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Practicality of Using Conduct Exam Technologies Assessment Model for Elementary School Students in Learning Mathematics (From Student Aspect)

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Abstract. This research is based on the development of an assessment model of Conduct Exam Technologies for elementary school students in learning mathematics following the era of industry 4.0, and it is necessary to know the practicality of using the model from the students' aspect. The purpose of this study is to find out the practicality of the Conduct Exam Technologies assessment model for elementary school students in learning mathematics from the aspect of students. This research is descriptive qualitative research by distributing questionnaires. The results show that the practicality test of the Conduct Exam Technologies assessment model for elementary school students in mathematics learning got a score of 88.00 with a very practical category. This proves that the assessment model of Conduct Exam Technologies is very practical to use for elementary students in learning mathematics. This research has implications to be used as a basis in the development of other assessment models.

INTRODUCTION

Science is constantly evolving anytime which drives the creation of new technologies. The development of technology has begun the digital stage, especially in the field of information and communication. In the era of industry 4.0, the development of information technology became the main means in helping the process of human life, including in the process of learning and teaching [1] [2]. In the world of education, the innovation developed is not only a technology-based learning process but also a technology-based assessment process. Students as subjects in the implementation of the educational process certainly receive the impact of the technology development.

Elementary school students are still in the stage of cognitive and affective development [3]. Elementary school students are an active individual with a variety of characteristics [4] [5]. With the diversity of these characteristics, there will be reciprocal interaction in the learning process between students and students as well as students and

teachers [6]. Elementary school students, who are in the concrete operational stages, will begin to demonstrate the following learning behaviors [7].

- Students will begin to look at the world objectively, move from one aspect of the situation to another aspect reflectively, and understand the elements simultaneously.
- Students will begin to think operationally.
- Students will use the operational way of thinking to classify objects.
- Students will begin to create an association of rules, simple scientific principles, and use causal relationships.
- Students have understood the concepts of substance, liquid volume, width, length, weight, and area.

With the above learning behavior, students will easily follow the development of information and communication technology in the world of education. The use of technology in the world of education is not only in the learning process but also in the assessment process. However, assessments conducted in primary schools are still manual. Therefore, it is necessary to develop technology-based assessments. One of them is by combining the application of Conduct Exam Technologies in the technology-based assessment process. Conduct Exam Technologies is a software used to conduct online-based assessments [8] [9]. Conduct Exam Technologies (CET) make it easy for students to work to the fullest because there are features for drawing graphs, numbers, or arranging conditions, or explaining matrices, or making monetary notes just like regular manual exams [10]. This supports CET to evolve as a means of technology-based assessment model in the industry 4.0.

Thus, researchers have developed a technology-based assessment model that has been declared valid and worthy of use. The implementation of this evaluation model needs to know the level of practicality. This aims to understand the impact of the assessment model from a practical point of view. This practicality can be seen from the aspect of teachers, students, and parents. However, this study only focuses on the aspects of students.

Other research supports this research. A previous research developed an assessment model for collaborative learning using a practical and effective PhET system to improve junior high school students' science creativity [11]. Another research established a practical blended learning assessment approach for students from their research [12]. This research has similarities, which is to determine the practicality of the assessment model developed. Nevertheless, this research aims to determine the practicality of the assessment model using Conduct Exam Technologies for mathematics learning in elementary schools.

Therefore, the purpose of this study is to find out the practicality of the technology-based assessment model by using the Conduct Exam Technologies from the aspect of students. This study is different from other studies due to the lack of research related to the practicality of the Conduct Exam Technologies assessment model for elementary students in learning mathematics

This research is necessary because industry 4.0 will require the use of a technology system in learning. This assessment system, which employs Conduct Exam Technologies, has facilitated the learning process in industry 4.0. The practicality of this scoring system must be validated so that it can be widely shared right away. In addition, the research will also add references to the technology-based assessment system for learning in elementary schools.

RESEARCH METHOD

This study is descriptive qualitative research. The research was conducted at Elementary School 04 Birugo involving as many as 30 students. Data collection techniques using online questionnaires were distributed using the Likert calculation scale format. Likert scale is a qualitative data interpreted on quantitative data seen in table 1.

TABLE 1. Practicality questionnaire scale

Answer	Score
Very good	5
Good	4
Pretty good	3
Poor	2
Very poor	1

Data analysis from questionnaires with rating scale obtained by means:

Determine the ideal maximum score

Ideal maximum score = number of students x number of points x maximum score

Determine the score obtained by totaling each score

Determine the ideal percentage:

$$\frac{\text{Score Obtained}}{\text{Ideal Maksimum score}} \times 100$$

While the final result is categorized as follows:

- 0% - 20% : very impractical
- 21% - 40% : impractical
- 41% - 60% : sufficiently practical
- 61% - 80% : practical
- 81% - 100% : very practical:

This practicality indicator consists of aspects of content quality, presentation quality, and simplicity of use.

RESULTS AND DISCUSSION

The practicality test from the aspect of students is carried out by distributing online questionnaires. The online questionnaires are developed by fulfilling the practicality indicators of the assessment model, namely the quality of content and purpose, the quality of techniques and ease of test performance. The final results of the practical questionnaire of the Conduct Exam Technologies assessment model for elementary students in learning mathematics can be seen in table 2.

TABLE 2. Practicality test results

No	Aspects	Final result	Category
1	Quality of content and purpose	85.50	very practical
2	Quality of Technique	90.00	very practical
3	Ease of test performance	88.50	very practical
	Average	88.00	very practical

From the table above, the overall Conduct Exam Technologies assessment model for elementary school students got a score of 88.00 with a very practical category in learning mathematics. The result of this study is supported by Maulana's research, which claims that a project-based assessment system for students has been built using a practical LAN system [13]. This research has something in common, namely knowing the practicality of the technology-based assessment model developed. On the other hand, this study discovered a new finding: the development of a practical technology-based assessment using Conduct Exam Technologies for elementary school students in learning mathematics.

Assessment is an important thing in the world of education. Assessment is an activity to gather information to make decisions [14]. In making a decision, information is necessary to determine the target [15]. Assessment is continuous and systematic in the learning process to gather information about student learning outcomes. Through assessment, it will be known whether the student learning process is successful or not [16]. In mathematics learning, the student assessment process focuses on learning outcomes and test results obtained by students in the form of certain scores or values. These scores indicate the achievement of each student in the material they learned [17]. In mathematics learning, aspects assessed from the student learning process include understanding concepts, reasoning, communication, and problem-solving..

Technology-based assessment using the Conduct Exam Application should be able to provide a practical impact on elementary school students. Conduct Exam Technologies (CET) is an online-based software that aims to conduct assessments. Conduct Exam Technologies (CET) is an innovative online exam software for web-based exams, online exams, computer-based tests, centralized exams, online assessment software, online exam systems, and more [18]. This software is protected and stable for students to take different types of exams for each level of education. This Conduct Exam Technologies application allows students to work to the fullest because there are features to draw graphs, numbers, compose or explain matrices, making notes just like regular manual exams [19]. Therefore, the use of the Conduct Exam Technologies assessment model for elementary students in mathematics learning needs to be implemented comprehensively.

This research proves that the use of the Conduct Exam Technologies assessment model for elementary students in learning mathematics is very practical. This assessment model pays attention to the quality of the content. This assessment model consists of a clear, simple, and consistent question instrument. A good assessment model has a clear

content quality and is consistent with the material [20] [21] [22]. Furthermore, this assessment model is adjusting the learning objectives. Learning objectives are the achievements that students must achieve through the process of assessment [23]. The learning objective is measured through assessment instruments compiled by the teacher. In making assessments, teachers should follow the learning objectives [24]-[26]. Furthermore, this assessment model pays attention to procedures and techniques that are easy for students to use. This learning model helps teachers design the assessment system interestingly and easily used. This is in line with the statement that the assessment model must have good technical quality [27]-[29]. Besides, this assessment model observes the ease of test performance. This model has features that make it easier for students to carry out an assessment. This assessment model makes students feel like they are not running a test. This is in line with the statement that a good assessment model is an attractive and easy-to-use model [30]-[32]. These factors make the Conduct Exam Technologies assessment model in learning mathematics is very practical to use for elementary students.

CONCLUSION

The results show that the practicality test of the Conduct Exam Technologies assessment model for elementary students in mathematics learning got a score of 88.00 with a very practical category. This proves that the Conduct Exam Technologies assessment model is very practical to use.

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