Analysis of Higher Order Thinking Skills on End of Year Assessment Questions for Islamic Education Subjects

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Abstract: The Higher Order Thinking Skills analysis on the final year assessment questions for the subject of Islamic Religious Education will illustrate the results of the comparison of questions that have the character of critical thinking and questions that do not have a stimulus for critical thinking. This research method uses a qualitative research method that is descriptive document analysis. This study aims to describe questions based on the level of thinking, namely grouping questions into the categories of Lower Order Thinking Skills (LOTS), Middle Order Thinking Skills (MOTS), and High Order Thinking Skills (HOTS), and grouping questions based on the type of stimulus used as the basis for the questions. In obtaining data related to assessment questions, the results show that out of Year-End Assessment questions on Islamic Religious Education Subjects found 29% HOTS questions (Higher Order Thinking Skills), 31% about MOTS (Middle Order Thinking Skills) and 40% about LOTS (Lower Order Thinking Skills). In the form of HOTS questions, there is actual, factual, conceptual and procedural material stimulus. The types of stimulus contained in the problem are discourse, pictures and fragments of cases. The stimulus contained in the High Order Thinking Skills (HOTS) questions is presented in the form of discourse.

Keywords:
Assesment; HOTS; Question; Stimulus

Abstrak: *Analisis Higher Order Thinking Skills pada soal penilaian akhir tahun mata pelajaran Pendidikan Agama Islam ini akan menggambarkan hasil perbandingan soal yang memiliki karakter berpikir kritis dan soal yang tidak memiliki stimulus untuk berpikir kritis. Metode penelitian ini menggunakan metode penelitian kualitatif yang bersifat deskriptif analisis dokumen. Penelitian ini bertujuan mendeskripsikan soal berdasarkan tingkat berpikir, yaitu mengelompokkan soal dengan kategori Lower Order Thinking Skills (LOTS), Middle Order Thinking Skills (MOTS), dan High Order Thinking Skills (HOTS), serta mengelompokkan soal berdasarkan jenis stimulus yang digunakan sebagai dasar pertanyaan. Dalam memperoleh data yang terkait dengan soal menunjukkan hasil bahwa Penilaian Akhir Tahun pada Mata Pelajaran Pendidikan Agama Islam ditemukan 29% soal HOTS (Higher Order Thinking Skills), 31% soal MOTS (Middle Order Thinking Skills) dan 40% soal LOTS (Lower Order Thinking Skills). Dalam bentuk soal HOTS memiliki stimulus materi yang aktual, faktual, konseptual dan prosedural. Jenis stimulus yang terdapat dalam soal yaitu wacana, gambar dan penggalan kasus. Stimulus yang terdapat dalam soal High Order Thinking Skills (HOTS) disajikan dalam bentuk wacana.*

Kata Kunci:
HOTS; Penilaian; Soal; Stimulus

INTRODUCTION

The ability of students and teachers to think at a high level in the 2013 curriculum has international standards which have the character of Higher Order Thinking Skills (HOTS) or higher order thinking skills. Thus, education is very important to change students' thinking so that they become qualified (Arifin & Retnawati, 2017). At elementary, middle and high school levels, this HOTS assessment model has been widely applied (Widana, 2017) (Widana, 2017). In line with (Ahmad, 2019) the results of this assessment are for the formation of students' abilities to think critically, creatively, innovatively and be able to solve problems independently. For example, students who combine ideas and facts in explaining, analyzing and carrying out hypotheses so that in the end students are able to make conclusions. As explained by (Rosnawati, 2012) that the process of higher-order thinking skills occurs when something has existed before and is correlated with things that do not yet exist or are just known in the mind, then the information is developed and linked so as to get the ultimate goal on something. unresolved matter. Human resources must be developed through 21st century skills along with the need for developments in scientific, technological and information advances (Santia Indah et al., 2021).

The current generation or the younger generation who have creativity and are able to think critically must be prepared because it is very important in 21st century society to be able to solve problems and make the right decisions (Abdullah Sani, 2019). Graduates who have good quality must always be owned by every school, where students have knowledge (cognitive) and are able to use their knowledge in life as a practice (psychomotor) with noble character (affective) (Dedih & Fuzi Asri, 2019). Being able to solve problems, have creative thinking and be able to solve problems, are aspects of HOTS. Someone who can analyze something, is able to create new things, is able to use objectivity to determine criteria and can evaluate data is the ability to think critically. Creative thinking is the ability to get new ideas that are used for thinking. Having the ability to think globally and in detail in solving problems is an attitude that has the ability to solve problems. Students must have the principles to apply HOTS characters in accordance with currently developing educational goals (Bestari, 2021).

In making HOTS questions, high thinking is needed with guidelines so that they can make items on appropriate material. In line with (Devi, 2012) the question writers are required to be guided by Bloom's taxonomy. In Bloom's taxonomy, there are high-level thinking skills that must be possessed, including: the ability to analyze, be able to evaluate and be able to create something new. Then, in this research so that the questions made are capable of demanding abilities. The way of thinking that has reasons that are directed at making decisions about something that must be done is also called critical thinking. Furthermore, (Ibrahim, 2011) also said that if someone can make decisions, solve problems and learn new theories based on logic and evidence that is believed to be true, then a person can think critically. Skills in critical thinking have a certain type, namely: being able to build basic skills, being able to give light explanations,

being able to conclude something, being able to make sustainable explanations and being able to organize tactics and strategies.

Someone can think creatively or think divergently if they can provide several possible correct answers to a problem based on the diversity of information available. As stated by (Desyawati, 2018) that one's activities when thinking and being developed with indicators of achievement are critical thinking activities. Assessment or evaluation is also very close to the achievement of learning outcomes. As stated (Asfiyah, 2021) the evaluation of learning success that has been measured is the achievement of learning outcomes that can be applied from assessment standards. Critical thinking carried out by students, the possibility of being able to solve problems, be able to navigate challenges, be able to identify problems, be able to classify questions that can find solutions to problems (Zakiah, Linda & Lestari, 2019). Higher Order Thinking Skills (HOTS) are high-order thinking skills that are at the level of analytical, evaluative and creative thinking abilities (C4-C6 in Bloom's taxonomy) (Ahmad, 2019). In research that has been done previously by researchers.

RESEARCH METHODS

Qualitative research methods were used in this study with the aim of being able to find out and find information thoroughly and in depth according to the facts. A qualitative approach with a descriptive method of document analysis (Eka Apriliani et al., 2019). The data that has been obtained in the research is then written down like a narrative which is analyzed and processed into complete data (Moleong, Lexy, 2010).

Referring to the documentation method (Sugiyono, 2013) the data collection method is carried out by documentation by collecting and analyzing written data or images properly. In this study, the question text is a document that is the source of data. This research was conducted to obtain data regarding year-end assessment questions in class XI PAI subjects at Yadika Kalijati High School.

There are several benefits or advantages in using documents in qualitative research, including: the availability of document material that is ready to use, it does not require costs when using document material but it takes time to understand it, when analyzing material or data carefully then getting knowledge from that material, getting additional deeper into the research background, can be used as triangulation and the main research material.

RESEARCH RESULTS AND DISCUSSION

One of the assessments of learning outcomes carried out by educational units in the 2013 curriculum is presented in the form of PAT. The scope of assessment in PAT includes all indicators that present Basic Competency (KD) in each semester (Himmah, 2019). In this study, 45 PAT questions were presented in PAI subjects in class XI SMA Yadika Kalijati Subang. The author tries to analyze the 45 questions which are included in the HOTS, MOTS, LOTS questions.

Based on the preliminary survey, it is known that the PAT questions for PAI class XI for the odd semester of the 2021/2022 academic year at Yadika Kalijati Subang High School were prepared by the PAI teacher based on the material that had been presented for one semester taking into account the difficulty level of the items but not paying attention to the level of thinking. This is because there are still many questions that fall into the category of low-level thinking, namely at cognitive level 1 (knowledge and understanding) and cognitive level 2 (application). However, when viewed from the point of view of the HOTS questions on the PAT questions for PAI class XI SMA Yadika Kalijati Subang for the 2021/2022 odd semester academic year, it was found that the questions were presented in the form of Multiple Choice (PG), Complex Multiple Choice (PGK) and descriptions.

Description of Year-End Assessment Questions (PAT) Based on Thinking Levels

Data regarding the category of questions based on the level of thinking were obtained from the results of an analysis of the PAT question documents for PAI class XI SMA Yadika Kalijati Subang for the 2021/2022 odd semester academic year. The levels of thinking are grouped into three categories, namely LOTS, MOTS, HOTS if in the revised Bloom's Taxonomy the question is in the category of remembering, it is classified as MOTS if it is in the category of understanding and applying, and it is classified as HOTS if it is in the category of analyzing, evaluating and creating. (Widana, 2017). From the analysis carried out on PAT questions for PAI class XI SMA Yadika Kalijati Subang for the 2021/2022 odd semester academic year, the results are as shown in diagram 1 below.
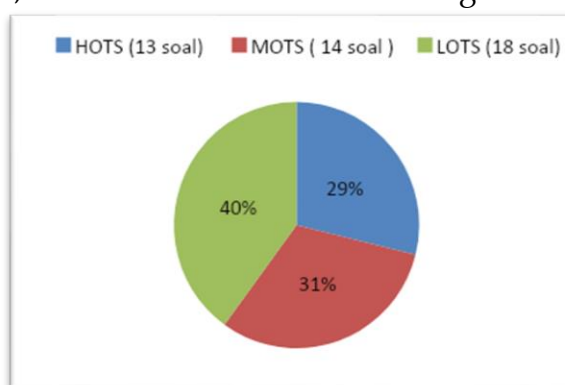

Diagram 1. Grouping Questions Based on Level of Thinking

Based on diagram 1, it can be seen that if viewed based on the level of thinking, the questions in the LOTS category are 18 items (40%) contained in questions number 1, 2, 3, 4, 5, 6, 7, 17, 18, 20, 22, 24, 28, 30, 34, 37, 40, and 44. The MOTS category consists of 14 questions (31%) contained in question numbers 8, 9, 12, 19, 21, 23, 27, 29, 33, 36, 38, 39, 41, and 45. The HOTS category consists of 13 items (29%) contained in question numbers 10, 11, 13, 14, 15, 16, 25, 26, 31, 32, 35, 42, and 43. The results of this study are in line with the theory put forward by Nana Sudjana in (Warju, 2020) that the results of this study lead to a proportion

ratio of 5-2-3, in which 18 (40%) items fall into the LOTS category, 14 (31%) of the items included in the MOTS category and 13 (29%) of the items included in the HOTS category.

HOTS Question Analysis with a total of 13 items (29%)
Question Number 3 (HOTS)

Congregational prayers refer to prayers that are performed together. This prayer is performed by at least two people, where one becomes the priest and the other becomes the congregation. Makmum is divided into two, namely makmum masbuk and makmum muwafiq. Makmum masbuk is someone who does not follow the takbiratul ihrom of the imam and gets a little time after the takbir so that it is not enough to complete the recitation of his Al-Fatihah surah before the imam bows. In this case, it is said that makmum masbuk is not only left behind in the first cycle, but in the second and so on. While makmum muwafiq is...

A. Following all the movements of the priest from bowing to prostration
B. Have enough time to precede the imam's Al-Fatihah reading
C. Have enough time to perfect the recitation of Al-Fatihah
D. Following all the movements of the front row from bowing to prostration
Answer Key: C (Have enough time to complete Al-Fatihah reading)

Results of Analysis: From the questions above, it can be seen that the questions are presented in the form of discourse in accordance with the subject matter; there is a stimulus that can make students think at a higher level regarding the questions presented; contextual, there are descriptions/sentences that can add clarity to the meaning of the questions.

From the existing PAT questions it can be seen that the questions are presented in the form of discourse in accordance with the scope of the material; There is a stimulus that can make students think at a higher level. These questions are included in the form of HOTS questions because there are actual, factual, conceptual, and procedural material stimuli. This question is included in the HOTS category with cognitive level 3/L3 (reasoning), because when students answer questions or questions, they must be able to understand and remember factual, conceptual and procedural material and be able to apply it in their lives. Furthermore, students are able to conclude material by analyzing the stimulus provided.

From these questions it can be seen that the questions are presented in the form of discourse in accordance with the subject matter; there is a stimulus in the form of the ability to describe the content of the arguments in accordance with the question; contextual, there are descriptions/sentences that can add clarity to the meaning of the questions. The questions above are included in the HOTS category with cognitive level 3 (L3), where students can describe the contents of the proposition correctly.

Analysis of MOTS questions, which total 14 items (31%)

From the questions in PAT, it can be seen that the questions are presented in the form of discourse that is in accordance with the subject matter; there is a stimulus in the form of the ability to determine the order in accordance with the questions; contextual, there are descriptions/sentences that can add clarity to the meaning of the questions. The questions above are included in the MOTS category with cognitive level 2 (L2), where students can determine the material in the question correctly. The MOTS question contains a stimulus but is not contextual. This MOTS question is entered at the application cognitive level which requires students' abilities that are higher than the level or level of understanding and knowledge. The scope of this MOTS question is (C3), namely the thought process of applying or applying.

This PAT question is entered at level 2 where the question is in the medium or difficult category, because students must be able to memorize formulas or events, memorize definitions and explain procedures. The KKO used in this question includes: applying, using, determining, calculating, proving.

LOTS Question Analysis which totals 18 items (40%)
Problem Number 3 (LOTS)
In congregational prayer consists of the priest and the congregation. For makmum there are two kinds, namely makmum masbuk and makmum muwafiq. Makmum muwafiq is....
A. Precedes all the movements of the prayer of the priest
B. Do not follow the movement of the priest from takbir to greetings
C. Does not follow all the priest's movements perfectly
D. Follows the entire movement of the priest perfectly
Answer Key: D (Following all the priest's movements perfectly)

Results of Analysis: From the questions above, it can be seen that the questions are presented in the form of discourse in accordance with the subject matter; there is no stimulus that can make students think at a high level regarding the questions presented; questions included in the easy category; not contextual, there is no description/sentence that can add clarity to the meaning of the question (straight to the point of the question). Thus, the question is included in the LOTS category with cognitive level 1 (L1), where students can explain the meaning of the intended type of makmum correctly. However, the question can become a HOTS category if the word explaining is changed to the word describing which is contained in the question indicator. In addition to changing the Operational Verbs (KKO) in the indicator questions, to make HOTS questions, there needs to be a stimulus, whether in the form of discourse/stories, pictures, tables and others, so that the questions can be categorized as HOTS questions, as exemplified in the questions.

From the PAT questions, it can be seen that the questions are presented in the form of discourse in accordance with the subject matter; there is no stimulus that can make students think at a high level regarding the questions presented; questions included in the easy category; is less contextual, there is discourse or

explanation related to the problem. This question is included in the LOTS category with cognitive level 1 (L1), where students can name the material correctly. From these questions it can be seen that the questions are presented in the form of sentences that are in accordance with the scope of the material; there is no stimulus that can make students think at a high level, the questions are included in the easy category; not contextual, there is no description or sentence that can add clarity to the meaning of the question (straight to the point of the question). The questions above are included in the LOTS category with cognitive level 1 (L1), where students can distinguish honest living behavior appropriately in life.

Based on Diagram 1, it can be analyzed that the least number of HOTS questions is 13 questions, 14 MOTS questions and 18 LOTS questions at most. Seeing this number, it can be illustrated that there is a need to set standards or have techniques in making questions for teachers, which means that teachers always have to apply question assessment techniques with high-level thinking characters. So that the number of HOTS questions in PAT class XI in Islamic Religious Education Subjects will be better for students in thinking and answering questions.

Making HOTS questions is done by the teacher requires techniques in the thinking process. Critical and creative thinking that is applied to assessment questions is a fundamental way to produce questions that have Higher Order Thinking Skills. The indicators of the ability to think creatively must prioritize proficiency, originality, and flexibility. These indicators are a form of ability that is able to get new ideas.

Description of Year End Assessment Questions (PAT) Based on Stimulus Types

Preparation of questions based on the HOTS perspective should use introductory materials before giving questions to students with the aim of facilitating and stimulating students to think about something and clarifying the meaning of the questions (Nugroho, 2018). Through the information received from the stimulus given in the problem, it is hoped that students will be able to transfer information received from one context to another, process and apply information, see the relationship between different information, use information to solve problems and explore/think critically about ideas. or information. Stimulus criteria that can be used in compiling questions include: (1) informative and interesting to read; (2) attract the attention of students; (3) well written and presented; (4) quite complex, not too easy and not too difficult; (5) classified as factually correct; (6) can lead to questions; (7) complete and comprehensive story (N. Priatna, M. Fauzan, 2017). Data regarding the category of questions based on the type of stimulus were obtained from the results of an analysis of the PAT question documents for PAI class XI SMA Yadika Kalijati Subang for the 2021/2022 odd semester academic year which can be seen in diagram 3 below.
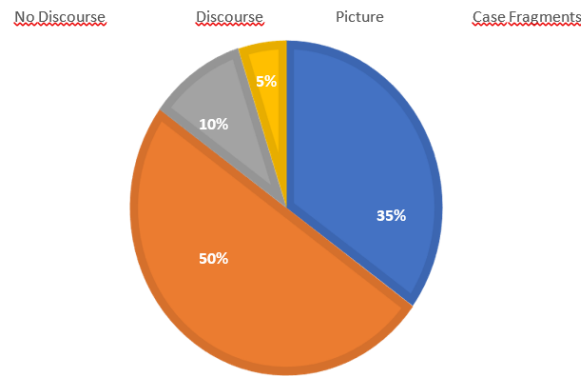
Diagram 2. Grouping Problems Based on Stimulus Types

Based on the results of the analysis in diagram 2, the stimulus used in the questions has varied, but the number is still small and uneven. The form of stimulus that appears the most is in the form of discourse as many as 18 (50%) of the items contained in question numbers 9, 10, 11, 12, 13, 15, 16, 18, 19 and 20, questions that do not have a stimulus as many as 14 (35%) of the items contained in questions number 1, 2, 3, 4, 5, 6 and 7, questions that contained a stimulus in the form of images as much as 2 (10%) of the items contained in questions number 8 and 17, questions very little stimulus is found in the form of fragments of cases as much as 1 (5%) of the items contained in problem number 14. In addition to using the stimuli listed above, educators can use other forms of stimulus such as diagrams, tables, photos, word lists / symbols, poetry, fragments of stories / novels, maps and so on. The results of this study are in line with research (Laili & Wisudawati, 2015) where to develop higher-order thinking skills, each item must be given a stimulus. High-level thinking skills in the revised Bloom's Taxonomy include the ability to analyze, evaluate and create. Thus, to train these abilities each item must be given a stimulus which can be poured in the form of discourse or reading text, pictures, formulas, tables, graphs, case fragments, diagrams and others (Laili & Wisudawati, 2015).

Description of Final Semester Assessment Questions (PAS) Based on Difficulty Level
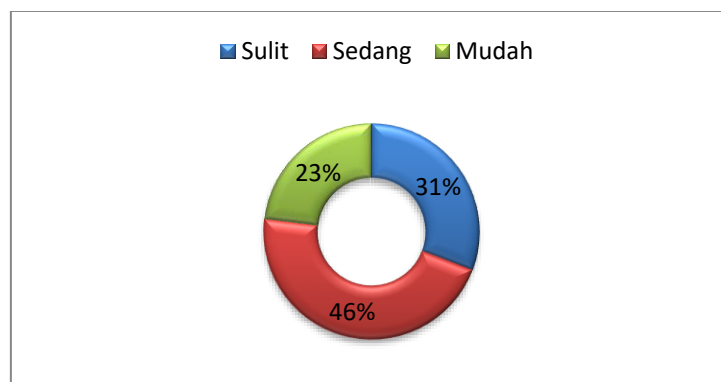

Diagram 3. HOTS Question Difficulty Level

Based on diagram 3, the characteristics of critical thinking skills or higher order thinking are divided into 3 categories, namely HOTS, MOTS, and LOTS, each of which consists of easy, medium and difficult categories. In the HOTS items there are questions that have a difficult weight of 31% (4 items), moderate weight of 46% (6 items) and easy weight of 23% (3 items). This can be illustrated that the weight of the HOTS questions in PAT questions for class XI in PAI subjects has various weights. The diversity of HOTS questions can be a reference for students to be able to solve the problems contained in the questions they are working on. Teachers can find out how far students or students can think critically, creatively and are able to solve problems.
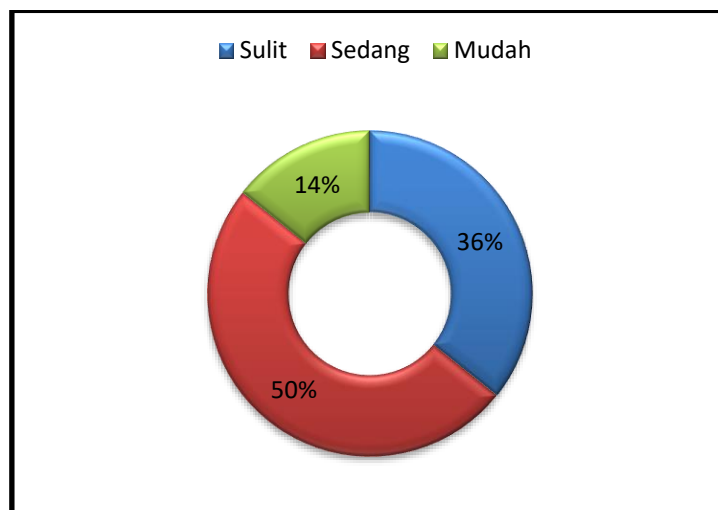

Diagram 4. MOTS Question Difficulty Level

Based on diagram 4, on the MOTS item items there are questions that have a difficult weight of 5 items, 7 items of moderate weight and 2 easy weights. This can be illustrated that the weight of the MOTS questions contained in PAT class XI questions in PAI Subjects is quite diverse, but the questions that have moderate weight are the highest. This can be a reference for teachers to advance these questions to a difficult level and even in the future they can become HOTS questions.
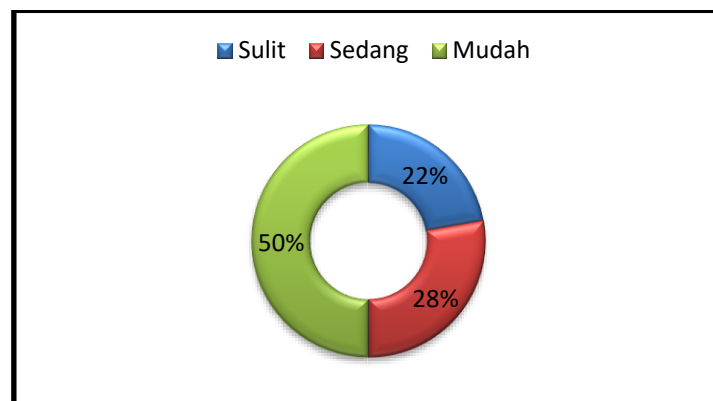

Diagram 5. LOTS Question Difficulty Level

Based on diagram 5, in the LOTS items there are questions that have a difficult weight totaling 4 items, 5 items having a moderate weight and 9 items having an easy weight. This can be illustrated that the weight of the LOTS questions contained in the PAT questions for class XI in PAI subjects is quite diverse. However, if you look at the questions that have the highest easy weight, namely 9 items. It can be analyzed that the quality level of the questions still needs to be improved to achieve critical, creative thinking and problem solving by students.

Results of Analysis: From the PAT questions, it can be seen that the questions are presented in the form of discourse in accordance with the subject matter; there is a stimulus that can make students think at a higher level regarding the questions presented; contextual, there are descriptions/sentences that can add clarity to the meaning of the questions. This research has a specificity in terms of the object being analyzed, namely PAT questions for PAI subjects in class XI SMA Yadika Kalijati Subang for the 2021/2022 academic year in the odd semester which were compiled by the PAI teacher based on the distribution of material in one semester that has been studied.

However, the preparation of these questions did not pay attention to the cognitive level, the question indicators and the type of stimulus, where there was a discrepancy between the cognitive level and the question indicators. For example, at the cognitive level L3 (reasoning) is listed, but in the question indicators are presented sentences with Operational Verbs (KKO) that fall into the category C1 (remember, memorize, mention, state and others) and C2 (understand, explain, interpret and other). In addition, the types of stimuli contained in the questions are still low and medium in nature, and the answer choices in the questions do not have distractors so that the answers to the questions are easy to guess.

Thus, in preparing PAT questions for the next PAI subject, educators should pay more attention to the forms of questions that will be presented to students, starting from basic competencies, cognitive levels, question indicators and types of stimulus, so that the questions to be presented can encourage students to think. high level. Thus, the results of this study provide additional data regarding the questions created and used by the teacher in PAI subjects, in which 18 (40%) questions fall into the category of Lower Order Thinking Skills (LOTS) questions, the Middle Order Thinking Skills (MOTS) item category consisted of 14 (31%) items and the High Order Thinking Skills (HOTS) item category consisted of 13 (29%) items. In another study, an analysis of the quality of HOTS-based PAI items was found for class V SD Budi Mulia Medan for the 2019/2020 academic year.

In this study, 35 questions were presented. Furthermore, from the results of the analysis it was found that there were 11 questions (31.5%) in the Lower Order Thinking Skills (LOTS) category, 6 questions (17.1%) in the Middle Order Thinking Skills (MOTS) category and the category of High

Order Thinking Skills (HOTS) questions consists of 18 questions (51.4%) (Alnida, 2020).

CONCLUSION

The End of Year Assessment for the subject of Islamic Religious Education at Yadika Kalijati High School has not carried out an analysis of HOTS questions. This is felt to be very important to carry out in this study. Assessment of HOTS questions is very important for educators and students or students. Of the 45 questions, 13 were HOTS questions (29%), 14 MOTS questions (31%), and 18 LOTS questions (40%). Based on the results of the HOTS item analysis, there is still a need for improvement in the technique of making HOTS questions because the number of questions is still the lowest. HOTS-based question assessment is very important in students' thinking processes, because it requires the ability to think critically, be creative and be able to solve problems.

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