guideline to assess the students' works and performances (Chowdhury, 2019). Besides as a guideline for assessment, it can also be used as a guideline for the students to achieve the maximum score. The rubric consists of four parts: task description, scale, dimensions, and description of dimensions. The use of a rubric could make the assessment process becomes objective and fair for all students.

1.9.2 Operational Definition

a. **Authentic assessment**

Authentic assessment in this study referred to the assessment type developed following four syntaxes of teaching methods: discovery learning, problem-based learning, project-based learning, and task-based language learning.

b. **Young learners**

Young learners in this study referred to 4th-grade students of an elementary school in which they are between 9 to 10 years old.

c. **Rubric**

Rubric, in this study, referred to an assessment tool developed to assess or evaluate students learning process and students learning products.