Optimize Education by Teacher's Perception of Higher Order Thinking Skill at Primary School

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ABSTRACT
Teachers' perceptions of concepts are very important in classroom learning because teachers are designers, implementers, and evaluators in learning activities. For this reason, we must examine the teachers' perceptions about higher-order thinking skills (HOTS) that students need to develop critical thinking skills. This study aims to describe: (1) teachers 'perceptions of the HOTS concept, (2) teachers' perceptions of HOTS in learning planning in primary schools, (3) teachers 'perceptions of HOTS in learning in primary schools, and (4) teachers' perceptions of HOTS in evaluations at primary schools. The research method used is ex-post facto research. The sample uses purposive sampling. This research use only one variable that is the perception teacher. The research instrument was in the form of a questionnaire that was exclusively made for this research. This questionnaire to retrieve teacher perception in concept, planning, learning, and evaluation data. Data analysis used descriptive analysis with percentage techniques. The results showed that most primary school teachers in education cities in Indonesia understood the concept of HOTS. While the percentage of teachers' perceptions of the HOTS concept was 76.12%. The teacher's perception of HOTS in learning planning activities has an average of 80.6%. While the teacher's perception of HOTS in learning implementation activities got an average of 73.68%. While the results of HOTS research on learning evaluation amounted to 72.16%. Overall, we can conclude that the perception of primary school teachers can be said in a good category and it can influence them to teach students.

Keywords: teacher's perception, higher order thinking skills, primary school

1. INTRODUCTION

Research on perception is still a trend today. This is proven during the last 20 years there are still many studies on perceptions in the field of education. One example is research on students 'perceptions of professions and their influence on decisions for accounting majors showing the results that interest in majors can be influenced by students' traditional perceptions or views about the profession (Crooker, 1999). Other research on students' perceptions of problem-based learning in grades five, six, and seven. The results showed that students in grades five, six, and seven perceived problem-based learning positively. This can be seen from their perception that problem-based learning is the most useful for their independent learning (A.Azer, 2009). Research in other fields is also carried out for the development of scientific fields. One of them is research in the field of forestry environment. The results of this study indicate that the perception of forestry in an area is dynamic and is influenced by the history of forestry development in the area (Aine Ni Dhubhain Marie, 2009). students' perceptions of the situation of the learning environment show the results that students have positive perceptions about the learning environment that has been prepared (Cezmil Unal, 2010). Still, in the field of education, research on teacher perceptions of alternative assessments shows results that teachers have positive perceptions about alternative assessments with the greatest impact on the rise in documents and demands on their time (Nurfaradila Nasri, 2010).

Other research that has been done is about the teaching experience of university instructors and their perceptions of professional ethics. One of the results of this study shows that there seems to be no guarantee to claim that an experienced teacher is a professional ethical teacher and vice versa (Zeinab Kafi, 2018). Research

conducted (Sofwan Adiputra, 2019) shows that the positive perception of parents about inclusive education will help the successful implementation of inclusive education in schools because parents' perceptions will affect children's perceptions, especially in primary school children. The results of research conducted by (Yusuf Hanafi, 2019) also show that in general, the findings of research on perception are that e-BBQ that has been developed and integrated into learning the Qur'an is considered easier to operate and offers many benefits. This makes e-BBQ acceptable and used by students and instructors in the learning process. This result implies that the initial perception of something affects us in our actions, both as parents and as teachers. In other research about teacher's perception of stakeholder support about drug abuse prevention, we can know that stakeholder support for the peer education program was still limited to informative support and instrumental support. Whereas for emotional support, social networking support and reward support have not been done by the stakeholders (Nurmala, 2019). Recent research results talk about stakeholder perceptions of security policy shows that a deeper understanding of perceptions can help managers to design, implement, and maintain good governance practices for information security (Spyridon Samonas, 2020).

Critical thinking skills or higher-order thinking is one type of skill that must be possessed by future generations. They need these skills because the world to come is thought to be full of uncertainty. Mainly in terms of work. This can happen because of the development of technology and extraordinary communication. Some experts even predict some jobs will lose their profession because they are replaced by machines. Accordingly, high-level thinking skills are needed as a foundation for the lives of future generations.

However, in reality, the application of HOTS learning is not an easy thing to do by the teacher. Besides, the teacher must master the material and learning strategies, the teacher is also faced with challenges with the environment and personal students he teaches. Sometimes teachers feel that they are doing their best to make learning activities interesting, but the students' responses are still cold, and relatively passive. Learning activities are still focused on sitting, listening, taking notes, and memorizing (DDCH) (Apandi, 2017). He further said that currently being talked about writing HOTS. The teacher is expected to be able to arrange HOTS questions so that students not only answer at the C-1 level (knowing), C-2 (understanding), and C-3 (applying), but also at the C-4 level (synthesis/analysis), C-5 (evaluation), and C-6 (creative). To make this happen, the refresher of the K-13 development team was conveyed or delivered material about HOTS questions. The aim is not only to improve the quality of the questions but also to familiarize students with international Olympic standard questions.

Wagner and the Change Leadership Group (Zubaidah, 2016) identify the competencies and survival skills needed by students in facing life, the world of work, and citizenship in the 21st century emphasized the following seven skills: (1) critical thinking skills and problem-solving, (2) collaboration and leadership, (3) agility and adaptability,(4) initiative and entrepreneurial spirit, (5) able to communicate effectively both orally and in writing, (6) able to access and analyze information, and (7) have curiosity and imagination. It was also further revealed that the US-based Partnership for 21st Century Skills (P21) identified the competencies needed in the 21st century, namely "The 4Cs" - communication, collaboration, critical thinking, and creativity. Based on this, high-level thinking skills (HOTS) are needed for the nation's next generation to be able to live in the 21st century.

The results of research in the field of education about the perception of a teacher have also been carried out by several previous researchers. Research that has been done shows that life experience shapes the conception of novice teacher competencies. This conception is important for teachers to help them understand and portray themselves as teachers for their students (Pauline Swee Choo Goh, 2017). The results of the study (Askalemariam A.Dessie, 2019) showed that the majority of teacher perceptions and feedback practices to improve student learning are good (they provide direct feedback). However, there are gaps in using feedback as learning objectives rather than for assessment. Based on the above research, it can be concluded that the perception of a person, especially teachers as educators is very important for the success of their students. The existence of good teacher perception, positive, scientific understanding, and competence can affect the way teachers teach so that it also affects the results obtained by students.

This study aims to describe: (1) teachers 'perceptions of the HOTS concept, (2) teachers' perceptions of HOTS in learning planning in primary schools, (3) teachers 'perceptions of HOTS in learning in primary schools, and (4) teachers' perceptions of HOTS in evaluations at primary schools. The novelty of this study is the study of teacher perceptions of higher-order thinking skills. So far there have been many studies on perceptions in the field of health, psychology, forestry, or education. In education, there was some research, but it is still rare that examines the perceptions of teachers of higher-order thinking skills. As the results of research and literature studies have been stated above, a teacher's perception is very important and can affect student success. Higher-order thinking skills or critical thinking skills is one of the skills that must be possessed by students as future generations. This is supported by the statement (Zubaidah, 2016) which states that life in the 21st century requires the field of education to prepare students to master a variety of special skills, including critical thinking skills, problem-solving, metacognition,

communication skills, collaboration, innovation and creation information literacy, and various other skills. As is well known that the 21st Century is a gray or uncertain period. This happens because the development and change of life are so fast that the current work is not necessarily suitable and can survive in the future. Therefore, critical thinking skills are necessary so students can survive in the future.

This research can be particularly useful for the education sector because it can be a reference regarding teachers' perceptions of critical thinking skills so that it can provide appropriate treatment for problems of improving the quality of human resources in various countries. Can be a source of information about teachers' understanding of critical thinking skills in Indonesia. Also, it can be beneficial for stakeholders in the education sector.

2. METHOD

This research uses ex-post facto research. The approach used in this research is a quantitative descriptive approach. The research site was conducted in various primary schools in the Kedungkandang district of Malang. When this research was conducted in 2018. As for the population in this study, all primary school teachers in Malang. We use purposive sampling to determine schools. The purpose is a school that often gets college impact and which is a bit far from the college. Thus, we can see more proportionally about the teacher's perception of HOTS. The research sample of 25 primary schools. The data needed in the study are the results of a questionnaire that illustrates the perception of the primary school teacher on HOTS in concept, planning, implementation, and evaluation learning. The data source was obtained from primary school teachers who were involved in the research, namely primary school teachers in the city of Malang. Malang was chosen because this city is one of the student cities in Indonesia. The number of students in Malang is increasing every year and the quality of higher education here is also increasing. Data collection techniques used in this study were questionnaires made especially for this research. The instrument includes a validation questionnaire and a teacher's perception questionnaire towards HOTS. The main questionnaire consists of two parts, that is 40 closed questionnaires and 5 opened questionnaires to know perception teachers about HOTS.

The research procedure used begins with a preliminary study. This activity is carried out by observation and question and answer regarding improving high-level thinking skills for students. After that, the next procedure is to make a research instrument. Next, the activity carried out is to test the validity and reliability of the instrument that will be used. Then the data collection to various primary schools in the Malang and data processing. The last stage is the preparation of the report. We used a descriptive analysis technique to show teacher's perceptions.

3. RESULT

The following is a tabulation of the results of the distribution of the questionnaire regarding fourth indicators, namely (1) teacher's perception of the HOTS concept in Malang; (2) teacher's perception of HOTS in Learning planning in Malang City; (3) teachers' perception of HOTS in the implementation of Learning in Malang; (4) teachers' perception of HOTS in evaluating Learning in Malang City in Table 1.

Table 1 Results of Teacher's Perception Questionnaire on the HOTS Concept for Number 1-10 in SDN Madyopuro

Schools	Indicator			
	(1)	*(2)*	*(3)*	*(4)*
Madyopuro 1 Primary School	81	88	80	73
Cemorokandang 2 Primary School	70	74	66	68
Madyopuro 5 Primary School	71	78	63	69
Cemorokandang 1 Primary School	79	89	77	75
Madyopuro 2 Primary School	88	93	88	78
Cemorokandang 3 Primary School	83	96	74	73
Cemorokandang 4 Primary School	75	81	73	69
Madyopuro 3 Primary School	78	84	85	74
Madyopuro 4 Primary School	83	90	73	78
Madyopuro 6 Primary School	74	79	67	73
Lesanpuro 1 Primary School	69	74	71	70
Lesanpuro 2 Primary School	74	74	69	71
Lesanpuro 3 Primary School	83	85	85	75
Lesanpuro 4 Primary School	77	83	69	73
Kedungkandang 1 Primary School	76	78	74	71
Kedungkandang 2 Primary School	76	77	72	71
Bumiayu 1 Primary School	60	59	68	63
Bumiayu 2 Primary School	73	75	69	69
Bumiayu 3 Primary School	73	80	72	78
Bumiayu 4 Primary School	74	82	74	76
Sawojajar 3 Primary School	77	87	72	68
Sawojajar 2 Primary School	74	76	66	71
Sawojajar 1 Primary School	83	75	75	75
Arjowinangun 1 Primary School	69	74	83	70
Arjowinangun 2 Primary School	83	84	77	73
Average	76	81	71	72
Predicate	B	B	B	B

Based on the results of observations and data collection in the form of questionnaires in the research sample, it was found that in general, the teacher had a perception of HOTS in the Good category. In general, it has an understanding that Higher Order Thinking Skills (HOTS) is a higher-order way of thinking than just memorizing by students at a high-class level. HOTS need to be developed at the primary school level especially at the high class or starting at class IV. The steps that can be taken to give HOTS to students are through assigning creative and innovative tasks to train students to decipher answers. HOTS is very important to be developed so that students are trained to solve difficult or complicated problems, and can train students to have a sense of responsibility. Several factors can influence the

development of HOTS in students, namely: student character, student attitudes, student habits to think logically.

4. DISCUSSION

High-level thinking, in a nutshell, can be said as the achievement of thinking to higher-order thinking than just repeating facts. High-level thinking requires us to do something about facts. We must understand it, connect, categorize, manipulate, put it together in new ways, and apply it in finding new solutions to new problems (Maharani Yuniar, 2015). (Ennis, 1985) states "Critical thinking is reflective and reasonable thinking that is focused on determining what to believe or do". Critical thinking according to Schafersman, S.D in (Kusuma M.D, 2017), is to think right to find out relevant and reliable about the world. Critical thinking, thinking reasoned, reflecting, responsible, ability to think, which is focused on making decisions about what is believed or what must be done. Critical thinking is thinking about asking the right questions, gathering relevant information, sorting information efficiently and creatively, reasoning logically, until it gets to a reliable and reliable conclusion. Based on the results of research that has been done through observation and distribution of questionnaires, it is stated that high-level thinking is needed from grade IV students to grade VI. High-level thinking is not just a collection of facts, but facts that need to be understood, connected, processed, manipulated until it can be trusted or done. HOTS skills are very much needed in primary school. This is proposed so that students have readiness in facing the 21st century. The ability of teachers to develop high-level skills can be done through KKG / MGMP. So far there is still not enough training on HOTS. The development of HOTS depends on the teacher's role in planning and implementing learning. The results showed that primary school teachers in Malang had understood the concept of Higher Order Thinking Skills (HOTS).

The results of previous studies state that if teachers intentionally and continuously practice higher-order thinking strategies, they will have a high chance of developing students' critical thinking skills. Other research states that teachers' perceptions of critical thinking among students influence their behavior in the classroom. When the teacher views that they are teaching critical thinking to students, the teacher will provide stimuli so that they can facilitate students' critical thinking. Also, the results of his research showed that the teacher did not seem to understand the requirements needed to foster critical thinking among students. Although teachers feel that they encourage critical thinking in class, they only focus on understanding the subject matter. Research that has been done in the teacher's understanding of the HOTS concept obtained an average of 76.12%. From the average, it can be stated that teachers in Malang have understood the concept of HOTS with the predicate of Good.

According to the Minister of Education and Culture Regulation Number 22 of 2016 learning planning includes the preparation of learning plans and preparation of learning media and resources, learning assessment tools, and learning scenarios. Learning Implementation Plan (RPP) is a plan of face-to-face learning activities for one or more meetings. Every educator in the education unit is obliged to prepare a complete and systematic lesson plan so that learning takes place interactively, fun, challenging, efficient, motivating students to participate actively, as well as providing sufficient space for the initiative, creativity, and independence following their talents, interests and physical and psychological development of students.

Based on the above study, it can be seen that in general primary school teachers in Malang have developed lesson plans but only some of the teachers present HOTS in learning planning. This shows that some teachers do not understand HOTS, especially in learning planning. This is because there is no training on HOTS so the teacher has not been able to develop these skills.

The results of previous research conducted by (Hopson M.H, 2001) on the use of technology in learning to improve higher-order thinking skills (HOTS) found that the creation of a technology-enriched classroom environment seemed to have a positive effect on the acquisition of higher-order thinking abilities of students. This research identifies several implications related to instructional media design and class design to enhance the development of higher-order thinking skills.

Besides, the results of research conducted by (Barak Miri, 2007) stated that the experimental group that applied learning strategies that were deliberately designed to improve higher-order thinking skills showed statistically significant improvements in critical thinking components and abilities, such as truth-seeking, the openness of mind, self-confidence, and maturity, compared to the control group using traditional learning. The results of the study show that if teachers intentionally and continuously design higher-order thinking strategies, they will have a high chance of developing students' critical thinking skills. The teacher's perception of HOTS in learning planning is done using a questionnaire technique. Based on the results of the questionnaire, it was found that the average perception or understanding of primary school teachers in Malang about HOTS in learning planning had an average of 80.6%. That means, in general, teachers already have an understanding of HOTS especially in planning learning with the title of Good so that this research supports previous research.

The application of several learning models such as project-based learning, problem-based learning, learning

with a problem-solving approach, finding (discovery / inquiry) become opportunities for teachers to implement learning activities at the HOTS level (Higher Order Thinking Skill). Staying depends on the ability of teachers to accelerate and implement it in learning (Apandi, 2017). It was further conveyed that learning activities were also expected to be designed collaboratively to train cooperation, communication skills, argumentative abilities, and the ability to control emotions. Thus, in addition to learning subject matter, students are also given the cultivation of character education and literacy as currently mandated by the Ministry of Education and Culture where both of these must be integrated into learning activities.

The ability of teachers to develop HOTS learning and assessment scenarios must be enhanced. Scientific forums such as training, workshops, or activities in teacher communities become a very strategic means to make it happen. In these activities in addition to teachers getting new insights from experts, they can also discuss, as well as practice applying HOTS learning and assessment (Apandi, 2017). The teacher's perception of HOTS in the implementation of learning is done using a questionnaire technique. Based on the results of the questionnaire, it was found that the average perception or understanding of primary school teachers in Malang about HOTS in implementing learning had an average of 73.68%. That thing means that in general, the teacher is good enough in understanding HOTS especially in the implementation of learning. So, this research supports previous research.

According to (Apandi, 2017) aspects of assessment are each form of questions such as Multiple Choice (PG) and the description can be used to assess the HOTS aspects with the teacher's notes able to arrange them well. Both in the PG problem and the description, not only asked about facts, concepts, principles, or procedures, but also the ability to think analytically. This opinion is supported by the results of data in the form of a questionnaire stating that in general teachers at the primary school in Kedungkandang Malang have understood that evaluating is an activity carried out to make a decision and one form of HOTS is to be able to mention the facts or events that are asked. However, there is still the perception of some teachers who state that higher-order thinking skills are done by giving questions to students only with the type of problem description.

That is because there are still many teachers who have never known HOTS, especially in the evaluation of learning, the absence of teacher training about HOTS, and the lack of interest in reading teachers towards innovative learning, especially about HOTS. (Foster, 2004) states that there are two approaches. The first approach to assessing the ability to think at a higher level is by the use of dynamic models that enable students to learn throughout their life to develop new knowledge and skills for successful civilization in the world. The second approach to the assessment of higher-order thinking skills focusing on mental processes is needed to benefit instruction (such as comparing, evaluating, justifying, and making conclusions). Besides, (Quellmalz, 1985) states that HOTS evaluations must be clear, valid, and coordinated. Teachers and students can be trusted, understand, and use various information related to HOTS. Learning and evaluation must be based on high-level thinking and make sense.

Based on the results of observations and data results in the form of a questionnaire that has been done, in general, primary school teacher Kedungkandang Malang has used measurement instruments used to measure higher-order thinking skills. However, not all teachers understand the context of the assessment. Based on the questionnaire that has been distributed, the average results obtained by teachers' perceptions of HOTS in learning evaluation activities amounted to 72.16. This is the lowest percentage in this study. This is also supported by the results of observations that have been made. Some teachers give HOTS questions to students just to measure factual, conceptual, or procedural dimensions. This shows that not all teachers understand the context of the assessment as a whole in the HOTS evaluation.

5. CONCLUSION

Based on the results of the research above, it can be concluded that the perception of elementary school teachers in Malang is in a good category and this may affect the performance of teachers in developing learning activities for students. Primary school teachers in Malang have predicate in Good categories with a general average of 75,64%. This is not good because if the perception teacher those, so most likely the learning undertaken is less than the maximum in developing students' higher-order thinking skills. This research can be a guideline to the government to increase the teacher perception about HOTS. The weakness of this study is the limitations of the subject and the analysis of the data. Data analysis is still limited to descriptive. Therefore, it can be further developed in different subjects or analytical techniques.

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