Analysis of Student Needs for e-Assessment Tools Oriented to Higher Order Thinking Skills (Host) in Thematic Learning to Measure Soft Skills and Hard Skills Competence

Rahmalia Azharini[1(✉)], Handoko[2], Undang Rosidin[2], and Ryzal Perdana[2]

[1] Student Faculty and Education, Lampung University, Bandar Lampung, Lampung, Indonesia
Rahmalia.azharini21@students.unila.ac.id

[2] Teacher Faculty and Education, Lampung University, Bandar Lampung, Lampung, Indonesia
Handoko@students.unila.ac.id, {Undang.rosidin, Ryzalperdana}@fkip.unila.ac.id

Abstract. Technological developments, devices or electronic devices have affected our lives in many aspects that demand the implementation of e-learning, the implementation of learning assessment cannot be separated from the influence of technological advances. This is related to the use of e-Assessment tools that support the teaching and learning process to measure students' soft skills and hard skills competencies. The advantages of this e-Assessment are based on the needs of educators to measure students' soft skills and hard skills competencies. This study used a quantitative descriptive method which was conducted at SD Negeri 2 Pardasuka involving teachers as respondents. Data collection instruments used interviews, questionnaires and observation by providing questions regarding e-Assessment tools that are oriented towards Higher Order Thinking Skills (HOTS) in thematic learning. The results of data analysis in this study indicate that e-assessment tools have an important role in the learning process. The e-assessment tool is an application that can be used to measure the capacity of students' soft skills and hard skills in thematic learning.

Keywords: component · formatting · style · styling · insert (key words)

1 Introduction

The need for profiles in online learning is growing along with the increasingly diverse content and forms of student learning materials. For example, learning materials are not only in the form of text and images, but also sound and video. Selection of learning materials according to student profiles will provide greater opportunities for successful learning. Over time, online learning systems are increasingly developing with more personalized learning capabilities, which allow e-Assessment tools to adjust learning materials according to each student's profile. This allows each student to experience a more personal learning experience because it suits their individual learning style, so

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that learning effectiveness can be achieved. Learning is a process that involves contact between students and teachers, as well as the use of learning tools, driving techniques, and tactics. The degree of student accomplishment in reaching educational goals can be used to determine success in the learning and learning process [1].

The use of electronic tools or gadgets in teaching and learning, as well as in process evaluation, has increased during the past ten years. How to use these technologies in assessment and evaluation procedures has become a hot subject in educational research as the conversation about using e-learning approaches in teaching and learning has grown. In the literature, many terms—such as electronic assessment or evaluation, online assessment or evaluation, etc.—are used to underline the same assessment technique. There is a considerable demand for methods and tools for assessing students in such systems as a result of technological advancements and e-learning systems [2].

The use of information technology for associated assessment tasks is known as e-assessment. While practical talents are evaluated using e-portfolio or simulation software, cognitive abilities are evaluated using e-assessment software. There are several benefits to online learning and assessment, including the potential to organize more information, rethink learning to make it more contemporary, and turn it into a community of inquiry [3].

Technological developments in the 21st century are currently making many changes in the fields of economy, information, communication, and others. This is a demand for the field of education to produce generations who have skills so that they can adapt to technological advances, They are referred to as 21st century skills. Critical thinking skills, problem-solving skills, decision-making skills, work collaboration, communication, use of information and communication technology (ICT), as well as personal and societal responsibility, are examples of 21st century competencies [4]. Applying an evaluation tool based on higher-order thinking abilities can help you develop your critical thinking skills [5].

According to [6, 7], and [8] higher order thinking skills (HOTS) are the capacity to think at a high level, including the ability to analyze, evaluate, interpret, and be able to offer conclusions. The use of apps as media in assessment activities through the usage of ICT (Information and Communication Technologies) media has become commonplace in the twenty-first century. Utilization of the ICT e-Assessment device has several advantages including the existence of a correction feature, setting the length of processing time, and not having to use paper (paperless). Utilizing an online application-based e-assessment tool is one option [9]. With the use of the proper learning resources, pupils will comprehend the teacher's subject more readily. [10–13]. The following are just a few of the tools that instructors utilize to facilitate learning: Google Classroom, Email, Youtube, Zoom, Jitsi, Google Meet, Quizizz, Schoology, Kahoot, and many more. Students may benefit from a novel learning experience using a learning strategy based on this game [14].

Using game-based apps can have a number of advantages, including increased student activity, a more dynamic learning environment, and more learning opportunities in general [15]. The literature from earlier studies, which asserts that using technology-based learning material is typically thought to be superior than traditional systems [16], also supports this. Quizizz is a program that is frequently used to run quizzes. Compared

to other applications, this one is for learning. Students can respond to tests or questions in this program in a pleasing manner. Students will find it increasingly difficult to finish it within the allotted time. The Quizizz program offers certain advantages over other apps, such as the presence of a scoreboard that enables quiz players to view their scores and ranks in relation to other participants [17].

A child's action to acquire information and abilities called learning. A broad idea called "thematic" can combine several elements into a single object. The use of themes to connect subjects rather than dividing them into separate learning activities is known as thematic learning [18]. Learning utilizing certain themes and a variety of disciplines is known as thematic learning [19]. Thematic learning, on the other hand, is integrated learning that employs themes to connect many disciplines in order to provide students meaningful experiences, according to Poerwadarminta. The major notion or idea that is the focus of the conversation is the topic [20].

A person's success in learning cannot be measured by hard skills alone, but also by soft skills that can make a person well accepted in the school environment and in the surrounding environment. Hard skills possessed by students are a knowledge of the ability of each student according to their field, while soft skills are the skills and experiences of students while attending school, participating in extracurriculars, character education training. Students, equipped with a skill acquired while at school, can develop and increase the potential of human resources in the work readiness of students after graduation, either opening their own business or working in other business worlds [21]. Students do not only master hard skills, but also master soft skills and hard skills. Thus students are able to work in a quality manner [22]. To improve students' soft skills and hard skills, it is necessary to inculcate competencies that are linked to their daily lives, and that has been summarized in thematic learning. Elementary school or madrasah ibtidaiyah level refers to the 2013 curriculum which integrates seven subjects, Pancasila and Citizenship, for example Education, Indonesian language, social sciences, math, cultural arts and crafts, physical education, sports, and health are all incorporated into a theme. This is why it is called thematic learning.

Based on the description of the importance of higher order thinking skills and the need for e-Assessment tools that can measure these abilities, Use of high-quality e-assessment tools focused on Higher Order Thinking Skills (HOTS) is required. The e-Assessment tool in this thematic learning aims to obtain valid and reliable results to measure students' soft skills and hard skills competencies. The Higher Order Thinking Skills (HOTS) oriented e-Assessment tool in this study is in the form of the Quizizz application for elementary school students. Seeing how important the e-Assessment tool is in thematic learning, this is an important influence for teachers in improving the learning process and students' thinking power. A study named "Analysis of Needs for Higher Order Thinking Skills (HOTS) Oriented E-Assessment Tools in Thematic Learning" is required based on observations to assess the soft skills and hard skills competencies of students in elementary schools.

2 Research Method

In order to acquire the necessary data for this study's descriptive quantitative approaches, observations, questionnaires, and interviews were employed. Interviews as primary data and questionnaires and observations as supporting or secondary data. After the interviews were conducted, the next step was to provide questionnaires and observations. The activity of giving questionnaires is by distributing questionnaires with questions to students, then followed by observation activities carried out by directly observing the learning process in the classroom, one of the functions of observation is to strengthen the analysis to be carried out. After collecting data through interviews, questionnaires, and observations, then the data were analyzed using a model [23]. Researchers analyzed the stages of preliminary study research as follows: 1) preliminary research, 2) needs analysis, 3) literature study.

3 Results and Discussion

A. Preliminary Research

The researcher conducts a field analysis to estimate Higher Order Thinking Skills to measure students' soft skills and hard skills, and collects empirical data from resources used by teachers, such as learning models, media, assessment models, etc. The researcher then conducts interviews with principals, teachers, and students, after which the data gathered were analyzed and identified to choose the most likely and important causes to be resolved. The first step in obtaining data in this study is to conduct interviews. At this stage the researcher found that the inappropriate thematic learning assessment was the main problem with the low level of Higher Order Thinking Skills ability to measure students' soft skills and hard skills in thematic learning. The results of interviews with teachers and students show that thematic learning at SD Negeri 2 Pardasuka has not used assessment, namely thematic learning which is the main problem of low student achievement, the material in the teaching materials used does not contain complete material and has not used HOTS questions. According to the findings of teacher and student interviews, an electronic assessment tool in the form of an application that enables pupils to think critically is required because this ability is an important component in the 21st century.

B. Need analysis

At this stage, the researcher analyzes the needs of potential users of the product and follows up on the initial research to find out the needs of practitioners. At this stage it was found that teachers and students needed a product in the form of an e-Assessment device in the form of a Quizzes application that was suitable for thematic learning, an e-Assessment device in the form of a Quizzes application that facilitated students and teachers to facilitate the learning process. At this stage, 24 students were used to determine the need for analysis. At this stage, interviews were conducted with homeroom teachers and students. The instrument used was an observation sheet given to 24 students to find out the needs in the field. Another instrument used at this stage is a questionnaire about the need for an e-Assessment tool that is oriented towards HOTS for students. The test used is a description of 10 questions given to 24 students at SD Negeri 2 Pardasuka.

Table 1. Likert scale for the assessment of the observation sheet

Scale Value	Evaluation
4	Always
3	Often
2	Seldom
1	Never

Analysis of the results of the observation sheet is used to determine the needs of teachers and students using a Likert scale with the criteria:

Then the score interference criteria are as follows:

1. Number 0% - 24,99% = Never
2. Number 25% - 49,99% = Seldom
3. Number 50% - 74,99% = Often
4. Number 75% - 100% = Always

The data collection methods used are observation and questionnaires or questionnaires. Observation is a data collection technique by observing directly or indirectly the things observed and recording them on an observation tool (Sanjaya, 2013). Given that the teacher only ever assigns questions using books, the Interval value produced from the computation of observations using a Likert scale is 44.99%, it can be said that respondents "rarely" use e-learning in the learning process. Students tend to be busy with their activities, less focused on listening to the teacher's explanations and students are less active in learning. Many students are still silent, feel bored and only accept the material given by the teacher. Students are still relatively low in communicating with teachers and less active in the learning process, students look confused when the teacher asks about the material presented. Seeing these problems, it is necessary to use learning tools or tools that function to facilitate the learning process and build student activities (Kosasih, 2014).

Analysis of the instrument used for the needs of the HOTS-oriented e-Assessment device using a Likert scale.

Then the score interference criteria are as follows:

1. Number 0% - 19,99% = Very Unnecessary

Table 2. Assessment interval

Likert. Scale Rating Interval	Percentage Number in (%)
Never	0% - 24,99%
Seldom	25% - 49,99%
Often	50% - 74,99%
Always	75% - 100%

Table 3. Likert scale for assessing the needs analysis of HOTS-oriented e-Assessment tools for students

Scale Value	Evaluation
5	It is necessary
4	Need
3	Doubtful
2	No need
1	Absolutely unnecessary

2. Number 20% - 39,99% = No need
3. Number 40% - 59,99% = Doubtful
4. Number 60% - 79,99% = Need
5. Number 80% - 100% = It is necessary

By distributing surveys containing questions, data was gathered. Ten questions from the HOTS-oriented e-Assessment needs analysis tool were scored on a Likert scale. A score of 1 is not required, a score of 2 is not required, a score of 3 is not required, a score of 4 is required, and a score of 5 is required for the questions being measured. While both formal and informal presenting techniques are used to communicate the study's findings. In order to analyze the need for an e-Assessment tool in the form of a Quizizz application targeted at Higher Order Thinking Skills students in thematic learning to measure soft skill competencies, the questionnaire results were analyzed descriptively by looking at the average value of each indicator. as well as their hard talents. Obtained based on the distribution of questionnaires about the use of e-learning in thematic learning given to 24 fifth grade students of SD N 2 Pardasuka Pringsewu Regency, a needs analysis was carried out to determine and describe the use of e-learning, Using electronic assessment tools in the form of apps was one of them. Test. The findings of the survey or surveys, which were evaluated using a Likert scale, revealed that 86.66%, it can be concluded that the respondents "Really Need" to use the e-Assessment tool in the form of the Quizziz application which is oriented to Higher Order Thinking Skills This reason makes teachers feel that the use of an E-Assessment tool in the form of the Quizziz application in thematic

Table 4. Assessment interval

Likert Scale Rating Interval	Percentage Number in (%)
Absolutely unnecessary	0% - 19,99%
No need	20% - 39,99%
Doubtful	40% - 59,99%
Need	60% - 79,99%
It is necessary	80% - 100%

learning can make learning and assessment more varied, to improve students' soft skills and hard skills.

C. Literary Studies

At this stage, theoretical and practical studies of the products used are carried out. At this point, the product being utilized is an e-Assessment tool in the form of a quiz application that can enable Higher Order Thinking Skills to gauge students' proficiency in both soft and hard skills, ensuring that learning results are consistent with the desired objectives.

4 Conclusion

The conclusion drawn from the research and discussion that have been presented is that the e-assessment tool plays a significant part in the learning process and that the e-assessment tool, specifically the Quizziz application, generally has a positive influence on the thematic learning process. Higher Order Thinking Skills can be facilitated by the e-Assessment tool in the form of the Quizziz application (HOTS) skills in thematic learning to measure students' soft skills and hard skills competencies. Researchers hope that teachers are more innovative in using E-Learning in learning. By using the E-Assessment tool, it is easier for teachers to practice Higher Order Thinking Skills (HOTS) abilities that students must have, and teachers can measure the soft skills and hard skills competencies of students. Increasing the ability of teachers to utilize e-Assessments in the form of the Quizziz application can trigger the activeness of students to be enthusiastic in filling out questions in the Quizziz application. Teachers can access the Quizziz application via smartphone or laptop. The teacher makes questions related to the material that has been delivered then students answer correctly. In working on the questions on the Quizziz application, you cannot postpone it for tomorrow or even later because when you enter Quizziz learning, there is a code and this code can only be used once and a day. For this reason, this application eliminates students' laziness so they don't get bored with being given many assignments. Teachers can strengthen students' understanding and skills with advanced assignments according to thematic learning objectives. The Quizziz application has advantages over other applications, namely the Quizziz application has a leaderboard, with this advantage students can find out the grades and ratings of quiz participants compared to other participants.

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