

High Order Thinking Skills in One of the Private Elementary Schools in Sleman Yogyakarta District (Case Study)

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Abstract: This study aims to find out: (1) whether the teacher has compiled a thematic learning plan that contains indicators of high-level thinking skills; (2) whether the teacher has implemented learning activities that lead to high-level thinking skills; and (3) whether the implementation of class assessment at midterm assessments has led to the measurement of high-level thinking skills. This research is a qualitative research with case study research design. The subjects of this study were the fifth grade teachers who arranged the implementation of learning planning and applied the implementation of learning. Data were collected using questionnaire, observation, interview, and documentation techniques. The results of the study show that: (1) the lesson plan prepared by the teacher already contains indicators of high-level thinking skills; (2) the teacher is able to apply learning activities that contain high-level thinking skills; (3) class assessment in the form of PTS (Mid Semester Assessment) leads to the measurement of high-level thinking skills.

Keywords: learning implementation plan (RPP), Learning Implementation, High-level thinking skills, Implementation of class assessment

Introduction

The current era of globalization is characterized by competition in the development of information and communication of technology that has changed the human lifestyle in working, socializing, playing and learning. In the 21st century technological progress has entered the joints of life, including in the field of education. Where 21st century education has student output which is expected to have “the 4Cs” abilities or the ability to learn and innovate learners namely critical thinking, creativity, collaboration and communication BSNP (in Yuni, Agus, & Nyoto, 2016: 4). Critical thinking skills are critical thinking skills where students are able to think clearly, rationally, openly and argue about something (Zubaidah, 2016: 4), creative students are asked to think creatively, work creatively and be able to create new innovations Triling & Fadel (in Yuni, Agus, & Nyoto, 2016: 7), collaboration of students is expected to be able to work in teams, and for communication, students are asked to be skilled in oral and written communication (Mufidah & Wijaya, 2017: 2).

Efforts to create a transformation of life that is able to compete in the global community and demands change itself to equip students in order to develop information literacy skills such as basic literacy (reading, mathematics, and science), critical thinking skills, creative thinking skills in solving problems as the core to face the challenges and demands of global life to equip students to have information literacy skills aimed at developing high-level thinking skills of students (Saputra, 2016: 85-86)

The problem of achieving high-level thinking skills for Indonesian students is seen in UNDP data that the quality of education is related to basic literacy (reading, mathematics, and science). Indonesia is still lagging behind from neighboring countries in the Organization for Economic Cooperation and Development (OECD) report on the PISA (Program for International Assessment) showing that Indonesia ranks 64th out of 65 countries or second from below above Peru. The OECD report and UNDP show a low level of literacy mastery. Mastery of literacy is a general marker of the quality of learning that exists in Indonesia that has not yet presented an educated generation that has sufficient literacy modalities to compete in the era of globalization (Saputra, 2016: 86).

By looking at the results of the PISA test, it was found that the education system which refers to planning, implementation, and assessment only is connected to the ability of memorizing. As a result, the education system in this curriculum is not well implemented. 2013 curriculum is an effort to improve



the quality of education to produce graduates who are creative and able to face life in the future (Prastowo, 2015: 5)

Curriculum 2013 has 3 components in learning, namely content standards (learning planning), standardized portions (learning activities), and standards of assessment (class assessment). Learning plan is a plan prepared by the teacher that refers to the syllabus (Mitri, 2016: 76), learning activities are processes of activities of interaction between teacher and students and reciprocal communication that takes place in educational situations. Rusmana (in Prasetya, 2018: 1), while class assessment is a series of activities to obtain, analyze and interpret data about the process and learning outcomes of students (Sunarti & Rahmawati, 2014: 7) the three components of the curriculum above make the demands of changing times very important in developing the progress of the 21st century education and solutions for the future of increasingly competitive students where students will be led to learn high-level thinking skills to empower the potential of reason with complex thinking skills will make students accustomed to facing something difficult by requiring high-level thinking skills (Higher Order Thinking Skill) that will be able to compete in the world of globalization.

The ability of high-level thinking skills (Higher Order Thinking Skill) is a thought process that involves mental activities in an effort to explore complex, reflective and creative experiences that are consciously carried out to achieve the goal of acquiring knowledge of analytical, synthesis and evaluative thinking. Wardana (in Mitri, 2013: 27). The levels in high-level thinking skills or what are often called Higher Order indicators Thinking skills in the theories of Anderson and Krthwohl (in Mulyasa, Iskandar, & Aryani, 2016: 216-218) include analyzing the skills that have been learned about information that is not yet known, evaluating that is determining the value of an object or information provided is useful, and creating that is making something that already exists or does not yet exist. In reaching the level of high-level thinking students first master the initial thinking that is remembering that is re-expressing what has been learned, understanding that managing knowledge learned becomes something new, and applying that is using knowledge such as concepts, procedures, and principles.

On the other hand, a high-level thinking skills ability is very important in elementary school that is not merely being mastered early in the learning activity, but requires higher other capabilities, according to research from Mulyadi, Marzuki, & Usman which has the result that a high level of thinking ability on thematic learning which most of the participants have already gained a high degree of thinking ability in the form of analyzing, evaluating, and applying. In contrast to research proposed by A, Agusti Riche Cynthia J, Mohammad Ali, their research results the influence model of learning in increasing the ability of higher-order thinking.

See the above research and existing problems in the field found that there has been no research that examines at the elementary school level, deals with three aspects, namely planning, implementation, and assessment. So the researchers examined about high level thinking skills on three aspects, namely planning, implementation, and assessment.

Research Method

Researchers used the case study method. Case study is in-depth studies of individual and timed relative long, continuous as well as use a single object, meaning that the case experienced by one person Furchan (Triwiyatno, 2015:32). In addition, the case study research is needed to examine or disclose completely and thoroughly against the case that drew attention to meticulous (Gunawan, 2013:113).

The research was applied in one of elementary school in Sleman Regency, Yogyakarta in the 2018/2019 school year. This research carried out for less than three months. The main subject of this research is the master class of second subject in the study for grade V which has 19 students, while the objects of research are the implementation of plan P, the learning and implementation process the evaluation question.

In this Study using data collection techniques i.e., questionnaires, observation, documentation, and interviews using questionnaire instrument students and teachers, observational instruments in the implementation of learning using processed 4 c, the instrument guidelines for the interview, bloom

taxonomy analysis instruments to see indicators of implementation plan of learning and evaluation Problem.

Researchers used the credibility and transferability which is a redirect triangulation carried out by researchers, two fellow researchers, and expert judgment conducted by professors to analyze the plan of implementation of the learning and reserved midterm assessment. While the data analysis techniques do are learning plan, implementation of the Learning, and Assessment of the class.

Result and Discussion

Results and discussion on the application of learning plan

On the learning plan created by the teacher of grade V, the researcher got results from three indicators with the charge of three subjects such as PPKn, IPS, and Bahasa Indonesia. There is only one indicator that contains high levels of thinking skills in charge of Bahasa Indonesia with a verb on the operational level on bloom's taxonomy of the C4 that is analyzed. Following are the results of the analysis from the three indicators compiled by the teacher of the grade V.

Muatan : PPKN		
No	Kompetensi	Indikator
3.1	Bersyukur kepada Tuhan Yang Maha Esa atas nilai-nilai Pancasila dalam kehidupan sehari-hari.	3.1.1 Mengamalkan nilai-nilai pancasila dalam kehidupan sehari-hari.
2.1	Bersikap tanggung jawab, cinta tanah air, dan rela berkorban sesuai nilai-nilai sila Pancasila.	2.1.1 Mengikuti gotong royong yang ada di masyarakat.
3.1	Mengidentifikasi nilai-nilai Pancasila dalam kehidupan sehari-hari.	3.1.1 Menjelaskan cara mengikuti gotong royong secara benar.

C2
KKO "menjelaskan pada tingkat an C2 → Memahami

4.1	Menyajikan hasil identifikasi nilai-nilai Pancasila dalam kehidupan sehari-hari.	4.1.1 Membuat laporan tentang gotong royong yang ada di masyarakat.
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Muatan : IPS		
No	Kompetensi	Indikator
3.1	Mengidentifikasi karakteristik geografis Indonesia sebagai negara kepulauan/ maritim dan agraris serta pengaruhnya terhadap kehidupan ekonomi, sosial, budaya, komunikasi serta transportasi.	3.1.1 Menunjukkan kondisi geografis pulau-pulau di Indonesia.
4.1	Menyajikan hasil identifikasi karakteristik geografis Indonesia sebagai negara kepulauan/maritim dan agraris serta pengaruhnya terhadap kehidupan ekonomi, sosial, budaya, komunikasi serta transportasi.	4.1.1 Mempresentasikan kondisi geografis pulau-pulau yang ada di Indonesia.

KKO "Menunjukkan ada pada tingkat an C1 Mengetahui

Muatan : Bahasa Indonesia		
No	Kompetensi	Indikator
3.1	Menentukan pokok pikiran dalam teks lisan dan tulis.	3.1.1 Mencari ide pokok yang terdapat pada bacaan.
4.1	Menyajikan hasil identifikasi pokok pikiran dalam teks tulis dan lisan secara lisan, tulis, dan visual.	4.1.1 Menuliskan hasil ide pok yang di dapat dari teks.

C4 tetapi tdk ada di KKO PB
di tingkat an C4

From the result of the learning plan implementation, this study will discuss the indicators that contain a high level thinking skills which concludes that the Indonesian Language Lesson contains high level thinking skills with the indicators of "finding the main idea in reading" included in the verb operational "Analyze" C4, although actual indicators "searching" is not found in the verb operational Taxonomic Bloom. However, by doing a triangulation process in determining the results of the operations of the verb by researcher and two other researchers who discuss together which will then be

the expert judgment by lecturers who ultimately obtained the results that "finding the main idea found in the text" was included in the operational verb, i.e. "analyze" where the students are asked to seek out the main idea. It would then be analyzed by students so that students are able to mention the underlying idea in the readings on the learning steps which can be seen below.

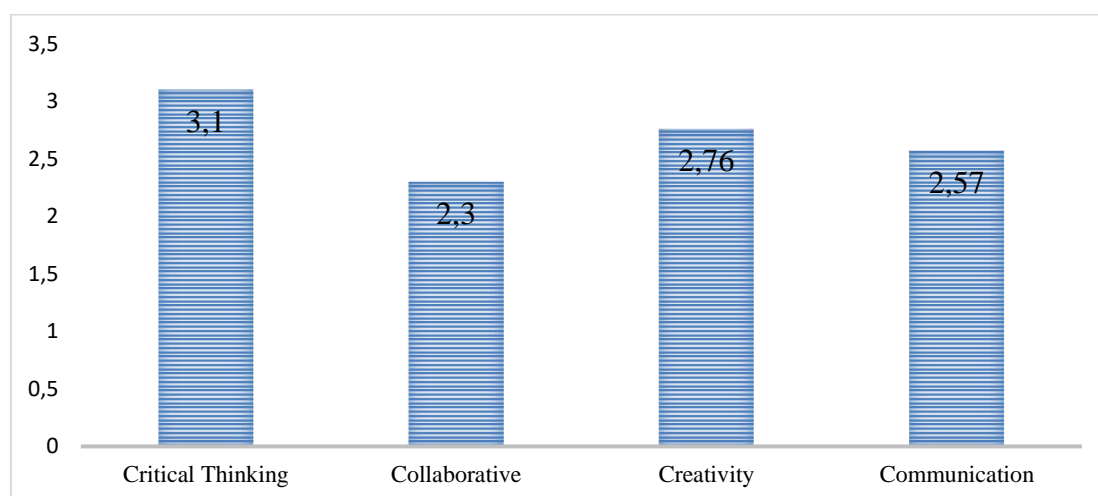
Alternatif kegiatan membaca:

1. Alternatif 1, guru memberikan waktu selama 5 menit dan siswa diminta membaca dalam hati.
 2. Alternatif 2, guru menunjuk satu siswa untuk membacakan bacaan tersebut dan meminta siswa lain menyimak.
 3. Alternatif 3, bacaan tersebut dibaca secara bergantian dan bersambung oleh seluruh siswa.
- Selesai membaca siswa mencari dan menyebutkan ide pokok dari masing-masing paragraf.

The reason researchers decide to choose C4 analysis as levels of higher-order thinking in accordance with the theory of the Anderson and Krathwohl (in Mulyasa, Iskandar, & Aryani, 2016:216-218) explaining that levels of C4 "Analyze" is ability grouping objects based on the similarities and differences, to determine whether one group is parallel/higher, finding the interconnectedness of facts with inferences, determining the consistency between what is expressed, find the thought of principal and find the similarities in the way of thinking. While on the both indicators that contain only an operational verb with low level of thinking are included in charge of PPKn and IPS. On PPKn lesson, the researcher determine the verbs that describe operations exist on levels C2 "Understand". Not unlike the verb on the operational IPS lesson, the researchers also found that the operational verb used by the classroom teacher is showing on the level C1 "Knowing". The reason the researcher chose levels C2 and C1 is also on the theory of Anderson and Krathwohl (in Mulyasa, Iskandar, & Aryani, 2016:216-218) because at level C2 "Understand" which is the ability to cultivate the knowledge learned into something new replacing, rewriting, changing the form of communication, giving the interpretation, and estimating. Meanwhile, the C1 "Knowing/Remembering" is a memorized knowledge. Based on the explanation above, it can be concluded that teacher of grade V still uses the operational verb on a high level thinking skills yet still in dominance with lower-level thinking skills.

Results and discussion the application of the implementation Study

In the process of lesson plan implementation, the researcher got perception results obtained by students against teachers when the learning process and the results of questionnaire toward teacher lessons conveyed in the implementation of a learning, the teacher already implemented a high-level thinking using "the 4Cs" capability that are critical thinking ability, creative thinking skill, collaboration and the ability to communicate. The application of each of these abilities can be calculated using the Likert Scale. Below is a diagram of the results of the analysis of the questionnaire students and teachers.



The results of the application of the student questionnaire using Likert Scale calculations to find out in the execution of the application of the 4 c conducted by the teacher according to the perceptions of students are very often, often, rarely or never performed with the results in below:

Number	Criteria	Average Score The Entire Student	Statement The application of the
1	<i>Critical Thinking</i>	3.1	Often
2	<i>Collaborative</i>	2.3	Never
3	<i>Creativity</i>	2.76	Often
4	<i>Communication</i>	2.57	Often

The results of the application of a questionnaire teachers by using Likert Scale calculations to find out in the execution of the application of the 4Cs were showed in the table. The results that conducted by the teacher was according to the perception in the lesson are very often, often, rarely or never done. The results showed below,

Number	Criteria	average score	Statement Of Emergence
1	Critical Thinking	3.75	Very often
2	Collaborative	3.25	Very often
3	Creativity	3.25	Very often
4	Communication	3.5	Very often

From the analysis results, those results were discussed regarding to the application of the implementation study done by teachers. It was the perceptions of students against teachers and teachers' perception towards learning process. The observation were supported by the existence of direct observation in the classroom that used an observation guidelines conducted by researchers. The reason was to see if teachers really did "the 4Cs" exercises learning ability or not yet in applying "the 4Cs" learning capabilities processed.

From the results of the students' questionnaires above, it showed that the ability of the 4C had an average score. The critical thinking ability had the highest median that was an average of 3.1. The results included the highest average meant that the perception of students towards critical thinking ability was often applied by teachers in the classroom. It was different from the other abilities. The other abilities were creativity, collaborative, and communication. Creativity ability had an average score of 2.76. It could be said that the perception of creativity ability for students were did often. The ability of the collaboration had an average score of 2.3 from 19 students, so it said that based on the students' perception of the ability, this ability was rarely performed by teacher. The last was communication

ability. This ability had an average score of 2.57. It meant that based on the student's perception of this ability, it was often done by teacher.

On the other hand, the results of the questionnaire of teachers towards learning obtained that from the four 4C abilities, the ability of critical thinking has highest score of 3.75. It can be said that the teacher's perception towards the learning process were very often. Furthermore, the abilities of collaborative and creativity were features the same score namely 3.25. It can be concluded that the both abilities were very often done in the learning process. In contrast, the ability of communication got an average score of 3.5 that meant this ability was very often done by the teacher.

By looking at the results of the questionnaire obtained from students and teachers, it showed of different scores. The results of this questionnaire will be matched with the observations conducted in the classroom learning. The observation showed that there were same result with the implementation of 4C in students and teachers questionnaires. The results were creativity ability was often done at the time of study. In accordance with observations, it conducted in the moment when teacher gave students a chance to solve problem. The other moments was when the teacher provided opportunities for students seeking information independently. Those moments were match with the theory of Triling & Fadel (in Yuni, Agus, & Nyoto, 2016:7) where students are asked to be able to think creatively, to work creatively and creating new innovations beyond the existing customs, involves a new way of thinking, gain the opportunity to convey ideas and new solutions, the filing an unusual question, and tried to submit suspected. It can be seen in the table below:

4.	<i>Creativity and Innovation (Kreativitas dan Inovasi)</i>	2. Di dalam langkah-langkah pembelajaran memperlihatkan proses guru memberikan kesempatan siswa untuk memecahkan masalah dengan caranya sendiri.	√		Guru memberikan kesempatan siswa untuk memecahkan soal yang diberikan oleh guru dengan mencari sumber lain
		3. Di dalam langkah-langkah pembelajaran memperlihatkan proses guru memberikan kesempatan siswa untuk mencari informasi secara mandiri	√		Guru memberikan kesempatan siswa untuk mencari informasi dari sumber lain

On the other hand, the ability to have the same result between students and teachers' questionnaire as well as adjustment of observations in communication skills are often applied at the moment of learning. The teachers' activities provided opportunities for students to present the results of the given tasks. The tasks that teachers' given were based on the theory of Mufidah & Wijaya, (2017:2), which revealed that the ability to communicate emphasis on students to skilled in communicating both verbally as well as writing. The learning process of this communication can encourage students to develop the ability to communicate at the same time a high level of ability in thinking with the table below:

No	4 C	Kriteria	Ya	Tidak	Keterangan
1.	Communication/ Komunikasi	1. Di dalam langkah-langkah pembelajaran memperlihatkan proses guru memberikan kesempatan siswa untuk mempresentasikan hasil pembelajaran.	√		Guru memberikan kesempatan pada masing-masing kelompok untuk mempresentasikan hasil pekerjaan yang diberikan guru ketika melakukan diskusi kelompok
		2. Di dalam		√	Guru tidak

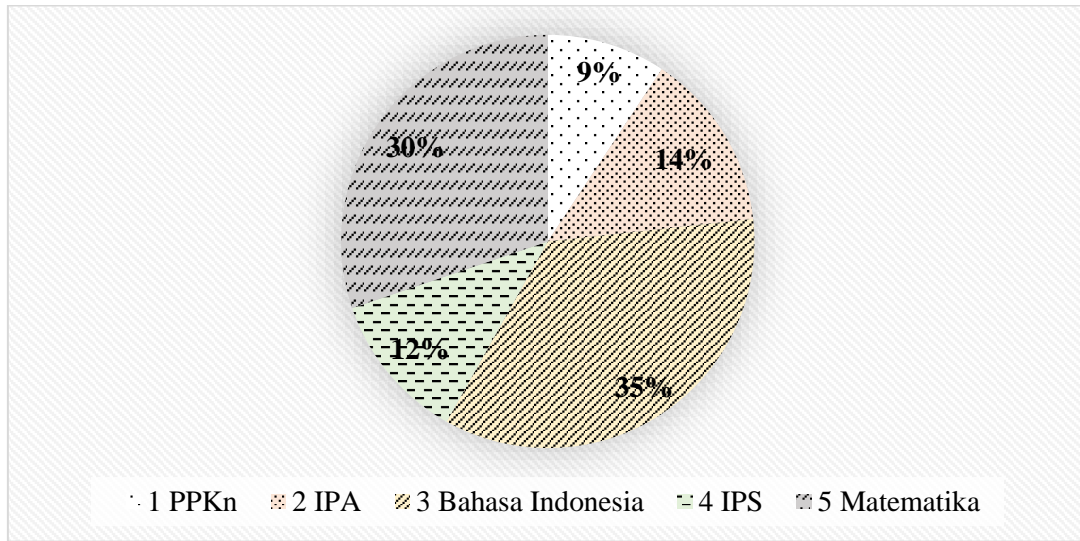
Based on the above explanation, it showed that the abilities which were often used by the teachers when teaching and the observation results, the combination of the ability of creativity and communication that often done. In contrast, the ability of critical thinking and collaboration had a difference in students nor teachers' questionnaire. However, in observing an ability of critical thinking, it applied at the time when the teacher provided opportunities for students seeking other sources, in order to improve the high level of critical thinking skills in accordance with the theory of Zubaidah (2016:4) about critical thinking in which critical thinking is fundamental to the study skills of the 21st century. Critical thinking skills include the ability to access, analyze, and synthesize the information that can be learned, trained and ridden by the students. The students are able to think clearly, rationally, openly and be able to argue. As for the collaboration capabilities that have a different perception between teachers and students, it is tailored to the observation then in the time of the observation the student is given the opportunity to cooperate in a team to discuss and opportunities to exchange ideas in accordance with the theory of Mufidah & Wijaya (2017:2). The theory says that places emphasis on collaboration skills in students to be able to work efficiently in a diverse team where this ability can encourage students to develop the ability in the team when discussing or working groups at the same time can improve capabilities in higher-order thinking, acquired a different student questionnaire because students lack understanding of the activities of the collaboration.

Results and Discussion the application of Midterm Assessment

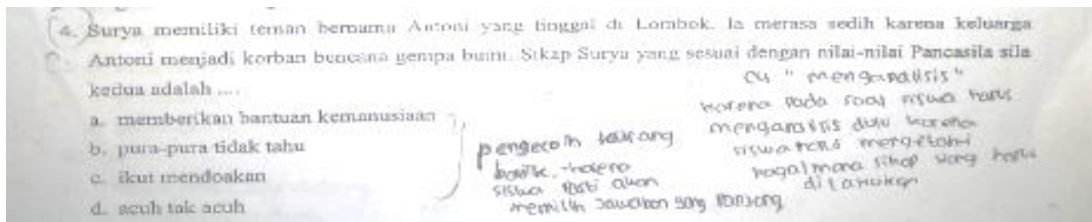
On the results and discussion, the researchers will analyze the 5 areas of subjects namely, IPA, IPS, Mathematics, PPKn and Bahasa Indonesia on a midterm assessment prepared by the teachers. The analysis is done using triangulation by researchers and two fellow researchers to determine the test containing an operational verb high order thinking skills (HOTS) and a test of containing the operational verb lower order thinking skills (LOTS). After the triangulation was done, the researchers will conduct an expert judgment to the professional lecturers that will determine the ultimate outcome of the test that contain the HOTS and the test that contain the LOTS.

The data showed that test which is containing LOTS is on subjects PPKn there are four tasks and HOTS are thirty six tasks. IPA which is containing LOTS are six tasks and HOTS are thirty four tasks. Bahasa Indonesian that including LOTS are fifteen tasks and HOTS twenty eight tasks. IPS reserved five LOTS and thirty five HOTS. Last, Math contain thirteen LOTS and twenty seven HOTS.

It found that the percentage of five learning areas, IPA, IPS, PPKn, Bahasa Indonesia, and Mathematics, are 21% of HOTS and 79% of LOTS in the test. These five subjects are in charge of the lesson domination with lower-level thinking skills. The lessons that containing a high level of thinking is in the Bahasa Indonesia, it has 35% compared with the fourth lessons, PPKn is 9%, math is 30%, IPA is 14%, and IPS is 12%. This results can be seen in the picture below:

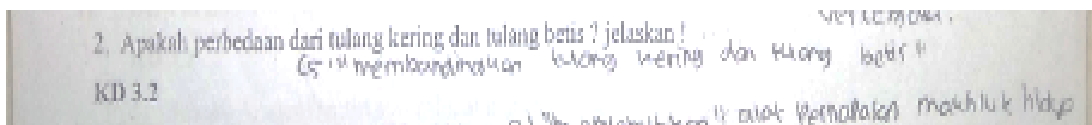


Here is a sample of operational verb which contain an operational high order of thinking,



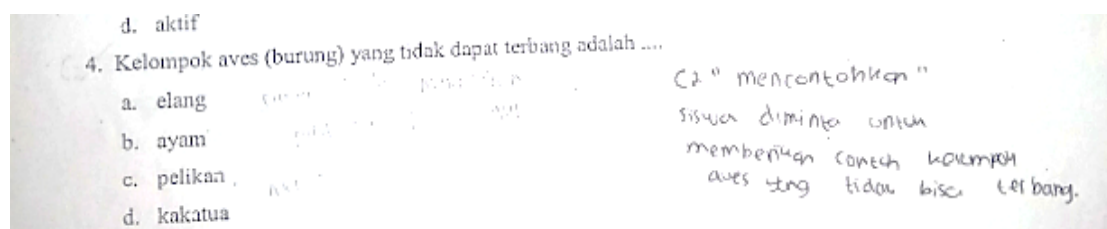
The question above is an example of a task on PPKn subject which encourage students to think high level on C4 level category "analyze". It is included in the theory of the Anderson and Krthwohl (in Mulyasa, Iskandar, & Aryani, 2016:216-218). The theory explains that the level of C4 "Analyze" is a skill that has been learned by getting information and grouping information, specifying connectivity between one group/groups/information among other information about the facts between the concepts, such arguments with the conclusion, the connection of thought between one works with other works. Class five (V) where the students must understand a passage that is missing information, know how to apply the act that is in question. Then, the students analyze the right answer in accordance with the act on the question, unfortunately the distractors are not good enough.

A high levels of thinking skills in IPA's question is below:

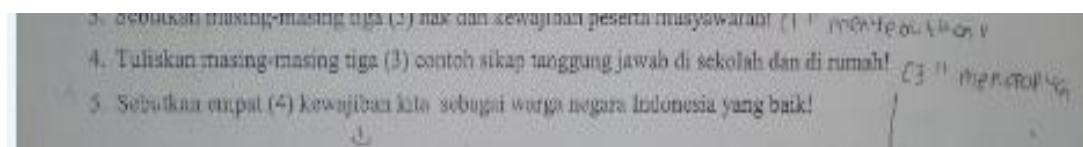


The question is including in the operational verb "Compare" contained on the level of C5 i.e. evaluate where in accordance with the theory of the Anderson and Krthwohl (in Mulyasa, Iskandar, & Aryani, 2016:216-218). It explains that evaluate is determining the value of an object or information based on criteria. It is in an accordance with the demanding problem which the higher-order of thinking question. It is because the students require to compare between the shin and calf bones base on the criteria.

In contrast to the question above, which are high order of thinking, some questions are lower order of thinking.



The question above including on levels C2 i.e. understand operational with the verb "Exemplifies". It fits with the theory of the Anderson and Krthwohl (in Mulyasa, Iskandar, & Aryani, 2016:216-218) which revealed that understanding is the ability of managing the new knowledge that is replacing, rewriting, changing shape, and estimating in accordance with the students' question. It asked to estimate the group of aves types. Unfortunately, the distraction is not good, it makes the students confuse. The examples of the answers are eagles, chickens, pelican, and parrot. Chickens are included as aves, chicken could fly but not as high as other birds. Then, the example of lower thinking level in IPA subjects as follows:



The question is in the level of C3 "apply" in accordance with the theory of the Anderson and Krthwohl (in Mulyasa, Iskandar, & Aryani, 2016:216-218). The theory reveals that apply is the ability of knowledge using information, concepts, procedures and principles because the students had to use the information to understand it first then apply the way in applying it.

Based on the analysis above, it found that the fifth class' teacher makes few high order of thinking questions in Midterm assessment. This is because high order of thinking refers to levels of C4 and C5, but most of the questions are below.

Conclusion

There were several conclusions that could be drawn from the high level thinking skills on thematic learning class V in one private primary school in Sleman Regency of Yogyakarta. First, from a high order of thinking, lesson plan on cognitive indicators were already contained higher-order thinking skills in learning Bahasa Indonesia. With the basic idea of finding indicators included in the operational work of analyzing the words. However, it still dominated by lower-order of thinking skills in PPKn, which was C2 and IPS, which was C1.

Second, on the application of higher-order thinking skills in one private primary school in Sleman Regency Yogyakarta class V, it was already encouraged students to have a higher-order thinking which rarely done that was collaboration and communication abilities. While the high level thinking ability was done by the teachers were the ability of critical thinking and creativity.

Third, on the assessment of higher-order of thinking in private primary school in Sleman Regency Yogyakarta, it was already contained the verb that was an operational verbs at a higher level of C4, C5, and C6 but still dominated by operational level of verb C1, C2, and C3.

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