Teacher's Knowledge of Higher Order Thinking Skill in Teaching-Learning Process in Senior High School

Prasuti Madhyaratri Arsah

English Department, Faculty of Language and Arts, Universitas Negeri Surabaya
prasutiarsah@mhs.unesa.ac.id

Abstrak

Dalam abad 21 ini, siswa tidak hanya dituntut untuk menguasai konsep dalam ilmu tetapi juga kemampuan untuk berpikir dan menerapkan suatu ilmu. Yen & Halili (2015) juga berpendapat bahwa pendidkan pada abad 21 ini menekankan pada higher order thinking skill (HOTS). Namun, pencapaian soal UN berbasis HOTS masih jauh dari kata memuaskan (Retnawati, Kartowagiran, Arlinwibowo, & Sulistyaningsih, 2017). Kemudian, Wardany (2016) dan Usmaedi (2017) menyatakan bahwa HOTS jarang sekali muncul selama proses belajar mengajar. Permasalahan ini menunjukkan hilangnya pemahaman guru dalam HOTS. Oleh karena itu, tujuan dari penelitian ini adalah untuk mencari dan menjelaskan persepsi guru dalam HOTS itu sendiri. Bentuk penelitian ini adalah penelitian kualitatif. Subyek penelitian ini adalah empat guru Bahasa Inggris di SM, yang mendapatkan pelatihan kurikulum 2013 dari pemerintah. Wawancara terstruktur diaplikasikan untuk pengumpulan data. Kemudian data yang diperoleh dianalisis dan dijelaskan secara spesifik berdasarkan interpretasi peneliti dalam bentuk narasi dan deskriptif. Peneliti menemukan bahwa subyek memiliki pemahaman yang cukup mengenai kemampuan menganalisis, pemahaman yang sedikit dalam kemampuan mengevaluasi dan pemahaman yang baik dalam kemapuan membuat.

Kata Kunci: guru, pengetahuan, *HOTS*.

Abstract

In this 21st century skill, the students are required mastering not merely the conceptual knowledge but also the skill to think and apply the knowledge. Yen & Halili (2015) also argued that 21st century skill education is emphasized at Higher Order Thinking Skill (HOTS). However, the achievement of the HOTS test items in the National Exam (UN) is far from satisfactory (Retnawati, Kartowagiran, Arlinwibowo, & Sulistyaningsih, 2017). Then, Wardany (2016) and Usmaedi (2017) revealed that HOTS are less appearing in teaching and learning process. These problems have shown the lack of teacher's knowledge in HOTS. Therefore, the purpose of this research was to seek and describe the teacher's knowledge in higher order thinking skill. This research was designed as a qualitative research. The subjects of this research were four English teachers in senior high school, who got a training of curriculum 2013 from the government. The semi structured interview was applied in order to gain the data. Then, the results was analyzed and explained in detail based on the researcher's interpretation in the form of descriptive and narrative. The findings have shown that the subjects adequately understand in the analyzing skill, the subjects gave an uncomplete idea in the evaluating skill and the subjects have a good understanding in creating skill.

Keywords: teacher, knowledge, HOTS.

INTRODUCTION

The students are required mastering both of the conceptual knowledge and the skill to think and apply the knowledge in the 21st century. Scott (2017) and Bialik (2015) stated that the 21st -century skills can be categorized into two main components: abstract skills related to thinking skills (creative thinking and critical thinking), and concrete skills (communication and collaboration). Eisenman & Payne (2017) assumed that the students need to master creative and critical thinking to accomplish the real work field. Yen & Halili (2015) also argued that 21st century skill education is emphasized at Higher Order Thinking Skill (HOTS). As to accomplish these targets, different endeavors have been made, one of

which is through educational programs reestablishment. In Indonesia, educational programs which prompts expanded the students' HOTS expressed in "curriculum 2013". Curriculum 2013 is related with the government declaration in Ministry of National Education (MoNE) 20 year 2003 that the student should become a critically, creatively, and independently citizenship. Thus, this point of view leads to the premise that as a main instrument in teaching and learning process, the teacher should infuse the higher order thinking skill to help the students compete in the life after.

Lewis and Smith (1993) expressed that higher order thinking skill happens when an individual acquires new data and put away it in memory and relates as well as rework and stretch out data to accomplish the objective or

locate a conceivable answer from disarray conditions. Acquainting learners with HOTS are essential to enable them to prepare for unraveling new issues, acclimatizing themselves in another atmosphere, and settling on choices about a specific issue. Brookhart (2010); Moseley et al., (2005); Thompson (2008) revealed that HOTS is one of the important components for an individual to be able to solve new problems in the 21st century. Moreover, creative thinking skills and critical thinking skills are included in higher-order thinking skill (HOTS) (Miri, David, & Uri, 2007; Moseley, Baumfield, Elliott, Gregson, Higgins, & Newton, 2005).

Critical thinking deals with a deliberate, self- - regulatory judgment that outcomes in investigation, assessment, and surmising, just as clarification of the evidential, applied, methodological, criteriological, or logical contemplations whereupon that judgment is based (Facione, 1990). Critical thinking involves a variety of skills such as the individual identifying the source of information, analyzing its credibility, reflecting on whether that information is consistent with their prior knowledge, and drawing conclusions based on their critical thinking (Linn, 2000). As the rapid movement of world, people are required to make rational decisions based-on evaluative or critical thinking rather than appeal to authority. Therefore, students ought to be set up to question clichés, raise questions, explore circumstances, and test options (i.e., think critically), with regards to both tutoring and day by day life (Miri, David, and Uri, 2007).

Creative thinking is characterized as the reasoning that empowers students to apply their creative energy to create thoughts, questions and theories, explore different avenues regarding choices and assess their won and companions' thoughts, final product and processes (Kampylis and Berki, 2014). The teacher should make a creative learning to ensure the students' creative thinking, Treffineger (1980) stated that creative learning is important because helps learners become independent and possibile for solving future problems.

Ministry of Education believe that higher order thinking skill should be trained to students through Bloom Taxonomy (MoNE 21 2016). According to Bloom Taxonomy revised by Anderson and Krathwohl (2001), HOTS are consisting of three stages which are analyzing, evaluating, and creating that focus on critical thinking, logical thinking, reflective thinking, metacognitive, and creative thinking. Besides, it refers to the capacity to apply learning, abilities, and qualities in thinking, reflection, critical thinking, and basic leadership, innovating and making something new. The underlying regulations for applying HOTS in teaching and learning process are already provided by the government in MoNE (Ministry of National Education) 20 year 2016 consists of

main guidance for developing the other aspects in curriculum 2013, MoNE 21 year 2016 establishes the competence level and the scope of material, MoNE 22 year 2016 regulates the standard process of primary and secondary education, MoNE 23 year 2016 contains educational assessment standards and MoNE 24 year 2016 concerns on main competence and basic competence .

However, the HOTS test items in the National Exam (UN) shows an unsatisfied result (Retnawati, Kartowagiran, Arlinwibowo, & Sulistyaningsih, 2017). Then, Wardany (2016) and Usmaedi (2017) revealed that HOTS are less occurring in the classroom actitivies. Retnawati, Djidu, Apino & Anazifa (2017) argued that teachers are still unable to actualize HOTS from ability, learning methods, learning models or learning activities. These problems have shown the lack of teacher's knowledge of HOTS. From several arguments above, those can make the researcher contemplates to the relation of the teachers' cognitive as its perception of teacher to the concept of high order thinking skills constructed by the government. Researcher also believes that there should be equivalence awareness between teacher and its practice to apply certain methods and approaches of HOTS practically. Therefore, the study examined thoroughly to the following research problem: "To what extent is the teacher's knowledge of HOTS in teaching-learning process in senior high school?"

A teacher should master both concept on his behalf in order to comprehend the knowledge of teaching HOTS theoretically, planning the lesson properly and the teaching precisely. However, those aspects will not be well-achieved if a teacher does not aware of their existence as the main stakeholders of teaching and learning process. Therefore, the study under investigated will be concerned on three stages of HOTS which are analyzing, evaluating, and creating (Anderson and Krathwohl, 2001). Thus, the research questions are formulated as:

a. To what extent is the teacher's knowledge of HOTS in terms of the skill of analyzing that has to be possessed by the students in senior high school?

b. To what extent is the teacher's knowledge of HOTS in terms of the skill of evaluating that has to be possessed by the students in senior high school?

c. To what extent is the teacher's knowledge of HOTS in terms of the skill of creating that has to be possessed by the students in senior high school?

RESEARCH METHOD

The purpose of this study is to seek and describe teacher's knowledge in HOTS. This study is conducted to explain the ideas which teacher has in applying HOTS, as it is stated chapter one, higher order thinking skill is

urgently needed in this 21st century. Therefore, the study was a basic interpretive research as one of the parts of qualitative research to collect and analyze the data (Richards, 2003). A definitive objective of the research is to accumulate four teacher's knowledge of higher order thinking skill. Qualitative approach supported the interpretive study to ease the choice of the source of the data (Ary, Jacobs, Sorensen, & Razavieh, 2010; Creswell, 2007)

In qualitative study, the small samples, is representative enough (Cohen, et al., 2007:461). Consequently, it was vastly better to use small sample of subject to acquire in-depth information and to avoid troublesome in generalizing and familiarizing the result. Therefore, subject of this research was four English teachers in senior high school. The subjects were chosen since they received a curriculum 2013 training from the government, i.e. national training, regional training and in-house training. Then, the data obtained was analyzed and explained specifically based on researcher's interpretation in the form of narrative or descriptive (Ary et al., 2010).

The main instrument of this study is the researcher himself. The data are observed, analyzed and interpreted by this human instrument. Denzin & Lincoln (2003) stated that human is respected as an instrument in qualitative study. Thus, the key instrument in this study is the researcher.

This present study was conducted in the two public senior high schools. The first school is in the town of the east java province. The second school is located in the same town but different districts. The first school located in the city is the one of the favorite public school. The school formerly became the international standardized high school. On the other hand, the second school is national standardized school. The room of interview must be quiet and settled because the in-depth data and the well-designed atmosphere were needed to build up subjects' convenient feeling.

The researcher applied a semi structured interview to gather the information. 10 questions were arranged in the semi structured interview, as seen as the table below

Table 1. Questions of Semi Structured Interview

1.	What do you think about HOTS in teaching-learning process of English?
2.	What do you think about analyzing skill?
3.	Have you ever asked the student to analyze the text?
4.	What is the students'problem in analyzing skill?
5.	What do you think about evaluate itu?
6.	Have you ever asked the student to judge or teel their decision?
7.	What is the student's problem in evaluating skill?
8.	What do you think about creating skill?
9.	Have you ever asked the student to create something in the end of the teaching-learning proccess?
10.	What is the student's problem in creating skill?

The interview was done on January, 15th 2019 until February, 1st 2019. The subjects were interviewed in the different schedule. The first two subjects were interviewed on January 15th and January 22nd in the teacher's room in the public school. After that, the other three subjects were on January 29th and February 1st in another public school, particularly in the counseling room.

Generally, in qualitative research, the steps will be data managing, describing, classifying, interpreting and reporting (Ary et al., 2010; Cohen et al., 2007; Creswell, 2007). First, researcher started managing the data. In this step, transcribing the data into written form done from the recording. At that point, the general ideas are pointed from some notes based on the teacher's responses. The data is required coding to ease differentiating and familiarizing the teachers' responses during the semi structured interview. For instance, 1tr1 represented the first teacher's response number one and 2tr1 for the third teacher's response number one. Then, the researcher started to manage the findings in the form of table to ease the researcher marked every single data gained. As a result, the data was categorized based on research questions. The example of the table provided below

Interviewer code	Question	Subjects' code	Interviewee's responses	Clue
1q1	What do you think about analyzing skill?	1tr1		
		1tr2		
		1tr3		
		1tr4		

The result of the data collected is needed to find in the form of discussion by interpreting and reporting the data. The researcher interpreted every single subject's response by relating the responses to the theoretical framework on chapter two. Ultimately, after summarizing the ideas of the teacher and relating to the theory, the discussion of

this study was reported in the form of descriptive and narrative and finishing up them into a good discussion.

RESULTS AND DISCUSSIONS

RESULTS

TEACHER'S KNOWLEDGE OF ANALYZING SKILL

The entire subjects confirmed the concept of analyzing similarly. They pointed out that it is the way how the students break down the information in the sentence or text. Moreover, the subjects elaborated their answer in analyzing variously. Subject 4, who got an in-house training, mentioned a brief definition of analyzing. On the other hand, subject 1, 2 and 3 gave a wider description of what analyzing is.

The entire subjects constructed a detail explanation on the implementation of analyzing in teaching-learning process. The entire subjects are variously confirmed the way to train the students' analyzing skill by using several operational verbs. Subject 1, who got a national training, believed that the teacher should use an approach to deliver an analyzing skill, such as scientific approach precisely in collecting the data. Subject 2, who got an in-house training, argued that analyzing skill can be done through comparing the sentence's formula and hopefully the students know the purpose of the sentence, the differences among sentences, and when they have to use it. Subject 3, who got a regional training, thought that classifying the generic structure of text can activate the students' high level thinking particularly in analyzing stages. Meanwhile, subject 3 could not fully described classifying level since he mentioned identify level, according to Bloom taxonomy, indicates lower order thinking skill. Lastly, subject 4 was not specifically given his perspective of analyzing skill.

The four subjects had a various ideas in two parts. Subject 1 and subject 3 assumed that analyzing could not successfully deliver to the middle-low students. They also argued that middle-low students felt bored or not interested due to the teacher's stimulate. However, subject 1 comprehended his answer with a real solution. He speculated that the teacher should construct an inferential question to stimulate the students' high thinking level. Consequently, the students are motivated to solve the problem.

Subject 2 and subject 4 hypothesized that the main problem came from the material. Furthermore, they had a different point of view to overcome the problem. Subject 2 provided a supplementary material such as video to train students' analyzing level. By showing an authentic material such as video, it will ease them to break down the information. Subject 4 said that he used a real problem in daily life to be analyzed since it is more familiar with the students and hopefully ease them to accomplish this level.

Generally, the four subjects are completely master the students' analyzing skill. The national training teacher successfully explain the elementary concept of analyzing, the way to implement the analyzing stages and problem for implementing in the classroom. The regional training successfully defines the concept of analyzing and the problem in the classroom. However, he unsuccessfully defines the implementation of analyzing skill in the classroom. Subject 2, who got an in-house training, successfully explain his idea of analyzing skill from the concept, the implementation and the problem in classroom. Meanwhile, subject 4, who got an in-house training, elaborated his view with a slight definition of the concept, the implementation and the problem in the classroom.

TEACHER'S KNOWLEDGE OF EVALUATING SKILL

The subjects elaborated only a slight definition of evaluating skill. Subject 1 and subject 3 described that evaluating refers to clarify, justify or tell why of text or situation given by the teacher. However, subject 2 and subject 4 were not familiar with this term. Further question were taken to seek the details of subjects' knowledge.

The two subjects stated clearly the activity related to students' evaluating skill. Subject 1 mentioned simple present tense and simple past tense as an example. He asked them to tell the reason why they have to use simple present tense or simple past tense. Subject 2 also mentioned same example with previous skill, will and going to. In this case, the students must choose between will and going to according to the situation given by the teacher.

Nevertheless, subject 3 and subject 4 could not successfully explain evaluating level in teaching-learning process. Subject 3 mentioned clarify and justify as an operational verbs to indicate this level. However, there was not exact activity for clarify and justify. In simply, subject 3 only mentioned the term clarify and justify without clear instruction to do that. Then, subject 3 jumped into asked the students to give an example. Subject 4 failures to express this situation since he thought that classify into diagram or column refers an evaluating level.

All of the subjects confirmed the various barriers in this level. Subject 1 and subject 2 believed that the teacher as the main problem of this level. Subject 1 argued that

teacher's knowledge of this level plays an important role. Subject 2 thought that the main concern of this level is the concept. He suggested that the teacher should train the students understand the concept of the topic.

However, subject 3 said that the obstacle come from the students particularly middle-low students. His notion is middle-low students will confuse if the teacher do not give an insightful income. Subject 4 mentioned the textbook as the obstacle in this level. The instruction in the textbook is quite hard to be understood.

In short, the four subjects hardly comprehend evaluating skill in the process of learning. Two of them are unsuccessfully define the concept of evaluating. Meanwhile, the others only describe a short definition of evaluating. Then, the four subjects give a positive and negative thought in the implementation of this level. Subject 1 and subject 2 shows a positive view since both of them are fluently describe the way to accomplish this level. However, the rest of them provide a negative view due to their failure in detailing the stages of evaluating. Lastly, the subjects are divided into two voices in talking about the barriers. Subject 1 and 2 believed that the problem is the teacher itself. On the contrary, subject 3 and 4 viewed that the material and the students as the main problem in this level.

As stated in the chapter two, evaluation has a strong correlation with base form of critical thinker such as evaluating arguments, giving a reason logically. This phenomenon should be considered as an urgent case since the subjects mislead the students about the evaluation skill. As a result, shaping the students' way of thinking rely on an assumption, which means something the students take for granted or believe without a strong evidence.

TEACHER'S KNOWLEDGE OF CREATING SKILL

The entire subjects had a similar definition of creating level. They taught that it is how the students develop a new product either written or spoken. However, only subject 2 and 3 wider his explanation of creating level by mentioning creating level in the learners' high thinking level. Subject 2 argued that creating is the highest part of higher order thinking skill. Subject 3 believed that creating easier the teachers' job in knowing how deep and far the students' understanding.

It is pointed out that all subjects have different methods to deliver his knowledge particularly in creating level. Subject 1 mentioned a scientific approach to help the teacher deliver this stage particularly in communicating level. Subject 2 mentioned a specific topic such as will and going to. First, subject 2 asked the

students to analyze the formula sentence of will and going to and then they had to make a dialogue contain will and going to, based on the situation given by the teacher. Subject 3 gave another example. He mentioned a personal letter as an example. Firstly, the pupils should have a deep understanding the generic structure of personal letter. Second, they started to write a personal letter and then they sent it to their friends through e-mail. However, subject 4 did not justify a specific topic of creating level. He only followed the textbook as his main instrument in teaching and learning process.

The subjects elaborated the obstacle variously. Subject 1 and subject 4 verified that the teacher have to deal with time allocation. The limited time to accomplish this level is a monstrous problem for the teacher since they have to maximize and divide the time with another skill. Subject 2 and subject 3 indicated that the problem appeared in activating the students' creativity and making a project. These subjects believed that the learners should have a deep understanding of all the stages in teaching and learning process before going to the creating level. Consequently, the leaners successfully produce a product.

To sum up, the subjects completely master the students' creating. Subjects could successfully categorize them. Generally, the subjects also explain various activities in creating skill, such as make a dialogue or write an e-mail. However, they have to overcome with time allocation and the concept of creating. As the hardest part of higher order thinking skill, the teacher should put a huge attention in this skill in the teaching-learning process.

DISCUSSIONS

The next phase of this study is presented a discussion based on the findings of the semi structured interview of higher order thinking skill. There are three disucssions in this study. First, this study discusses of teacher's knowledge of analyzing skill. Second, this study discusses about teacher's knowledge of evaluating skill. The last, this study discusses about teacher's knowledge of evaluating skill.

The first discussion is about the teacher's knowledge of analyzing skill. It is divided into the concept of analyzing, the implementation and the problems of this skill. The concept of analyzing skill is confirmed as breaking down the information in the text or the sentence. Meanwhile, the subjects elaborated the definition variously. The first subject, who got a national training, explained broader about the definition of analyzing. The second subject, who got a in-house training, and the third subject, who got a regional training, also gave a wider explanation about analyzing. Meanwhile, the fourth

teacher, who got an in-house training, did not give an exact answer of analyzing. This phenomenon related with the previous studies by Retnawati, Djidu, Kartianom, Apino, Anazifa (2018) that teacher seems lack of knowledge of HOTS even though the teacher's training and socialization of curriculum 2013 always emphasize at higher order thinking skill.

Then, all of the subjects gave a various explanation in the implementation of analyzing in classroom. The first subject argued that the teacher shold traing the students' analyzing skill through an approach precisely scientific approach. It is in line with the Ary et al (2010) that scientific approach is a method in observing and making hypothesis in the beginning of ctivity to get knowledge. The second subject believed that comparing the sentence is the suitable method in delivering analyzing skill to the students. The third subject mentioned classiyfing the generic structure of the text as the operational verb of analyzing skill. However, the subject could not successfully detail classifying activity since he mentioned identify activity included in classifying activity. Last, the fourth subject did not give a specific answer the implementation of analyzing skill in teaching-learning process. What the third and fourth subject explained is related with the previous study Ahmad (2014) that the teacher interpreted the applicative concept partially due to their level understanding and procedural knowledge.

For the obstacle in the implementation of analyzing skill, the subjects gave a various idea mainly concern in two parts. The first and third subject believed that middle low student became the hardest part in this skill. The subject thought that middle low student could feel bored or not interested because the teacher can not stimulate or trigger them to think deeper about the lesson. To overcome with this problem, the first teacher use an inferential question or probing question to trigger the students' analyzing skill. Moyer and Milewicz (2002) argued that probing question will ease the teacher to better focuses on students' thinking. Meanwhile, the second and fourth subject thought that the main problem came from the material especially the textbook from the government.

Besides, the subjects mentioned their knowledge of evaluating skill into three parts; the definition of evaluating skill, the implementation and the obstacles of the evaluating skill. The definition of evaluating skill is elaborated in a slight definition. The first and third subject thought that evaluating refers to clarifying and justifying. However, the second and fourth subject did not familiar with the term of evaluating in teaching-learning process.

Related with the implementation of evaluating skill in teaching-learning process, the subjects partially understand about the operational verb for evaluating skill. The first and second subject in one voice that evaluating activity refers to tell the reason of choosing something. However, the third and fourth subject could not explain the exact answer of evaluating activity in the classroom. The third subject mentioned clarifies and justifies without clear instruction or activity to do that. The fourth subject failed to explain the learning activity since he mentioned classify into diagram as an evaluating activity. The phenomena in the third subject showed an inconsistency between knowledge of evaluating and knowledge of activities realted to the evaluating skill which is in line with research by Retnawati, Djidu, Kartianom, Apino, Anazifa (2018) that the teacher's pedagogical knowledge is limited in terms of conceptual knowledge rather than applicative knowledge.

The subjects also revealed a various barriers in implementing evaluating skill. Subject 1 and subject 2 argued that the teacher as the main implementer in the classroom plays an important rolein transferring this skill. Meanwhile, subject 3 thought that middle-low student became the main barrier of this skill. Subject 4 thought that the textbook became the main problem of this skill. However, the teacher's explanation is not relevant with their previous answer. For instance, subject 3 could not mention the learning process of evaluation skill but he thought that middle-low students played an important role as a problem in executing this skill n classroom. It is postulated that teacher's training and socialization of curriculum 2013 particularly higher order thinking skill is still insufficient, which is related with Retnawati (2015).

The last discussion is about the the subject's cognitive of creating skill. It is focused into three parts; the definition of creating skill, the implementation and the barriers of this skill. The subjects have aqeduate knowledge in defining the creating skill. They pointed out that creating is producing or developing a new product either written or spoken. Subject 2 and subject 3 wider their explanation of creating skill. Subject 2 tried to relate creating skill with their position in the higher order thinking skill. Subject 3 thought that creating skill help the teacher to assess the students' understanding of the lesson.

All of the subjects mentioned a various activity to train the students' creating skill. Subject 1 believed that scientific approach eases the teacher to deliver creating skill to the students. Subject 2 thought that make a dialogue was a suitable activity in this skill. Subject 3 stated that make a product was a relatable action in this skill. Then, subject 4 followed the textbook as his main instrument in teaching-learning process. This phenomenon related with Retnawati, Djidu, Kartianom, Apino, Anazifa (2018) that the teacher already knows the variety in learning model is needed in implementing HOTS.

For the obstacle in teaching-learning process, the subjects confirmed various answer in dealing with creating skill. Subject 1 and subject 4 verified that limited time became their biggest problem in creating skill. However, subject 2 and subject 3 argued that activating the students' creativity became the monstrous problem in this level.

Jika perlu berterima kasih kepada pihak tertentu, misalnya sponsor penelitian, nyatakan dengan jelas dan singkat, hindari pernyataan terima kasih yang berbunga-bunga.

CONCLUSION & SUGGESTION

Conclusion

Related to the findings, teacher's knowledge is drawn into three aspects from analyzing skill, evaluating skill and creating skill.

First, the subjects adequately understand in the analyzing skill. They clarify the notion of analyzing skill that break down the information into pieces. Furthermore, the subjects have a various way to accomplish this skill. They pointed out the operational verb of analyzing from comparing, classifying and use a scientific approach. Unfortunately, the subject four, who got an in-house training, only mentioned a slight definition of analyzing skill. However, they have a different perspective that analyzing skill cannot completely deliver for the middle-low students and depends on the material.

Second, the subjects gave an uncomplete idea in the evaluating skill. Even though, the subjects have been lead a further question based on the theories in chapter two and the terminology is simplified into judging, debating, arguing and telling why, the subject two and subject four truly unfamiliar with this skill. Unfortunate, they did not teach the students how to apply evaluate skill.

Third, the subjects have a good understanding in creating skill. They explicate the key word is how the students create a new product either written or spoken in the end of teaching and learning process. The subjects give a well explanation on the stages to achieve this skill such as creating and communicating. However, the subjects would have been much better in delivering this skill if the time allocation is enough and the teacher is mastering this skill.

In general, the teachers have a wide point of view of analyzing skill, slight perception of evaluation skill and rich knowledge of creating skill.

Suggestions

In congruence with the conclusion, several suggestions are provided for the teacher, teacher educator and the researcher who will take this essential knowledge into account.

For teacher, it is suggested that they should master the knowledge of higher order thinking skill as stated in the chapter two. The government already provides the higher order thinking skill in their training module of curriculum 2013. Yet, it depends on the teacher's effort to master this skill. Hopefully, the teacher successfully executes the higher order thinking skill and then faces the goal of the teaching and learning process.

For teacher educator, it is suggested that teacher needs more attention on concept of higher order thinking skill. Based on the findings, the subjects seem lack of understanding of the fundamental thing of higher order thinking skill. Consequently, the subjects deliver uncomplete skill to the students. Moreover, the teacher educator should collaborate with the government to fix the teachers' misconception of HOTS. Specifically, the portion of higher order thinking skill from the concept and the implementation this higher skill in sequence in the teacher's training of curriculum 2013 considerably needs more detailing.

For future researcher, it is suggested to pay attention at the results and the discussion of this study to facilitate the future researcher in reveal uncomplete part. Second, the future researcher may switch the focus into teacher's knowledge, the implementation or how they build a lesson plan according to HOTS. Those suggestion are beneficial to wider the study on the higher order thinking skill.

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