



Student Worksheets Based on HOTS in Elementary School

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Abstrak

Pentingnya Lembar Kerja Peserta Didik Berbasis HOTS di Sekolah Dasar. High Order Thinking Skill (HOTS) di sekolah dasar dapat menambah kemampuan berpikir tingkat tinggi siswa. Tujuan penelitian ini untuk menganalisis Lembar Kerja Peserta Didik berbasis HOTS kelas tinggi di Sekolah Dasar. Jenis penelitian ini adalah penelitian kualitatif yang bersifat deskriptif. Metode yang digunakan untuk mengumpulkan data yaitu wawancara, observasi dan dokumentasi. Instrumen yang digunakan untuk mengumpulkan data yaitu kuesioner. Subjek penelitian yaitu guru kelas IV. Teknik yang digunakan untuk menganalisis data yaitu analisis deskriptif kualitatif dan kuantitatif. Hasil penelitian ini menunjukkan bahwa analisis Lembar Kerja Peserta Didik berbasis HOTS kelas tinggi di Sekolah Dasar sudah di terapkan oleh guru dengan cukup baik. Lembar Kerja Peserta Didik yang dibuat oleh guru sudah mengarah pada keterampilan berpikir tingkat tinggi yaitu C4 (menganalisis), C5 (mengevaluasi), dan C6 (mencipta) hal sesuai dengan hasil wawancara dan data dokumentasi. Dapat disimpulkan bahwa analisis lembar kerja peserta didik berbasis HOTS sudah terealisasi dengan baik. Saran yang dapat diberikan adalah dengan lebih menekankan kembali High order thinking skill (HOTS) ke dalam Lembar Kerja Peserta Didik sehingga dapat menjadikan pembelajaran yang lebih maksimal dalam menerapkan HOTS.

Kata kunci: Lembar Kerja Peserta Didik, HOTS, Sekolah Dasar

Abstract

The Importance of HOTS-Based Student Worksheets in Elementary Schools. High Order Thinking Skill (HOTS) in elementary schools can increase students' higher-order thinking skills. The purpose of this study was to analyze the high-grade HOTS-based Student Worksheets in Elementary Schools. This type of research is descriptive qualitative research. The method used to collect data are interviews, observation, and documentation. The instrument used to collect data is a questionnaire. The research subject is the fourth-grade teacher. The technique used to analyze the data is descriptive qualitative and quantitative analysis. This study indicates that the analysis of the high-grade HOTS-based Student Worksheets in elementary schools has been implemented by the teacher quite well. The Student Worksheets made by the teacher have led to higher-order thinking skills, namely C4 (analyzing), C5 (evaluating), and C6 (creating), according to the results of interviews and documentation data. It can be concluded that the analysis of the HOTS-based student worksheets has been realized well. Suggestions that can be given are to re-emphasize High order thinking skills (HOTS) into Student Worksheets so that learning can be maximized in applying HOTS.

Keywords: Student Worksheet, HOTS, Elementary School

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Introduction

Education has an essential role in producing quality human resources that can compete in the current technological era (Oswald-Egg & Renold, 2021; Sajjani & Mayor, 2020). Entering the age of knowledge, namely the 21st century, human resources are required to have several abilities (Andrian & Rusman, 2019; Singh, 2019). The capabilities that should be possessed by human resources in this age of knowledge are the ability to work together, the ability to think high-level, creative, skilled, able to understand various cultures, and have the ability to communicate and be able to learn for life (life long learning) (Bedir, 2019; Gürsoy, 2021; Rusdin, 2018). The progress of Information and Communication Technology (ICT), which is growing fast, influences various aspects of life, including the teaching and learning process (Rizaldi et al., 2020; Zain, 2017). 21st-century learning

prepares the 21st century generation to have skills (Binkley et al., 2012; Churchill et al., 2013).

Higher-order thinking skills are needed by students considering that science learning plays a crucial role in the educational process and technology development (Anif et al., 2020; Maison et al., 2020). Natural science or science is referred to as the study of events that occur in nature (Lo et al., 2021; Evi Suryawati & Osman, 2018). Science learning must lead students to master science concepts and their relationships to solve problems in everyday life by science attitudes (Setiawan et al., 2017). Students are expected to know and memorize science concepts and understand and understand these concepts and connect the relationship between one concept and other concepts (Hairida, 2016; Subali et al., 2019). In the science learning process, the four elements (attitudes, processes, products, and applications) are expected to emerge so that students can experience the learning process as a whole, understand natural phenomena through problem-solving activities, scientific methods, and imitate the way scientists work in finding new facts (Hanif, 2020; Indriyani et al., 2017).

Today's problem is that there are still many students who have low science abilities (Seruni et al., 2020; Sukmasari & Rosana, 2017). Some students have difficulty learning science (Prasetyono & Trisnawati, 2018; Saifudin et al., 2020). In measuring student abilities, teachers can use worksheets (Gitriani et al., 2018a; Septina et al., 2018). Teachers can use student worksheets to find out problems or material that students have not understood (Gitriani et al., 2018b). However, there are still many teachers who pay less attention to student worksheets. Based on the results of observations made at SD Negeri Bugangan 02 Semarang, it was found that there were still many students who had difficulties in learning science. In addition, student worksheets are not paid attention to by the teacher. It causes the teacher difficulty in knowing the difficulties of learning materials faced by students.

The current curriculum (2013 Curriculum) requires teachers to carry out learning that can encourage students to think critically and have higher-order thinking skills or HOTS (Anwar et al., 2020; Pratama & Retnawati, 2018). Higher-Order Thinking Skill (HOTS) is a high-level thinking skill that demands critical, creative, analytical thinking on information and data in solving problems (Abosalem, 2016; Khan & Masood, 2015). HOTS include skills to analyze (analyzing), evaluate (evaluating), create (creating), critical thinking (critical thinking), and problem-solving (problem-solving) (Johanns et al., 2017; Retnawat et al., 2018; Zulfiani et al., 2020). One of these skills in creating and developing HOTS-based learning tools according to 21st-century life (Nurmala & Mucti, 2019). Besides, the teacher must have the skills to encourage students to think critically or think at a higher level. The teacher must also have insight into the HOTS before it is taught to students (Heong et al., 2012; Putranta & Supahar, 2019).

Teachers can apply HOTS on student worksheets so that they can improve students' science learning abilities. Previous research findings also stated that HOTS can improve students' critical thinking skills (Hamdi et al., 2018; Pratama & Retnawati, 2018). Other research findings also state that using Hots-Based worksheets (Higher Order Thinking Skills) can improve student learning outcomes (Khotimah & Sari, 2020; Nurmala & Mucti, 2019). It can be concluded that HOTS can help students improve critical thinking skills. The purpose of this study was to analyze student worksheets based on high-grade HOTS in elementary schools. It is hoped that this research can help teachers find out the problems that occur in students.

Methods

This research uses descriptive qualitative research. In this study, the author uses a qualitative approach. This research has been carried out on fourth-grade teachers at SD Negeri Bugangan 02 Semarang. The data collection procedure used observation, interviews,

and documentation. The instrument used to collect data is a questionnaire. The technique used to analyze the data is descriptive qualitative, and quantitative analysis in this study uses triangulation techniques. The triangulation technique is carried out by combining interview data and research documentation from HOTS-based learning tools in the form of lesson plans, and LKPD especially in science subjects, in the form of observations, interviews related to HOTS-based LKPD.

Results and Discussion

Results

The LKPD analyzed consisted of Theme 1 to Theme 5 with details (Theme 1 Sub-theme 1 Learning 1, Theme 1 Sub-theme 2 Learning 1, Theme 1 Sub-theme 3 Learning 1, Theme 2 Sub-theme 1 Learning 1, Theme 2 Sub-theme 2 Learning 1, Theme 3 Sub-theme 3 Learning 1, Theme 4 Sub-theme 1 Learning 1, Theme 4 Sub-theme 2 Learning 1, Theme 4 Sub-theme 3 Learning 1, Theme 5 Sub-theme 1 Learning 1, Theme 5 Sub-theme 2 Learning 1, and Theme 3 Sub-theme 1 Learning 1) with a total of 15 RPP. The LKPD made by the teacher is appropriate and has referred to a scientific approach which includes 5M activities (Observing, Questioning, Gathering Information, Associating, and Communicating. The LKPD made by the teacher does not lead to higher-order thinking skills or with a scientific approach, which is found in LKPD Theme 1 Sub-theme 3 learning 1, Theme 3 Sub-theme 3 learning 1, Theme 4 Sub-theme 1,2,3 learning 1, Theme 5 Sub-theme 12 learning 1. Furthermore, some LKPDs are less directed at higher-order thinking skills, namely Theme 1, sub-theme 1, 2 Learning 1, Theme 2 Sub-theme 1,2,3 Theme 3 Sub-theme 1,2 Theme 5 Sub-theme 3 Learning 1. Based on the results of the analysis described above, it was found that 12 LKPD that the teacher made had met the criteria, and 12 LKPD had directed students on higher-order thinking skills (HOTS).

From the analysis results conducted on the fifteen LKPD by the RPP, it is known that the teacher has made the LKPD based on the RPP used. The contents of the LKPD are made by adjusting the mapping of themes, essential competencies, and indicators used by the characteristics of the subject, the potential and needs of students, schools, and the environment. The LKPD used is by the learning material, namely in science subjects. In addition, the LKPD has referred to a synthetic approach which includes 5M activities (Observing, Questioning, Gathering Information, Associating, and Communicating. In the LKPD that the teacher made, 3 LKPDs had not directed students to higher-order thinking skills or the scientific approach contained therein). On LKPD Theme 2 Sub-theme 2 Learning one and Theme 4 Sub-theme 1.2 Learning 1. Digestibility of LKPD (Logical and coherent, Can be understood by students, clear working procedures). The appearance of the analyzed LKPD has fostered interest and motivation to learn from students. However, 3 LKPDs do not meet these criteria are in LKPD Theme 3 Sub-theme 3 Learning 1, Theme 3 Sub-theme 3 Learning 1, and Theme 4 Sub-theme 1. Based on the results of the analysis described above, it was found that 12 LKPD that the teacher made had met the criteria, and 12 LKPD have directed students to higher-order thinking skills at high (HOTS).

Discussion

A student worksheet is a learning tool containing a series of questions and important information, which is then compiled to help students find creative ideas and work on them systematically (Septina et al., 2018; E. Suryawati et al., 2020; Yulianto et al., 2017). LKPD components include LKPD title, Student Identity, Basic Competencies, Learning Objectives, and LKPD Content (Marshel & Ratnawulan, 2020; Pentury et al., 2019). LKPD is one of the means to help and facilitate learning activities so that effective interactions between students and educators will increase student activities in improving thinking skills (Indah, 2020;

Marshel & Ratnawulan, 2020). The ability to solve problems that exist in the LKPD will affect the HOTS of students. LKPD is teaching material that is packaged in such a way that students can study the material independently so that students become more active in solving existing problems through group discussion activities, practicum, and activities to answer problems related to everyday life (Khotimah & Sari, 2020; Pentury et al., 2019). This makes students more challenged in the process of only one-way learning activities. The problem-solving activities that exist in the LKPD can later impact improving their way of thinking, including critical thinking (Ayva, 2012; Kolomuc et al., 2012).

In its preparation, the LKPD must be made based on the RPP, the contents of the LKPD are made by the KD and Competency Achievement Indicators (GPA), the contents of the LKPD are by the theme mapping, the LKPD is made by the learning materials and a scientific approach that leads to 5M activities. The appearance of LKPD fosters students' interest and motivation in learning (Bakırcı et al., 2011; Kibar & Ayas, 2010). The appropriate LKPD is able to encourage students to have higher order thinking skills or HOTS (Pratiwi, 2017; Saraswati & Agustika, 2020). In its preparation, the LKPD must be made based on the RPP, the contents of the LKPD are made in accordance with the KD and Competency Achievement Indicators (GPA), the contents of the LKPD are in accordance with the theme mapping, the LKPD is made in accordance with learning materials and a scientific approach that leads to 5M activities, Digestibility of LKPD (Logical and coherent, Can be understood by students., Work procedures are clear). An attractive LKPD display will foster students' interest and motivation to learn (Hamdi et al., 2018; Hanifah, 2019).

Conclusion

The results of the analysis of the Student Worksheets that the teacher has made are pretty good—making and implementing learning tools in the form of Student Worksheets (LKPD) by the Learning Implementation Plan (RPP) with a focus on complex science subjects based on higher-order thinking skills (HOTS).

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