

Teachers' Perception, Knowledge and Behaviour of Higher Order Thinking Skills (HOTS)

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Abstract

This study aims at finding out teachers' perception, knowledge and behaviour of HOTS in 2013 curriculum and finding out learning model mostly applied by the teachers. It is a descriptive qualitative study which involves 12 English teachers of SMAN 10, SMAN 12, SMAN 14, SMAN 15, and SMAN 8 of Semarang as the participants. Observation checklist, questionnaire and in-depth interview were used to obtain the data. The result showed that the teachers' perception, knowledge and behaviour is very good (5%), good (85%), and enough (10%). Therefore, it is not enough to have this level of perception, knowledge and behaviour to achieve the 21st century skills. Problem based learning (70%) is the most used learning models among other (each 10%). It relates to teachers' perception that problem based learning suits learning English language where problem comes first then the students find out the answer/solution. That is the reason why not all of learning models can be easily applied in the classroom. The urgency of conducting HOTS workshop is very high. The time allotment used in applying every learning model need to be reconsidered by the government.

Key words: 2013 curriculum, HOTS, project based learning, problem based learning, discovery learning, and inquiry learning

Introduction

In the educational system, the key to determine the quality of the graduate students is the educational curriculum itself since it is always evaluated to be adapted to the development of science, technology, and society needs. According to the Law No. 20 of 2003 on the National

Educational System of Indonesia, curriculum as the guideline for the implementation of learning activities which consist of a set of plans and regulations about the aims, content and material of lesson and the method to achieve given education objectives.

2013 curriculum is the applicable curriculum in the educational system in Indonesia. It is a fixed curriculum by the government to replace the curriculum of 2006 or usually known as *KTSP*. Currently, in 2016, the Ministry of Education and Culture of Indonesia revised the 2013 curriculum which known as 2013 Curriculum revised edition. In this new edition of 2013 curriculum, students are required to think deeply in order to develop their cognitive competence by giving some exercises or questions in higher order thinking skill or commonly called as HOTS. The application of scientific approach that includes questioning, gathering information, reasoning, and communicating is expected to change the students' learning behaviour becomes more active. In other words, learning is expected to be at a higher level in the cognitive, attitude, and psychomotor aspects. The application of the learning models becomes an opportunity for the teachers to carry out the learning activities at the higher order thinking skill (HOTS) level. Thus, HOTS is expected to enhance the students' comprehension of

scientific concepts to be implemented in their daily life. In every school in Indonesia, particularly the public schools of senior high school, implements that new revised edition of the 2013 curriculum. This is due to the effort of the government to socialize this new revised curriculum to teachers so that they can implement it in both lesson plan and teaching process in the classroom. English as a prestigious subject is considered to make it as a compulsory with the high competencies so that teachers are demanded to be wiser and more creative in implementing all of the characteristics of the new revised edition of the 2013 curriculum in their teaching process. Teachers have the responsibility to select and develop the learning models attractively in order to improve the students' learning motivation, particularly in EFL classroom. Thus, each school uses different learning model with other schools that depend on the teachers' choice so that the result of the implementation in each school will be different.

The objectives of this study aims at finding out teachers' perception,

knowledge and behaviour of HOTS in 2013 curriculum and finding out learning model mostly applied by the teachers.

Review of Related Theories

Perception

According to Cutting cited in Lewis (n.d.:274), collecting information about the world by means of the senses is called as perception. The fundamental of perception are that there is a perceiver, something is being perceived, context of situation to be perceived, and multiple senses. It can be concluded that perception deals with the sight, hearing, touch, smell, and taste.

Knowledge

Hunt (2003:102) says that believing something that is true and justified is called as knowledge. That means that knowledge is not only about true or correct but also it must be justified.

Brandom cited in Encabo (2016:193-194) states that making explicit implicit epistemic claims within a social space of practical attitude and normative statuses is the

concept of knowledge as an expressive tool.

Behaviour

According to Ossorio cited in Bergner (2011:148), behaviour is the individual's attention to bring about some state of affairs which involves physical movements or not.

Alberto and Troutman cited in ABA Erinoakkids' article (2012:2) state that there are some methods in measuring behaviour to provide a great deal of information such as how often it is happening, when and with whom it is happening, is it getting better or worse, do that need a plan, and is the plane working.

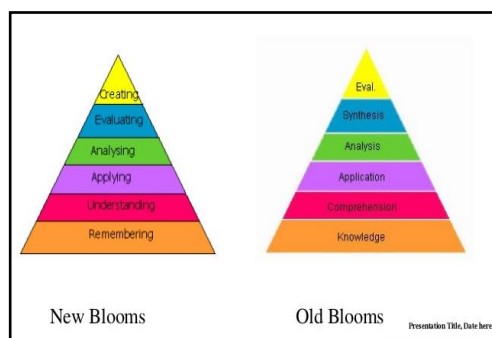
Higher Order Thinking Skill (HOTS)

Shari et al. cited in Budsankom, Sawangboon, Damrongpanit, and Chuensirimongkol (2015:2639-2640) explain that there are some characteristics of the students taught with HOTS, such as open-mindedness for risk-taking, curiosity, keen on fact discovery, planning and indicating the most suitable method, have a system thinking process, think carefully, use evidence to think

rationally, and frequent self-monitoring.

Conklin and Manfro (2012:8) explain that there are two characteristics of high order thinking skill, namely critical and creative thinking. Higher order thinking skill is expected to make students be active learners by challenging them to think creatively and critically.

The concept of HOTS originated from Bloom' Taxonomy, it was created in (Bloom, 1956) under the leadership of educational psychologist, Dr. Benjamin :



Throughout the years, the lowest three levels are: knowledge, comprehension, and application. The highest three levels are: analysis, synthesis, and evaluation.

2013 Curriculum

In 2016, the Ministry of Education and Culture of Indonesia revised the curriculum of 2013 which

known as Curriculum of 2013 revised edition. Students are required to think deeply in order to develop their cognitive competence by giving some exercises or questions in higher order thinking skill or commonly called as HOTS.

According to Brundiers and Wiek cited in King (2017:2), there are some learning models in curriculum 2013, such as project-based learning (PjBL) is a learning model fits the specific context of a situation which project becomes the result of the main activity in the learning process. On the contrary, problem-based learning (PBL) is focused on how students investigate and solve problem so that deeper understanding is needed. While, Mayer and Alexander (2017:413) state that discovery learning (DL) can create students' curiosity in finding answer persistently. Wood (2010:9-10) explains that inquiry-based learning (IBL) encourage students to carry out their own research.

Research Methodology

This study belonged to a descriptive qualitative. Based on data the writers got from Department of education and culture of the provincial level in August 2018, there are 16 (sixteen) public senior high schools in Semarang which have at least 2 English teachers. Therefore, the population is at least 32 (thirty two) English teachers. By using cluster sampling, the samples of this study are 12 English teachers chosen from SMA N 10, SMA N 12, SMA N 14, SMA N 15, and SMA N 8. Observation, questionnaire, and in-depth interviewing were used to collect data, then transcribe the result in a descriptive qualitative form.

**Findings and Discussion
Findings**

This part describes the questionnaire results gathered from 12 English teachers in 5 public senior high schools in Semarang. There were 40 questions in the questionnaires include teachers’ perception, behaviour and knowledge toward what is meant by higher order thinking (HOTS) that is implemented in 2013 curriculum. The results were categorized using Likert Scale. While, the result of the questionnaire is provided in the form of chart, as follows:

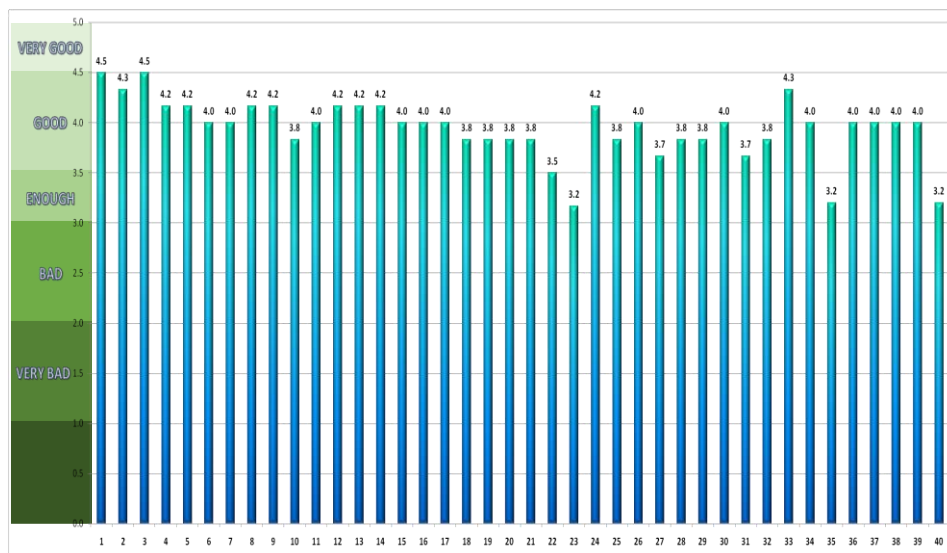


Chart 1. The Questionnaire Result

From the chart above, we can conclude that the average score of this study is categorized very good with the average score 4.5 or 5%, good with the biggest average score starting from 4.3 to 3.7 or 85%, and enough with the average score 3.5 and 3.2 or 10%.

The highest average score (4.5 categorized very good) is dealing with questions number 1 and number 3. The second highest average score (4.3 categorized good) is dealing with questions number 2 and number 33. The average score 4.2 (good) is dealing with questions number 4, number 5, number 8, number 9, number 12, number 13, number 14, and number 24. The average score 4.0 (good) is dealing with questions number 6, number 7, number 11, number 15, number 16, number 17, number 26, number 30, number 34, number 36, number 37, number 38, and number 39. The average score 3.8 (good) is dealing with questions number 10, number 18, number 19, number 20, number 21, number 25, number 28, number 29, and number 32. The average score 3.7 (good) is dealing with questions number 27

and number 31. The second lowest average score (3.5 categorized enough) is dealing with question number 22. Then the very lowest average score (3.2 categorized enough) is dealing with questions number 23, number 35, and number 40.

Besides the result of questionnaire, the writers provided some of the result of interview the teachers' perception, knowledge and behaviour toward HOTS in 2013 curriculum.

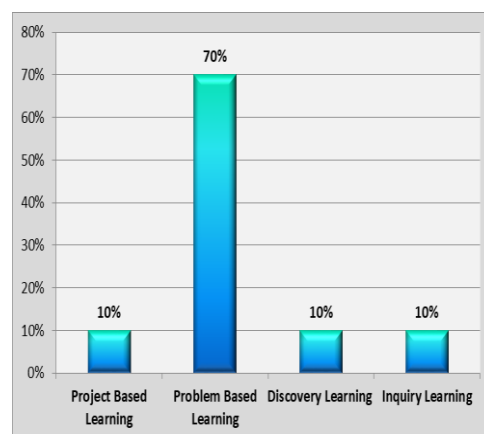


Chart 2. The Learning Models that Mostly Used

Discussion

In this section, the writers discussed in depth the results of study that have been described above. The discussion included the result of teachers' perception, knowledge and behavior from questionnaire and interview to answer the objectives of

the study; 1) Teachers' perception, knowledge and behaviour of higher order thinking skill (HOTS) in 2013 curriculum, 2) The learning model that mostly applied by the teachers.

The teachers' perception, knowledge and behaviour is very good (5%), it means the teachers fully support the application of HOTS that is implemented in 2013 curriculum by the government. They are already familiar with HOTS and it can positively increase the level of thinking of the students but the interview result showed that each of the teacher cannot define well what is meant by HOTS. Then, the teachers' perception, knowledge and behaviour is good (85%) in the perspectives of they acknowledged that HOTS came from Bloom's Taxonomy and it is designed to manage students be more ready in facing 21st century by having 21st century skills. Their knowledge also good in understanding that the learning process should improve students' creativity and level of thinking so that the students are able to find out the information to solve

the problem/ question. In addition, they also acknowledged that HOTS develops students' metacognitive skills, so they apply higher level of HOTS that are analysing, evaluating, and creating but in this point the writers found any discrepancy. The level of evaluating got the lowest score (3.8) than level of remembering (4.0) and level of understanding (4.0). One level that should not be included HOTS, that is level of applying, got even higher than level of evaluating (3.8 versus 4.0). It does not in line with what is meant by HOTS. On the other hand, the writer got data that teachers' perception, knowledge, and behaviour is on the category enough (10%). The data showed that it relates to the physical activity in learning process, the teachers said that leaning English is different from Biology class, it is not merely physically things but mostly language skills that the students need to be good at so the important thing is the thinking skill and the practical ones. The other question that leads to enough category is whether not all learning models using HOTS based

need to be applied in English learning because basically those learning models are similar in process, they only differ in the steps of learning process.

The second objectives of this study is the learning model that mostly used by the teachers in private senior high school. 2013 curriculum offers four learning models; project based learning, problem based learning, discovery learning and inquiry learning. The data showed that problem based learning has the first place (70%), while learning model such as project based learning, discovery learning, and inquiry learning got 10% each. It because of the suitability of learning English language where problem comes first then the students find out the answer/solution. The problem faced by the teachers are actually similar that is the level of knowledge of the students are varied and most of them are lack of vocabulary. That is the reason why not all of learning models can be easily applied in the classroom.

Conclusions

It comes to the conclusion that the perception, knowledge and behaviour of English teachers in private senior high school in Semarang need to be improved. It is not enough to have this level of perception, knowledge and behaviour to achieve the 21st century skills. To have such dreams that our students have higher order thinking level is began with the teachers first. The teachers must have the 21st century skills then automatically the students would.

Problem based learning is the learning model that mostly used by the teachers in private senior high school. It relates to teachers' perception that problem based learning suits learning English language where problem comes first then the students find out the answer/solution. That is the reason why not all of learning models can be easily applied in the classroom.

The problem faced by the teachers is dealing with the vocabulary horizon that the students have. The time allotment is often running out only to make them understand the content of the materials.

Suggestions

Referring to the results described on the preceding section, then the writers may suggest, as follows:

- a. The urgency of conducting HOTS workshop is very high. Teachers need to improve their HOTS in order to be able to support their students.
- b. The time allotment used in applying every learning models need to be reconsidered by the government.
- c. Students need to know English as soon as possible so the vocabulary horizon they have in high school is applicable.

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Enclosures

Questionnaire:

- number 1 (Saya pernah mendengar istilah HOTS atau berpikir tingkat tinggi)
- number 2 (Penerapan HOTS sesuai dengan kebutuhan *21st Century Skills*)
- number 3 (Penerapan HOTS meningkatkan tingkat berpikir peserta didik menjadi lebih tinggi).
- number 4 (Saya memahami bahwa HOTS merupakan pengembangan dari salah satu *domain* yaitu *cognitive domain* dalam *Bloom's Taxonomy*).
- number 5 (Saya memahami *6 levels of cognitive domain of Taxonomy*).
- number 6 (Proses pembelajaran yang saya terapkan meliputi *level remembering*).
- number 7 (Proses pembelajaran yang saya terapkan meliputi *level understanding*)
- number 8 (Proses pembelajaran yang saya terapkan meliputi *level applying*).
- number 9 (Proses pembelajaran yang saya terapkan meliputi *level analysing*).
- number 10 (Proses pembelajaran yang saya terapkan meliputi *level evaluating*).
- number 11 (Proses pembelajaran yang saya terapkan meliputi *level creating*).
- number 12 (Saya memahami *4 levels of knowledge dimension of Taxonomy*).
- number 13 (Dalam HOTS, *knowledge of dimension* yang dikembangkan pada *factual knowledge* mendorong tumbuhnya kemampuan *metacognitive*).
- number 14 (Dalam HOTS, *knowledge of dimension* yang dikembangkan pada *conceptual knowledge* mendorong tumbuhnya kemampuan *metacognitive*).
- number 15 (Dalam HOTS, *knowledge of dimension* yang dikembangkan pada *procedural knowledge* mendorong tumbuhnya kemampuan *metacognitive*).
- number 16 (Model pembelajaran *Project Based Learning* mendorong tingkat berpikir peserta didik menjadi lebih tinggi).
- number 17 (Model pembelajaran *Problem Based Learning* mendorong tingkat berpikir peserta didik menjadi lebih tinggi).
- number 18 (Model pembelajaran *Discovery Based Learning* mendorong tingkat berpikir peserta didik menjadi lebih tinggi).
- number 19 (Model pembelajaran *Inquiry Based Learning* mendorong tingkat berpikir peserta didik menjadi lebih tinggi).
- number 20 (Saya menerapkan model pembelajaran berbasis masalah (*Problem Based Learning*)).
- number 21 (Saya menerapkan model pembelajaran berbasis pemecahan masalah (*Project Based Learning*)).
- number 22 (Saya menerapkan model pembelajaran berbasis penyingkapan (*Discovery Learning*)).
- number 23 (Saya menerapkan model pembelajaran berbasis penelitian (*Inquiry Learning*)).
- number 24 (Proses pembelajaran yang saya terapkan mampu membuat peserta didik menjadi lebih sering bertanya).
- number 25 (Proses pembelajaran yang saya terapkan mampu membuat peserta didik menjadi lebih berani mengemukakan pendapat).

- number 26 (Proses pembelajaran yang saya terapkan mampu membuat murid menjadi ingin melakukan observasi).
- number 27 (Proses pembelajaran yang saya terapkan mampu membuat peserta didik menjadi ingin melakukan eksperimen).
- number 28 (Proses pembelajaran yang saya terapkan mampu menumbuhkan kreatifitas peserta didik).
- number 29 (Proses pembelajaran yang saya terapkan memanfaatkan teknologi informasi yang ada di sekolah).
- number 30 (Saya mengarahkan peserta didik agar bisa menerapkan pengetahuan prosedural pada bidang kajian yang spesifik untuk memecahkan masalah).
- number 31 (Saya mengajarkan peserta didik untuk mengolah dari yang dipelajarinya di sekolah secara mandiri).
- number 32 (Saya mengajarkan peserta didik untuk menalar dari yang dipelajarinya di sekolah secara mandiri).
- number 33 (Saya mengajarkan peserta didik untuk menyaji dari yang dipelajarinya di sekolah secara mandiri).
- number 34 (Saya mengajarkan peserta didik agar mampu melaksanakan tugas spesifik di bawah pengawasan langsung).
- number 35 (Proses pembelajaran yang saya terapkan mendorong aktivitas fisik peserta didik lebih tinggi).
- number 36 (Proses pembelajaran yang saya terapkan mendorong aktivitas mental peserta didik lebih tinggi).
- number 37 (Proses pembelajaran yang saya terapkan mendorong kreatifitas peserta didik memecahkan masalah dan pada akhirnya menemukan solusi).
- number 38 (Proses pembelajaran yang saya terapkan membuka peluang bagi peserta didik menggunakan teknik, media dan peralatan yang beragam).
- number 39 (Proses pembelajaran yang saya terapkan didesain dalam kondisi nyata/hampir nyata, situasi baru yang terduga, hingga situasi baru yang tak terduga).
- number 40 (Semua model pengajaran berbasis HOTS perlu dilaksanakan dalam proses pembelajaran bahasa Inggris).