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## Problems Encountered by EFL teachers in assessing students' higher order thinking skills (HOTS): A case study In SMK pertanian pembangunan Negeri Sembawa

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### Abstract

This study aimed to reveal the problems encountered by EFL teachers in assessing students' HOTS and how they solved its problems. This research is descriptive qualitative research that involved EFL teachers in SMK Pertanian Pembangunan Negeri Sembawa, South Sumatera, Indonesia. Data collected through semi-structured interviews. The research participants were two English teachers and the vice-principal of the curriculum in SMK Pertanian Pembangunan Negeri Sembawa. Data analyzed by the steps of qualitative analysis. The result showed that designing HOTS assignments was viewed positively by the participants. Still, the participants also encountered problems in its implementation. They were divided into three groups, as follows: problems with teachers' knowledge, problems with teachers' preparation, and

problems with students' limited ability. The results of this study indicate that the low level of HOTS for students is in line with the problems with the limited knowledge and training of HOTS for teachers. While teachers are essential when all educational institutions share equal responsibility for improving educational quality when it comes to the implementation of the learning process. These findings also provided how these English teachers solved the problems that they face. Starting with joining the HOTS training and subject teacher deliberation meeting to enhance their HOTS awareness and to have good preparation to incorporate HOTS into the teaching and learning process, as well as always encouraging students, despite their limited skills, to continue to be enthusiastic about learning English.

**Keywords:** Assessment, EFL teachers, Higher Order Thinking Skills (HOTS)

### 1. Introduction

Instruction for education in the digital era has abandoned the mode of teacher-centered approach. Essentially, 4 essential things such as character education, literacy culture, 21<sup>st</sup>-century skills, and Higher Order Thinking Skills (HOTS) should be incorporated into studying in the digital era. Character education can encourage students' good behavior while literacy can generate students in schools and communities reading habits, increase the awareness of students by reading different kinds of useful content, and help students think critically (Rahman, 2016) <sup>[18]</sup>. Meanwhile, HOTS enables students to think critically and provide solutions to problems they face, while 21<sup>st</sup>-century skills assist students in overcoming the challenges they face in everyday life.

Fundamentally, HOTS is a creative thinking ability and critical thinking process. Those abilities constitute both problem-solving skills and decision-making ability on new situations by manipulating and transforming old and new experiences and knowledges, connecting interconnected information critically and creatively. Mohamed *et al.* (2006) and Newmann, (1990) as cited in Heong, *et al.* (2012) <sup>[8]</sup> elucidated that HOTS demanded the ability to translate because the translation is a procedure of transferring the message (Latief *et al.*, 2020) <sup>[11]</sup>. Beside that, HOTS also required the skill to review and explain the meaning of the idea. Overall, a person can be categorized as having high-order thinking skills when he or she can form a new idea from prior knowledge into the new rational concept (Rajandran, 2008, Lewis & Smith, 1993 cited in Heong, *et al.*, 2012) <sup>[8]</sup>. In this case, to measure the HOTS, it needs an instrument and assessment to develop logical, systematic, critical, creative, and rational thinking skills in students.

For students, HOTS is an essential competency in facing a more dynamic life in the future. Therefore, it was appropriate to implement HOTS early in the 2013 curriculum. Learning instruction referred to as HOTS allows students to do active learning. Many studies showed that active learning allows students to absorb more information, remember it for longer periods of time, and most importantly, think at a higher level (Widowati, 2014).

Besides, HOTS is one of the main elements used for a individual to be able to resolve new problems in the 21<sup>st</sup> century (Brookhart, 2010; Moseley *et al.*, 2005; Thompson, 2008) <sup>[2, 13, 23]</sup> et al. HOTS also plays an important role in applying,

connecting, or manipulating prior knowledge to effectively solve new problems (Thomas & Thorne, 2009) <sup>[22]</sup>. HOTS is well-defined as an incision between the three cognitive dimension top levels of capacity (analysis, evaluation, creation) and three-level of knowledge dimension (conceptual, procedural, metacognitive) in the revised Bloom's taxonomy (Anderson & Krathwohl, 2001, Thompson, 2008) <sup>[1]</sup>. Therefore, HOTS is assessed by using errands, as well as the analysis, assessment, and development of metacognition or conceptual and procedural information. This implies that it is essential to familiarize students with HOTS activities will assist them in preparing to solve new problems, acclimate to a new environment, and make decisions about a specific problematic.

However, TIMSS (Trends in the International Mathematics and Science Study) and PISA (the International Student Assessment Program) has revealed that the majority of Indonesian high school students continue to perform below expectations, specially in cognitively demanding errands. The survey results of TIMSS and PISA over the past 10 years showed that Indonesian HOTS-related students had inadequate skills. In PISA, for instance, Indonesia was ranked just 71 out of 72 countries in 2012. Indonesia was only ranked 64 out of 72 nations in 2015. Meanwhile, at TIMSS, Indonesia ranked only 40 out of 42 countries in 2011. Indonesia was ranked 45th out of 48 states in 2015. In 2018, particularly for reading ability, Indonesia was only ranked 75 out of 80 countries. This data shows that Indonesian students have inadequate abilities such as writing and receptive abilities, such as comprehension of reading as well as logical thinking and problem-solving abilities. The majority of Indonesian students are still at the skill level of Lower Order Thinking. This implies that the Indonesian students' thinking skills are only at the level of recall, reiteration, and recitation. (litbang.kemendikbud.go.id, www.oecd.org, www.timssandpirls.bc.edu)

To be specific, the results of the writer's survey at SMK Pertanian Pembangunan Negeri Sembawa in August 2020 also show the same details. The results of the national examinations in three main subjects, namely mathematics, Indonesian and English subject, are linked to the data. For instance, In English subject, the data showed fluctuations over the last 4 years in the average score. Firstly, in 2016, the average student score was 47.7. Next, the average student score was 35.6 in 2017 and the average student score was 41.3 in 2018 and the last one in 2019 was 39.5. The average student score was 39.5. From this data, it is evident that the HOTS of students need to be systematically taught and evaluated by the English teachers and education unit in the cognitive aspect.

Since HOTS accounts for as one of many significant students' ability that can be developed through teaching and learning processes, researchers are constantly seeking for most suitable strategies for development. Considering its high priority in the field of human development especially teaching and learning, there have been emerging studies that ventured into this aspect of human development and capacity. In the last couple of years, research has been documented in looking at HOTS which has shown tremendous evidence in many contexts of learning.

The first previous study entitled "Students' Perceived Level and Teachers' Teaching Strategies of Higher Order Thinking Skills: A Study on Higher Educational Institution in Thailand" by Shukla, D., and Dungsungnoen, P. (2016) <sup>[20]</sup>.

This study revealed the supposed levels of HOTS between students and the differences among genders. They also looked for teaching strategies for developing HOTS in Thailand, as well as their relationship to professional teacher components like appointments, educational qualifications, teaching experience, research experience, and workshop training. The study showed that students have shown HOTS at a medium level. The professional components of teachers, for example promotion, teaching practice, and qualification are strongly associated with techniques used to impart HOTS. In line with Shukla, D., and Dungsungnoen, Schulz, H. and Fitz Patrick B. (2016) <sup>[21]</sup> studied "The Teachers' Understanding of Critical and Higher Order Thinking and What This Means for Their Teaching and Assessments". By interviewing 38 teachers from 14 schools in Newfoundland and Labrador, Canada, worked in Kindergarten to grade 9 classrooms. Teachers assumed that Higher Order Thinking Skills were required for all students and attempted to teach thinking; however, they were unsure about assessing thinking. The teachers were unsure of what HOT entails and believed they were unqualified to teach it.

Related to raising scores with Higher Order Thinking, Zohara, A. and Agmonb, V.A. (2017) conducted a study entitle "Raising test scores vs. teaching higher-order thinking (HOT): senior science teachers' views on how several concurrent policies affect classroom practices". The goal of this study was to see how senior science teachers viewed the effects of a Raising Test Scores policy and its implementation on Higher Order Thinking (HOT) instruction and teaching low-achieving students to think. The study background was carried out in the light of 3 parallel policies that advocate: (1) raising test scores; (2) strengthening the inquiry and thinking skills of students; and (3) narrowing gaps in achievement. Twenty interviews with senior science teachers were focused on data collection. The results show that Senior Teachers' hopes for a 'new spirit' calling for inquiry instruction and HOT in the system did not materialize under the high stakes testing regime. Test training involved intensive interaction with HOT assignments. However, Under the high-stakes testing scheme, HOT instruction appeared to take the form of mechanical instruction, implying rote learning and drilling students to respond to HOT objects rather than teaching meaningful thought. The study concluded that the objective of training students to think, and the more specific objective of teaching low-achieving students to think, was significantly undermined during an ambitious strategy talking the need to increase exam scores.

Retnawati, H., *et al.* (2018) <sup>[19]</sup> carried out a study about "Teachers' Knowledge about Higher-Order Thinking Skills and Its Learning Strategy". The study showed that the awareness of teachers about HOTS, their skill to develop HOTS for individuals, students' ability to solve HOTS-based problems and calculate HOTS is still lacking. However, those are real that teachers are already aware of the importance of HOTS and use a variety of creative learning models to teach it. Specifically, Rosaini, R., *et al.* (2018) carried out the study of "Mathematics Teacher Supporting Higher Order Thinking Skills of Students through Assessment as Learning in Instructional Model". The study found that after the introduction of Assessment as Learning (AaL) into the teaching model, an enhancement was found and the teachers succeeded in using a portfolio for students to promote HOTS in mathematics education.

Generally, most of the previous studies above discuss

curriculum, learning model, or test item for HOTS and the teacher ability in teaching and learning HOTS. However, it seems just fewer studies focus specifically on problems encountered by EFL teachers in assessing HOTS of students. So this research aims to investigate the problems encountered by EFL teachers in assessing students' HOTS.

## 2. Literature Review

### A. Higher order thinking skills (HOTS)

According to Resnick (1987), HOTS is a complex thought process that involves the most basic mental activities in describing the material, drawing conclusions, constructing representations, analyzing, and forming relationships. According to Bloom's taxonomic ladder, these skills are also used to highlight various high-order processes. Skills, according to Bloom, are divided into two categories. The first are those classified as low-level thinking skills, such as remembering, understanding, and applying, and the second are those classified as higher-level thinking skills, such as analyzing, evaluating, and creating.

HOTS requires that the students do something based on facts and make connections between those facts. This is in line with the explanation from Thomas & Thorne (2009). They explained that HOTS is a way of thinking that is not just explaining and memorizing facts or applying formulas, procedures and rules, but also making connections between the facts, classifying them, manipulating them, placing them in context or in a different way. Meanwhile, Onosko & Newman (1994) stated that HOTS means "non-algorithmic" and it's defined as the ability to use one's mind to confront new challenges. New here means an application that students have never thought of before. HOTS is understood as the ability of students to be able to connect the learning with other elements beyond what has been taught by the teacher (Brookhart, 2010) [2].

Furthermore, Brookhart (2010) [2] explained HOTS in three categories, namely HOTS as transfer, problem-solving, and critical thinking. HOTS as the transmission is defined as an ability to apply knowledge into new contexts, as well as skills that have been developed through learning. HOTS as a transfer includes an ability in analyzing, evaluating, and creating. Encouragement of retention and transition are two of the most important educational priorities (which implies meaningful learning when it happens). While retention allows students to remember what they've learned, transition requires them to not only remember but also make sense of and apply what they've learned.

The educational aim behind all of the cognitive taxonomies is to empower students with the ability to pass. "Being able to think" means Students' knowledge and skills gained during their education can be applied to new situations. "New" here means implementation or exercise which is not previously thought by the students and it is not essentially something generally new." Learners can link their learning to elements other than those they've been taught to associate with it, which is how HOT was conceived.

### B. Assessment

In general, assessment can be defined as a process to obtain information which used as a basis for decision-making about students, curriculum, learning programs, and educational policy (Nitko, 1996). Moreover, Linn and Grounlund (1995) stated that assessment is a general term that includes procedures used to obtain information about student learning.

Furthermore, Popham (1995) [17] argued that assessment in learning is a formal process of gathering information related to learning variables as a teacher's reference in decision making to improve learning processes and outcomes. Meanwhile, Athanasou and Lamprianou (2002) stated that assessment is the process of gathering and combining data from tasks in order to make a judgment about someone or to make a comparison against a set of criteria. In line with the definition was stated by Athanasou and Lamprianou, in 1981 Anderson, Ball, and Murphy also stated their definition of assessment. They claimed that it is a method of gathering data and converting it into an understandable format, after which an assessment can be made.

According to Permendikbud No. 23 of 2016, assessment is the process of gathering and analyzing data in order to determine whether or not students have met their learning objectives. This process is carried out through various assessment techniques, uses various instruments, and comes from various sources. Assessments must be carried out effectively. Therefore, Information that will be used to assess student learning outcomes must be complete and accurate.

These basic concepts are often included in the construction of an assessment: determine explicitly and precisely what you will consider proof of the degree to which students have demonstrated this knowledge or skill if you want to measure, design tasks, or test items that allow students to demonstrate this knowledge or skill. All assessments, including assessments of HOTS, follow this general three-part process. There are almost always three additional principles to assess HOTS: provide students with something to think about, usually in the form of introductory text, visuals, scenarios, resource content, or a variety of topics Use novel material, which is material that is unfamiliar to the student, has not been discussed in class, and is thus likely to be remembered. Make a distinction between difficulty level (easy versus difficult) and thinking level (Recall versus Higher-Order Thinking or Lower-Order Thinking), and give each a separate control (2010, Brookhart, p.17)

## 3. Methodology

### A. Research Design

This study used a phenomenological approach to conduct a qualitative research. The goal of this study was to look into the difficulties that EFL teachers face when assessing students' Higher Order Thinking Skills (HOTS) at vocational school; a case study in SMK Pertanian Pembangunan Negeri Sembawa.

### B. Research participant

The research participants were 2 English teachers and the vice-principal of the curriculum in SMK Pertanian Pembangunan Negeri Sembawa. They have participated in training and workshop of HOTS.

### C. Instrument and technique of data collection

The teachers answered some questions, involved in-depth interviews therefore the researcher might be able to obtain detailed information. Six sub-themes make up the interview topics: 1) Teachers' knowledge of HOTS, 2) the importance of HOTS, 3) the learning strategy for implementing HOTS, 4) improving students' HOTS, 5) measuring and assessing HOTS, and 6) the ability of teachers to solve HOTS problems The test was also used to assess teachers' HOTS by posing HOTS problems to them.



## D. The technique of Data Analysis

The gathered data from the interview was analyzed qualitatively. In this study, the writer adapted the steps of qualitative analysis proposed by Cresswell (2012). The steps start from preparing and organizing the data, reading or exploring and coding all data, representing the data, and interpreting the data.

## 4. Findings and Discussion

### A. Findings

Throughout this research, the findings of this study were predicted and intended to obtain a more detailed image of EFL teachers' problems about assessing the students who integrate HOTS into the activities and their strategy to achieve the main objective of Education. Therefore, this research was to examine the problems encountered by EFL teachers in assessing students' HOTS which they have experienced. There were three key points from the outcome that will be elaborated on in this segment.

### 1. Problems with Teachers' Knowledge

Teachers' knowledge was one of the problems most often encountered by participants in designing HOTS assignments. Not all teachers, as well as the participants, are familiar with HOTS. Teachers still can't tell the difference between HOTS and abilities, skills, learning strategies, learning methods, or learning processes. All of the participants shared the same opinion that the teachers' knowledge was a tough challenge for these participants. Lack of HOTS information distribution was one of the challenges for the participants. Moreover, when the participants explored HOTS information from books and the internet, the participants said that the use of technology was also a considerable challenge for them as English teachers who were not accustomed to using technology in a process of teaching and learning.

Statements from the research finding were found during the data collection process. The participants did not feel confident in making HOTS assignments. This is the reason why they have not implemented it well according to the existing procedures.

"Till now, I am not sure whether what I gave to the students was HOTS or not." (Teacher A, interviewed, 11 November 2020)

".....Sometimes, I feel that HOTS concepts are not suitable for my students in SMK PP Negeri Sembawa. oh... or...are the teachers here ready to use HOTS? Most of the teachers even do not understand the importance of HOTS in general." (Teacher B, Interviewed, 25 November 2020)

On the other hand, the participants believed that the school curriculum exerting HOTS was not so influential for the success of the learning process. The participants were even questioning the benefits of using HOTS in the learning and teaching process. It was a sense of uncertainty among the participants about the use of HOTS in every assignment that the participants gave to their students. It was not only felt by the participants. They also said that what they have stated was also experienced by the majority of English teachers in SMK PP Negeri Sembawa, Banyuasin, South Sumatera, Indonesia. "I do believe that teacher has an important role in a process of teaching and learning, but can you imagine if the teacher does not want to develop his capability for better Education? What will happen later? I often see this condition here." (Teacher A, Interviewed, 11 November 2020)

Despite crucial roles in achieving educational success, still,

many teachers do not understand the significance of their role as a teacher. This is the main reason why the participants said that they found a situation where a teacher did not want to develop himself in learning something new, for example, their serious determination to attend a higher-order thinking skills seminar or workshop.

"Until this time, I have only once attended HOTS training. The worst thing is seeing my friends who just sit during the seminar, asked to copy the materials, busy with their stuff, and didn't listen to the speaker. I guess, they did not understand the materials at all"

"...That is why I didn't include elements of critical thinking, logical thinking, problem-solving, and reasoning skills in every activity that I give to the students. (Teacher B, Interviewed, 11 November 2020)

### 2. Problems with students' aspect.

In addition to the condition of the teachers, the ability of students was highlighted in this research finding. The participants accepted that the skill of students in planning HOTS tasks was also influential in their decision. All of the participants thought that the condition and ability of students to capture the meaning of HOTS in the form of assignments have influenced their determination to prepare HOTS assignments. All of the participants said that the students were not ready to answer HOTS questions regardless of the government regulations to include HOTS questions in the national examination.

Based on the research findings, the students need further exposure to conduct HOTS assignments so that the students are aware of HOTS in their future lives. The skill of students became one of the difficulties that the participants discovered in developing the HOTS task. However, the situation in SMK Pertanian Pembangunan Negeri Sembawa is distinct. Since Indonesia is an archipelagic nation, the ability to understand HOTS may not be uniformly distributed among Indonesian provinces. However, the interpretation that the students in SMK Pertanian Pembangunan Negeri Sembawa are not properly capable of answering the HOTS question is not judicious.

Furthermore, distinguishing the required parameter that should apply to the competence of students, deciding the content concept, and questions containing HOTS to assess the analytical thinking of students is also a problem encountered by SMK Pertanian Pembangunan Negeri Sembawa' English teachers. This occurs because there are variations in students' skills, abilities, and levels of thinking in English.

*"As we know, students have different abilities in each skill in English activity. So, the problem I face in the learning process, I have to distinguish the suitable parameter which should be relevant to students' competence."* (Teacher A, Interviewed, 11 November 2020)

Another participant was grappling with the same thing. When he tests the Higher Order Thinking Skills of students, she has difficulties or problems deciding the relevant content to be taught to students, gathering concepts and questions. This also occurs due to differences in the level of students' thinking in the class. For this purpose, when evaluating the competence of learners related to HOTS, the teacher must adjust the condition of the pupil. However, she did not completely apply HOTS-based questions to test the HOTS of students.

*"...Determined the material, concept, and questions that contain HOTS which can measure their critical thinking skills. Because each student has different levels of critical thinking skills so I have to adjust to the students' condition. For instance, I can't apply HOTS in all the questions because of this heterogeneous so only a few of the questions are in that level (HOTS)." (Teacher B, Interviewed 25 November 2020)*

In the implementation of learning models and techniques, the disparity of the students' skills on the cognitive side often significantly affects teachers at SMK Pertanian Pembangunan Negeri Sembawa. This is also one of the difficulties teachers face when determining or assessing students' HOTS. This happens because there is a very significant gap between students with high skills and students with very poor information-receiving skills. This is based on data gathered during the 26 December 2020 interview by researchers with the vice principal of curriculum in SMK Pertanian Pembangunan Negeri Sembawa.

*"The different skills of students in SMK Pertanian Pembangunan Negeri Sembawa, even among students who can solve problems well with less qualified students are different. So the teachers can often not use HOTS learning models or strategies in the classroom." (Vice Principal of Curriculum, Interviewed, 26 December 2020)*

## B. Discussion

Higher Order Thinking Skills is defined as an opportunity for students or teachers to expand their imagination, critical thoughtful, and sensory problem solving (Zamani & Rezvani, 2015) [26]. The three key components required to achieve the main objective of 21st-century learning are creativity, work, and technology skills. (Gilboy *et al.*, 2014) [7]. These three components are linked with the core of HOTS. However, it is still debatable whether or not HOTS can be applied in Education in the province of Indonesia.

HOTS has indeed been included in some schools' curriculum in several countries (Assaly & Smadi, 2015) [3] including Indonesia. A lot of efforts have been done to spread HOTS information among teachers and students. Designing HOTS assignments was one of the problems faced by the teachers. It can be concluded that the problems encountered by English teachers in assessing Students' HOTS can be divided into three key sections based on the results found. They are the problem with teachers' knowledge and the problem with students aspect.

### 1. Problem with teachers' knowledge and how they solve the problem

The first argument was about the limited knowledge of teachers to execute HOTS assignments. The participants acknowledged that the skills they gained had not yet reached the HOTS learning criteria. Nevertheless, the participants attended the local government's HOTS training and workshop, although this was felt to be insufficient for the participants. This shows that the local government is very responsive in providing HOTS learning knowledge to teachers, especially in the design of HOTS assignments. The findings of this study support what other studies have studied, suggesting that participants need to engage in this form of professional development of teachers to improve their

teaching skills in understanding the teaching method to face learning in the 21st century (Gutierrez, 2016).

Studies in Saudi have revealed that many efforts are used to prepare teachers in designing HOTS activities related to the 21st-century learning framework (Zahrani & Elyas, 2017) [25]. The condition experienced by the participants corroborates with Benjamin Franklin's argument, "Tell me then I forget, teach me and I remember, involve me then I learn." This argument confirms that effective, engaging, and meaningful teacher professional development such as training or workshop which genuinely and deeply involves teachers was very suitable and required by the participants.

A successful teacher training program can not be described as a "one-shot program" when it has lacked evaluation because it requires ongoing help to enhance the quality of teaching (Kuswandono, 2014). There are adjustments that need to be harmonized with the teaching techniques provided to the students and teachers to achieve the objectives of HOTS with the current educational growth.

### 2. Problem with students' limited ability and how they solve the problem

The restricted skill of students was the third area of difficulties faced by the participants for designing the HOTS tasks. Students in this category require knowledge of HOTS at the early stage to prepare them for the demands of the 21st century (Yoke *et al.*, 2015) [24]. Therefore, teachers must play an active role in preparing students to meet future challenges (Ganapathy & Kaur, 2014) [6]. Bialik (2015) and Scott (2017) found out that the skill is linked to the 4CS competency, which involves creativity, critical thinking, communication, and collaboration. According to Scott (2017) and Bialik (2015), there are two forms of 21st-century skills: abstract skills related to cognitive skills (creative thinking and analytical thinking), and concrete skills (communication and collaboration). Furthermore, HOTS include both creative and critical thinking skills (Miri, David, & Uri, 2007; Moseley, Baumfield, Elliott, Gregson, Higgins, & Newton, 2005).

One of the most important components for an individual to be able to solve new problems in the twenty-first century is HOTS (Brookhart, 2010; Moseley *et al.*, 2005; Thompson, 2008). To efficiently solve new problems, HOTS often plays an important role in linking, applying, or exploiting prior knowledge (Thomas & Thorne, 2009). HOTS is characterized as an opening between the three topmost levels of capacity in the cognitive dimension (creating, analyzing, and evaluating) and the three levels of knowledge dimension (procedural, conceptual, and metacognitive) in the revised Bloom's taxonomy (Anderson & Krathwohl, 2001; Thompson, 2008) [1]. As a consequence, tasks such as evaluating, assessing, and generating conceptual and procedural knowledge, or metacognition, are used to evaluate HOTS. As a result, getting familiar for students with the HOTS activity is critical in preparing them to unravel new difficulties, adjust to a new situation, and make conclusions about a specific issue.

HOTS is not effective to be inculcated to students directly during the introduction of learning with several considerations. HOTS should be taught to students as a skill through learning experiences that encourage its growth. HOTS educational activities consist of student-centered learning and active learning (Akyol & Garrison, 2011; Limbach & Waugh, 2010). The student-centered learning and active learning such as problem-based learning or PBL

(Mokhtar, Tarmizi, Job, & Nawawi, 2013), project-based learning or PjBL (Vidergor & Krupnik-Gottlieb, 2015), discovery learning, and inquiry-based learning (Orlich, Harder, Callahan, Trevisan, & Brown, 2010), or other learning models that use contextual problems are some examples of HOTS training strategies. Furthermore, group discussion and solving complex and interdisciplinary problems in the learning process are important exercises to train students' HOTS, according to Protheroe (Goethals, 2013) and Miri, David, and Uri (2007).

However, it was also considered by all participants that HOTS was only acceptable for Javanese teachers and students, or other established provinces. Instead of the long vision of learning outcomes, this notion seems to be based on the realistic perception of the immediate test results in structured education. In comparison, a study by Şener & Tü (2015) highlighted that the teaching and learning phase in 21st-century learning should revolve around students that depend on project-based activities. Students' abilities to meet the demand for HOTS are expected to improve as a result of this approach.

The study confirms that in SMK Pertanian Pembangunan Negeri Sembawa, the form of students centered learning was not a standard practice. Teacher professional development initiatives should focus on strategies to increase the confidence of students to initiate and be accountable for their learning, beginning from this regular learning situation in this classroom, thus suggesting more on the ownership of knowledge attainment. By so doing, the superiority of teachers in the classroom may be reduced. The limited skill of students often seemed to be a product of the limited knowledge and preparation of teachers. Based on this situation, it can be inferred that these three problems are related to each other which include the expertise of teachers, the preparation of teachers, and the limited capacity of students.

## 6. Conclusion

It is becoming evident that exploiting HOTS in the process of learning plays a strategic role in education. Exploiting HOTS has been practiced in many parts of the institution but their effects on educational practices are still insufficient so that the present study attempts to address what problems teachers face to make HOTS effective. The teachers did not quite understand the significance of HOTS based on an anecdotal observation before the study. It showed that the difficulties of developing HOTS assignments that were interpreted and evaluated in the research results were faced by all participants. Challenges are likely to be necessary for teachers to incorporate HOTS as their strategy to make their approaches acceptable for learning in the 21st century. Such problems were divided into three groups. They are the knowledge of teachers, the skills of students, and the training of teachers.

Although the participants found the problems, they were able to control their emotions to preserve and improve their knowledge of HOTS. The purpose of designing HOTS assignments was to make students ready to meet the demands of the 21<sup>st</sup> century. The essential components of HOTS are information transfer, critical thinking, and problem-solving to prepare learning criteria for the 21<sup>st</sup> century. However, the truth was revealed by the participants that HOTS's ideal conditions were far from what educators and students encountered. This condition has highlighted the importance

for English teachers to gain a positive understanding of the importance of HOTS in task design in order to improve the quality of the learning process.

This analysis of the present study was not lacking of restrictions. For example, the data were composed from the participants in SMK Pertanian Pembangunan Negeri Sembawa which might not be able to describe the full representation of the expectation of educators about challenges in designing HOTS assignments. By drawing on data from depth interviews, other researchers can continue to discuss the same subject in Indonesia about the difficulties of developing HOTS assignments but in different study settings. Although the present study has limitations due to insufficient time as a result of Corona-19 Pandemic, it may be confirmed the findings are conclusive so as it can be recommended for other students to undertake similar research focusing on the same issue to provide a more solid remedy for better education.

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