



# Enhancing High Order Thinking Skills of Elementary School Students Using the Social Reconstruction Model During the Covid-19 Pandemic

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**Abstract.** The learning process during the covid-19 epidemic was not efficient, resulting in low higher-order thinking skills in elementary school students, which prompted this study. The purpose of this study was to improve the higher-order thinking skills of elementary school students using the social reconstruction model for learning during the COVID-19 pandemic. This study was a type of classroom action research, which includes planning, implementing, observing, and reflecting stages. This study took place in a public school in Bukittinggi involving 35 students in grade 5 elementary school. This study found that in the first cycle, the higher-order thinking skill of elementary school students got an average score of 65.45, and in the second cycle, the average score was 81.25. This result showed that during the COVID-19 epidemic, elementary students who used the social reconstruction model for learning improved their higher-order thinking skills. The findings of this study can be utilized as a guide to help elementary school students improve their high-order thinking skills during the COVID-19 epidemic.

**Keywords:** HOTS · social reconstruction model · elementary school · covid-19 pandemic

## 1 Introduction

The impact of Industry 4.0 on all aspects of human life is significant [1, 2]. Individuals must be able to build their thinking on technology-based living systems when traditional human life systems transform into technology-based life systems [3]. The education system is likewise affected by changes in this era [4]. The educational system must optimize technology to arrange the learning process [5]. This is so that students can become accustomed to using technology and apply it to improve human lives.

Furthermore, Industry 4.0 demands that the educational system generate graduates who possess not just knowledge but also the skills to develop various skills [6]. Graduates

will encounter more complex problems in the future, which will require a combination of knowledge and skills to solve [7]. If students engage in a thinking process, their knowledge and skills will grow. As a result, students' thinking skills must be developed.

The ability to think at a higher level, often known as HOTS [8] is one of the thinking abilities required in this era of Industry 4.0. HOTS is the ability to be able to think more deeply about the information [9]. This ability is in the form of analyzing, assessing, and creating. This ability can be developed in the learning process at school [10], including learning in elementary school.

HOTS is a mindset that can be developed in any situation and during the learning process [11]. The ability of the teacher to design learning ensuring that these abilities can grow is prioritized in the HOTS learning process. The learning process, however, has changed as a result of the COVID-19 pandemic. The face-to-face learning process transforms into a home-based learning process [12, 13]. Even though students are learning from home, their HOTS skills must be developed.

However, based on the results of the preliminary ability test at one of the public elementary schools in Padang, the average HOTS ability of students got a score of 45.65 in the low category. Based on these findings, the researchers conducted observations and interviews with elementary school teachers. Based on observations, elementary school teachers use the WhatsApp application during the learning process from home to provide assignments and teaching materials without providing feedback to students. Based on the analysis, the learning process carried out by the teacher resulted in the low HOTS of students.

In elementary schools, learning takes place in a situation that requires children to seek out information [14, 15]. This can be done by assigning students a problem-solving project that requires them to actively seek solutions to the difficulties they are presented with. As a result, the problems that teachers and students have can be overcome by using a contextual problem-oriented learning process.

The social reconstruction learning model is one of the acceptable learning strategies. The social reconstruction learning model is a learning model that begins with problems in society, then seeks solutions for a better society by using science and technology, as well as cooperating and collaborating [16]. The substance of learning, as well as the educational process and learning experience, are all emphasized in the social reconstruction learning model [17]. Humans are social creatures who constantly require other humans, who always live, interact, and work together [18]. Learning using a social reconstruction model implies that humans are social beings who always need other humans, who always live, interact, and work together.

Therefore, researchers and classroom teachers agreed to use a social reconstruction model to improve students' HOTS through classroom action research. This study was supported by Hermaswari, who claimed that the social reconstruction approach improved high school pupils' social attitudes and social studies learning outcomes [19]. This study is different because it is a classroom action research focused on enhancing elementary school students' HOTS abilities. As a result, the goal of this study is to use the social reconstruction model to enhance the HOTS ability of elementary school students.

**Table 1.** Category levels of HOTS

HOTS value	Category
$\geq 76$	Highest
$61 \leq \text{HOTS} < 76$	High
$46 \leq \text{HOTS} < 61$	Medium
$\leq 31 \text{ HOTS} < 46$	Low
$< 31$	Lowest

## 2 Research Methodology

This is a classroom action research study. This study was conducted with a total of 35 students in grade 5 at Padang's elementary schools. Planning, implementation, observation, and reflection are all stages of this study. The data collection instrument employs essay-style test questions that are adapted to the HOTS indicators of analyzing, assessing, and creating. The formula used in this study analysis technique is as follows:

- Calculating the percentage of learning completeness

The formula used is

$$P = \frac{\sum \text{students who get medium HOTS}}{\sum \text{student}}$$

- Calculating the average value

$$X = \frac{\sum X}{\sum N}$$

Annotation

$X$  = Average value

$\sum X$  = Total value

$\sum N$  = Total number of students.

If 75% more students are in the high category and their numbers have increased, this research has been successful. Table 1 shows the students' HOTS levels.

## 3 Results and Discussion

Planning is the first step in this investigation. The teacher creates lesson plans during the planning stage. The lesson plans are created using the LMS Edmodo using a social reconstruction learning model. The teacher is also preparing LKPD and HOTS instruments at this point. Then, proceed on to the stage of implementation. The teacher asks students to take attendance for the Edmodo virtual class during the implementation stage. Students are asked to look at work-related pictures. Students are asked to respond

to questions based on the pictures shown. The students are then asked to comprehend the work-related material.

Once they have comprehended the material, students are asked to work on the project presented in the LKPD. Students are asked to identify types of jobs that people in the neighborhood do. Then, students are asked to present it through a video uploaded to the system. After they have uploaded, students are then asked to analyze and respond to the questions presented by the teacher. At the end of the activity, students are asked to work on the HOTS questions. At the observation stage, the researcher observed the activities of the teacher and students based on the observation sheets prepared.

The HOTS test results of the students were analyzed during the reflection stage. According to these findings, the average HOTS score of elementary school students falls into the medium category at 48.73. The medium category accounts for 57.15% of students. According to observations, the teacher in the digital classroom is not constantly on standby, so when students ask questions, the teacher takes too long to respond. The success indicators have not been met as a result of this. The research was then carried on in the second cycle.

The second cycle's activities are the same as the first cycle's activities, namely the teacher's planning to create lesson plans. The lesson plans are created using the LMS Edmodo using a social reconstruction learning model. The teacher is also preparing LKPD and HOTS instruments at this point. After that, proceed to the implementation stage.

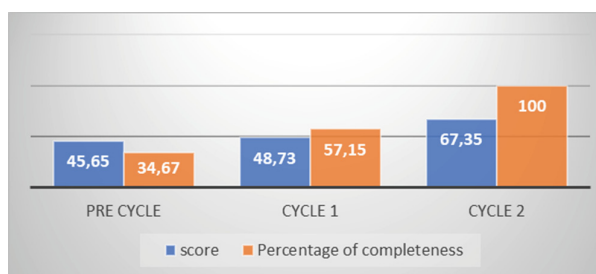
During the implementation stage, the teacher asked students to take an attendance list in the Edmodo virtual class again. Students are required to see a video that explains the functions of various jobs. Students are asked to respond to questions based on the video shown. The students are then asked to comprehend the work-related material.

After students understand the material, students are asked to work on the project presented in the LKPD. The project is asking students to identify the benefits of the work of people in their environment. Then students are asked to present it through a video uploaded to the system. Then, students are asked to analyze and answer the questions presented by the teacher. In this activity, the teacher was checking in the comments column and answering all student questions. At the end of the activity, students were asked to work on the HOTS questions. At the observation stage, the researcher observed the teacher and student activities based on the observation sheet. Furthermore, the results of the HOTS test and the observations were analyzed through the reflection stage.

During the reflection stage, the findings of the observations were analyzed. According to the analysis, the teacher completed all of the learning processes. In addition, the HOTS test results were analyzed. Based on the calculation, the average score of students is 67.35 in the high category. The percentage of students categorized as high is one hundred percent. Students' HOTS abilities are in the high category as a result of this, and they have met the specified success indicators. As a result, the researcher and the teacher decided to stop the classroom action research in the second cycle.

The graph showing the increase in student HOTS (Fig. 1).

The HOTS of elementary school students using the social reconstruction learning model have increased, as shown in the figure. Previous study by Khairunisyah et al. shows that contextual and social reconstruction-based Islamic Religious Education learning can



**Fig. 1.** Enhancing the HOTS ability of elementary school students

generate an active and fun learning environment, as well as produce religious students in Vocational High School [20]. However, it was discovered in this study that the social reconstruction model could enhance elementary school students' HOTS ability, which is a new finding in the social reconstruction learning model.

The social reconstruction model [21] develops student knowledge by facilitating the learner's own discovery process. This model enables students to solve social problems by allowing them to connect directly with the environment [22]. Students will learn how to improve their HOTS abilities through this process.

This model of social reconstruction can take in cultural values as well as other natural phenomena [23]. Students will be able to recognize social norms and use them as a tool in the learning process [24]. Students will study social phenomena to solve problems [25]. HOTS' abilities can be developed through the process of students studying natural phenomena. These factors contribute to elementary school students' ability to develop HOTS.

## 4 Conclusion

According to the findings, the pre-cycle HOTS score was 45.65, 48.73 in cycle 1, and 67.35 in cycle 2. This demonstrates that applying the social reconstruction learning model enhances the HOTS of elementary school students.

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