The adaptation of new habits after the COVID-19 pandemic has an impact on the lack of availability of learning media that can be used to support the learning process. The role of learning media is very important in the learning process, one of which is to facilitate students in practicing higher-order thinking skills as one of the 21st-century skills that must be possessed by students. This study aims to analyze the needs and explore the role of teachers in the process of developing digital learning media containing HOTS-based questions in elementary schools. This research is a descriptive research by conducting a needs analysis. The data was collected using observation and interview methods with instruments in the form of observation sheets and interview sheets. Data analysis was carried out qualitatively. The results show that digital-based learning media containing HOTS questions used in post-COVID-19 learning are still limited and not varied. In addition, teachers also have not played a major role in developing digital-based learning media containing HOTS questions. This indicates that the development of digital-based learning media containing HOTS questions needs to be developed as an effort to improve the quality of learning after the COVID-19 pandemic.

1. INTRODUCTION

The 21st-century learning paradigm is oriented towards improving character, competence, thinking skills, and literacy (Arifin, 2017; Fityana et al., 2017). Students are expected to be able to solve the problems faced by involving the ability of communication, collaboration, think critically, creative thinking, and innovative thinking in the learning process (Amanah et al., 2017). This is in line with the 21st-century learning objectives which prepare students to master the skills that will be needed to face the challenges in their lives (Aliftika et al., 2019). 21st-century learning is closely related to the development of technology and information (Dewi & Purwanti, 2019; Widodo et al., 2020). Therefore, students are
required to master several skills which include learning and innovation skills, mastering media and information technology, as well as life and career skills. (Zubaidah, 2016). The current learning paradigm demands learning that is oriented towards the literacy, numeracy, and high order thinking skills (HOTS) of students. (Pratiwi & Fasha, 2015; Widiastuti & Suyata, 2014). This is reinforced by the holding of a National Assessment as a sign of the changing paradigm of educational assessment. The National Assessment has the main objective of encouraging the improvement of the quality of learning and student achievement from cognitive learning outcomes which include literacy, numeracy, and higher-order thinking skills (Novita et al., 2021; Rokhim et al., 2021). Questions related to the National Assessment require understanding and high-level thinking skills to be able to answer them (Novita et al., 2021; Nurjanah, 2021). Therefore, students should be trained in order to develop higher-order thinking skills according to their respective potentials.

Higher order thinking skills can be trained by integrating them in learning (Ariadari, 2015; Rahayu et al., 2020). The learning carried out should provide space for students to be able to explore various concepts of knowledge by carrying out various meaningful activities (Agustihana & Suparno, 2018; Widiastuti & Suyata, 2014). Therefore, the learning carried out must provide training in higher order thinking skills (HOTS). However, in reality, the implementation of HOTS-oriented learning still cannot be carried out optimally. There are various obstacles that appears, both from students and teachers. One of the obstacles that appear from students is the lack of training of students in solving HOTS-related questions, and one of the obstacles that appear from the teacher’s point of view is the lack of ability possessed by teachers in developing HOTS-oriented learning. (Nofrion & Wijayanto, 2018; Pratama & Istiyono, 2015). The Covid-19 pandemic has impacted various aspects of people's lives around the world (Qurrotaini et al., 2020; Yaugga & Sunarsi, 2020). One aspect of life that has been affected by the COVID-19 pandemic is education. The transformation in the field of education can be seen from the learning process that has changed from what was previously carried out face-to-face, is now carried out online through various platforms. This causes various challenges and obstacles for teachers and students in the process of implementing the learning process. The biggest obstacle experienced is the difficulty of delivering learning materials optimally. This is due to several factors such as unstable internet network, low economic condition of the community which has implications for the lack of supporting infrastructure for online learning, and is exacerbated by the lack of knowledge and skills in using various technologies to support online learning.

The implementation of online learning also causes the use of learning media to be less than optimal. Whereas learning media is one of the important components supporting the learning process, but in current situation there are not many appropriate learning media used in online learning (Atsani, 2020; Qurrotaini et al., 2020). This causes the learning process during the Covid-19 pandemic to only focus on the teacher as the only source of student learning. This shows the lack of student involvement in the learning process (Arizona et al., 2020; Harahap et al., 2021). One solution in overcoming various problems that arise during the Covid-19 pandemic is to use innovative learning media which in accordance with technological developments. Learning media is defined as a tool that can be used by students to get new information and knowledge to understand the learning material provided by the teacher (Fanny & Suardiman, 2013; Sabtaninrugum et al., 2020). Learning media in the learning process have a function as intermediary that can delivering information to students (Kusumayuni, 2021; Supriyono, 2018). This study aims to analyze the needs and explore the role of teachers in the process of developing digital learning media containing HOTS in elementary schools. The use of interesting learning media is expected to increase the interest and motivation of students to learn. In addition, integrating HOTS into learning media as an exercise material is also expected to improve students' higher-order thinking skills.

2. METHODS

This research is a qualitative descriptive study (Bogdan & Biklen, 1982; Sugiyono, 2014). In this study, a needs analysis of learning media was carried out (Dadi et al., 2019). The analysis was conducted to analyze the use of learning media in schools as a whole. Data were taken by interviewing and direct observation of the condition of learning media in schools. Interviews were conducted with teachers and students. The teacher was given questions about the use of learning media during online learning. Furthermore, learning observations were also carried out to determine the use of instructional media in schools directly, besides that observations also aimed to strengthen the results of the analysis. The instrument was made by considering 5 aspects consisting of (1) the types of learning media commonly used; (2) Frequency of digital media use; (3) The advantages of commonly used learning media; (4) Lack of commonly used learning media and (5) teacher constraints in developing learning media. These five aspects are used because they are considered the main aspects that need to be observed in the
implementation of the use of learning media in schools. The data from the interviews were analyzed descriptively. The analysis refers to the reasons for the low or high use of learning media. The results of data analysis in the form of a descriptive description.

3. RESULTS AND DISCUSSION

Result

Based on the results of interviews with fourth grade elementary school teachers, the information is summarized as in the Tabel 1.

Tabel 1. Results of Observations on the Use of Learning Media in Elementary Schools

| No. | Aspek                                         | Hasil Pengamatan                                                                 |
|-----|-----------------------------------------------|---------------------------------------------------------------------------------|
| 1   | Types of learning media commonly used in online learning | Student books, materials in pdf form, student worksheets                         |
| 2   | Frequency of using digital media in learning   | A time a week, but not in full it can be followed by all students due to limited internet quota/other facilities. |
| 3   | The advantages of commonly used learning media | The learning media used are very practical and do not require many supporting facilities, and the preparation time is also relatively short. |
| 4   | Lack of commonly used learning media          | The learning media used are very monotonous, less attractive, and make students bored. |
| 5   | Teacher constraints in developing learning media | Not having enough time to develop interesting learning media, lack of skills in developing digital learning media. |

In addition, it was also found that teachers had difficulty in determining the most appropriate media in online learning. In addition, the teacher stated that there was no learning media that could train higher-order thinking skills. The teacher agrees if the development of online learning media that contains HOTS is carried out. One form of media that can be developed based on the results of the needs analysis is E-Scrapbook.

Discussion

The 21st century learning paradigm directs students to achieve various competencies and life skills including critical thinking, creative and innovative thinking, communication skills, collaboration, and confidence. (Erdogan, 2019; Halverson, 2018). In addition, students are also expected to be able to think critically, analytically, and creatively. Thinking critically, analytically, and creatively are indicators of higher order thinking skills (HOTS) (Kristanto, 2020; Nurhasanah & Yarmi, 2018). The main problem that generally occurs in Indonesia is the low level of high-order thinking skills of students (Agustianna & Suparno, 2018; Antara et al., 2020). This is evidenced by the results of international studies, namely PISA and TIMSS.

Another problem that has greatly impacted the world of education is the Covid-19 pandemic. The Covid-19 pandemic has had a huge impact on various aspects of human life (Sari, 2021; Yuzulia, 2021), one of them is education. Covid-19 is one of the factors causing the face-to-face learning process in the classroom must be transformed into online learning. The implementation of online/blended learning results in the use of learning media as a component of supporting learning to be less than optimal (Asmuni, 2020). There are not many learning media that can be used in online learning. This causes the learning process during the Covid-19 pandemic only focus on the teacher as the only source of student learning (Diningrat et al., 2020; Wahyuni et al., 2021). The implementation of online learning also shows a lack of student involvement in the learning process. Efforts and actions are needed to overcome these problems. The form of efforts made is by developing learning media for online learning/blended learning which is also oriented to higher order thinking skills (HOTS). One form of media that can be developed based on the results of the needs analysis is E-Scrapbook.

E-Scrapbook is a form of development of scrapbook media designed in electronic form (Wusqo et al., 2021). E-Scrapbook is a digital-based learning media in the form of an electronic book (e-book) that contains information or explanations related to learning materials presented with pictures/decorations that can attract the attention of students and make it easier for them to understand the material (Kasdriyanto & Wardana, 2021; Wusqo et al., 2021). The use of E-Scrapbook media can be used as a
solution to the problem of the lack of availability of learning media that can be used in online learning or blended learning. (Wusgo et al., 2021). E-Scrapbook learning media can be integrated with HOTS questions that are inserted at the end of each learning topic. The use of E-Scrapbook media containing HOTS-based questions that can help students practicing high-level thinking skills. In addition, this learning media increases students’ interest in learning, practice critical and creative thinking skills, and increases students’ active participation in learning. In addition, the use of E-Scrapbook media also helps students explore and understand the basic concepts of the material taught by the teacher and stimulate students’ curiosity. E-Scrapbook learning media containing HOTS-based questions which has an important role to be applied and developed in the learning process. The use of learning media that oriented to higher order thinking skills will provide opportunities for students to practice solving problems by using higher thinking skills (Pratiwi & Fasha, 2015).

4. CONCLUSION

Digital-based learning media that containing HOTS used in post-covid-19 learning are still limited and not varied. In addition, teachers also have not played a major role in developing digital-based learning media containing HOTS questions. This indicates that the development of digital-based learning media containing HOTS questions needs to be developed as an effort to improve the quality of learning during the COVID-19 pandemic. One form of media that can be developed based on the results of the needs analysis is E-Scrapbook.

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