

Higher-Order Thinking Skills (HOTS)-Based Learning in Islamic Religious Education

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Abstract: This article discusses the importance of implementing *Higher Order Thinking Skills* (HOTS)-based learning evaluation in Islamic Religious Education (PAI) subjects. This topic is very crucial considering that PAI in the modern era is not sufficiently delivered through conventional methods such as memorization and lectures, but must encourage students to think critically, creatively, and reflectively towards religious teachings. The method used in this writing is a library research with a qualitative descriptive approach, reviewing relevant literature related to HOTS and its implementation in PAI learning evaluation. The results of the study indicate that HOTS-based evaluation is able to develop students' abilities in analyzing, evaluating, and creating solutions to contextual problems, thus supporting the formation of adaptive and highly reasoned religious characters. The implication is that the application of HOTS-based evaluation in PAI learning contributes significantly to students' cognitive development and is very relevant in the study of developmental psychology, especially in forming balanced intellectual and emotional intelligence.

Keywords: Cognitive development; Emotional intelligence; Higher-order thinking; Islamic education; Learning evaluation

1. Introduction

Evaluation or assessment plays a crucial role in determining the success or failure of educational or learning objectives implemented in an educational unit. Evaluation is useful for assessing students' level of understanding or improving learning at school. Assessment allows us to determine the level of success of an educational or learning objective.

Islamic Religious Education (PAI) learning not only aims to provide knowledge about Islamic teachings, but also to develop students' critical, creative, and reflective thinking skills regarding Islamic teachings. These skills are crucial for students to understand and practice Islamic teachings in their daily lives.

Unfortunately, Islamic religious schools still teach outdated methods, such as lectures and memorization. This is clearly not in line with modern demands, as it deprives students of critical thinking skills, often referred to as lower-order thinking skills. In the 21st century, educators are required to employ higher-order thinking skills.

To achieve the goals of Islamic Religious Education, a fresher learning model is needed. According to Dr. Amin Haedari, M.Pd., most Islamic Religious Education learning competencies still fall into the Low Order Thinking Skills (LOTS) category, namely applying, remembering, and understanding. Meanwhile, in the 21st century, students are required to apply Higher Order Thinking Skills (HOTS), namely critical thinking, creative thinking, problem solving, and decision making (Lestari & Suyadi, 2021).

HOTS-based learning evaluation is one way to measure students' critical, creative, and reflective thinking skills regarding Islamic Religious Education (PAI) material. This evaluation not only measures students' ability to memorize and recall material but also their ability to analyze, evaluate, and create new knowledge (Halimah, 2021).

HOTS-based Islamic Religious Education (PAI) learning is essential in today's changing world, where students are required to solve complex problems. HOTS encourages students to analyze, evaluate, and create knowledge, not simply memorize it. In the context of

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PAI, HOTS helps students understand religious teachings more deeply and contextually. Students are encouraged to reflect on religious values in their daily lives, rather than simply memorizing religious texts.

At all levels of education, there are several mandatory teaching materials, one of which is Islamic religious education. Islamic Religious Education (PAI) materials color and become a culture in several educational institutions. Many still interpret PAI learning as simply memorizing, even though PAI materials are not only studied theoretically but also how students understand and practice them in everyday life. To determine the extent to which students have achieved mastery of PAI learning objectives, an assessment must be conducted. The assessment standard applied in the 2013 curriculum is the internationally standardized HOTS (High Order Thinking Skills) assessment model (Ananda & Maemonah, 2022).

Based on the background above, the author will discuss the evaluation of learning based on Higher Order Thinking Skills (HOTS) in Islamic Religious Education learning.

2. Theoretical Study

According to Chansyanah Diawati (2019), HOTS is a higher-order thinking skill within Bloom's taxonomy, encompassing the ability to analyze, evaluate, and create. In HOTS, assessments prioritize questions that guide students to analyze and then evaluate the context within the question. Students can also create a product in the form of the most appropriate answer to the question (Rohmad & Mauliya, 2021).

Eko Cahyono et al. (2020) stated that HOTS assessment is a thinking ability that goes beyond recall, restating, or referring without processing (recite). HOTS is more directed at measuring the ability to transfer one concept to another, process and apply information, find connections between different pieces of information, use information to solve problems, and critically examine ideas and information. HOTS assessment emphasizes the ability to understand concepts, find information according to existing concepts to solve problems, and analyze ideas and information critically (Lestari & Suyadi, 2021).

Furthermore, according to Widiastuti (2015) in her article, HOTS assessment is a higher-level thinking ability that requires a more complex thought process, including applying, analyzing, evaluating, and creating, supported by the ability to understand. With such thinking skills, students will be able to think critically, provide logical, systematic, and analytical reasons, solve problems quickly and accurately, make decisions quickly and accurately, and create new products based on what they have learned (Mariam et al., 2020).

Based on the definitions above, it can be said that HOTS assessment is a basis for assessment aimed at enabling students to think critically in higher and more complex domains. Students must be able to apply a problem to its context and then analyze it to discover something new. Therefore, students are directed to seek out information, not simply be told. Students are not required to memorize and recite, but rather to understand concepts so they can explain them in more complex domains.

Thus, higher-order thinking skills are at the level of analyzing, evaluating, and creating. These three abilities can shape students who are able to think critically and logically and make independent decisions to solve real-life problems in everyday life. Higher-order thinking skills, which are the application of HOTS questions, indicate that someone is capable of thinking logically, critically, and creatively, and is able to make decisions that can solve problems independently.

HOTS assessment itself stimulates the ability to connect several different concepts, interpret, solve problems (problem solving), choose problem-solving strategies, discover new methods, argue (reasoning), and make the right decisions which are referred to as metacognitive abilities (Sholeh et al., 2025).

3. Research Methods

The method used in this paper is a library research study with a qualitative descriptive approach, reviewing relevant literature related to HOTS and its implementation in the

evaluation of Islamic Religious Education (PAI) learning. The data analysis technique was carried out using a descriptive-analytical approach (Miles et al., 2014), which involves data classification, content analysis, and synthesis of findings to obtain a comprehensive understanding. Data validation was carried out through source triangulation (Neuman, 2014), by comparing various literatures to ensure the consistency and credibility of the information.

4. Results And Discussion

HOTS encourages students to analyze, evaluate, and create knowledge, not just memorize it. In the context of Islamic Religious Education (PAI), HOTS helps students understand religious teachings more deeply and contextually. Students are encouraged to reflect on religious values in their daily lives, rather than simply memorizing religious texts. The following is an evaluation of *Higher Order Thinking Skills* (HOTS)-based learning:

The importance of HOTS evaluation

The development of this HOTS assessment instrument has many benefits, including the following (Wahidin, 2023):

Development of critical thinking patterns

HOTS assessments will stimulate students' critical thinking and address issues. Critical thinking is used to describe reasoned, purposeful thinking. Critical thinking enables individuals to solve problems, draw conclusions, estimate possibilities, and make decisions.

According to Halpern (2000), critical thinking utilizes cognitive skills or strategies that increase the likelihood of achieving desired outcomes. This critical mindset can be developed through assessment patterns based on higher-order thinking skills. Ridwan Abdullah Sani (2014) further elaborated that critical thinking encompasses memory, thought and language, deductive reasoning, argument analysis, hypothesis testing, similarity and uncertainty, decision-making, problem-solving, and creative thinking.

The development of creative thinking patterns

With HOTS-based assessments, students are encouraged to generate creative ideas when answering questions. This helps develop their creative thinking. According to Feist (in Ridwan Abdullah Sani), creative thinking must be novel (original) and useful (adaptive). This means that creative thinking is useful in situations that require adaptability. For example, students who are accustomed to answering HOTS questions will find it easier to adapt to various types of questions because they are accustomed to thinking creatively.

Training in problem solving

Questions in HOTS-based assessments are typically drawn from real-world problems and viewed from multiple perspectives. This encourages students to learn new things and solve them. To solve problems, especially complex ones, students need supporting knowledge. According to Heller and Hungate, this knowledge includes: understanding the problem, problem-solving strategies, basic concepts and principles, and familiar patterns and procedures.

Train in making decisions

In HOTS-based assessments, students will be trained to make decisions quickly and accurately. Complex problems will guide students toward decision-making. These skills will be invaluable in more realistic situations in everyday life.

Train in posing and formulating problems

By frequently working on HOTS-based questions, students will become trained to pose and formulate problems. The complex problems presented in this assessment stimulate students' curiosity, leading them to propose and formulate problems.

Characteristics of HOTS questions

HOTS questions are highly recommended for use in various forms of classroom assessment. To inspire teachers to develop HOTS questions at the educational unit level, the following describes the characteristics of HOTS questions (Iqbal et al., 2025):

Measuring higher-order thinking skills

HOTS questions present activity-based knowledge. This means that the questions begin with a stimulus in the form of an example of a daily activity to demonstrate its application. Students are asked to actively contribute their ideas so they can be directly applied and gain deeper knowledge from their life experiences. This activity-based knowledge concept encourages students to solve problems critically. Viewed from the stages of the thinking process, higher-order thinking skills are found at the levels of analyzing, evaluating, and creating.

Based on contextual problems

HOTS questions consist of statements drawn from real-life situations. Thus, students are expected to be able to apply them. The following are characteristics of contextual assessments or problems:

- Relating, namely the assessment is directly related to real life experiences
- Experiencing, namely assessment is emphasized on exploring, discovery, and creating.
- Applying, namely assessment that enables students to apply knowledge to solve real problems.
- Communicating, namely the assessment requires students to be able to communicate the conclusions of the model in the context of the problem.
- Transferring, namely the assessment requires students to be able to transform knowledge concepts in class into new situations or contexts.

Using various question forms

There are several alternative question formats so that the question formats for HOTS-based assessments are varied, including:

- Multiple choice
- Complex multiple choice (true/false or yes/no)
- Short fill or complete
- Short or brief answer
- Description

Cognitive level

Anderson and Kratwohl in Wayan Widana classify the dimensions of the thinking process as follows (Listiani & Rachmawati, 2022):

Table 1. Cognitive level.

HOTS	Creating	<ul style="list-style-type: none"> Create your own ideas/concepts Verbs: construct, design, create, develop, write, formulate
	Evaluate	<ul style="list-style-type: none"> Make your own decisions Verbs: evaluate, assess, refute, decide, choose, support
	Analyze	<ul style="list-style-type: none"> Specifying aspects/elements Verbs: compare, examine, criticize, test
	Applying	<ul style="list-style-type: none"> Using information on different domains Verbs: use, demonstrate, illustrate, operate.
	Understand	<ul style="list-style-type: none"> Explaining ideas/concepts Verbs: explain, classify, receive, report
LOTS	Know	<ul style="list-style-type: none"> Recalling Verbs: remember, register, repeat, imitate

The cognitive levels are grouped as follows: 1) knowledge and understanding (level 1), 2) application (level 2), and 3) reasoning (level 3). The following is an explanation of each level:

Knowledge and understanding (level 1)

The cognitive level of knowledge and understanding encompasses the dimensions of the thinking processes of knowing (C1) and understanding (C2). Level 1 questions typically measure factual, conceptual, and procedural knowledge. Level 1 questions can be difficult because answering them requires students to remember formulas or events, memorize definitions, or cite steps to perform an action. However, level 1 questions are not HOTS questions.

Application (Level 2)

Questions at the cognitive application level require higher skills than the knowledge and understanding levels. The cognitive application level includes the dimension of the thinking process of applying or applying (C3). The characteristics of questions at level 2 are measuring the ability to use certain factual, conceptual, and procedural knowledge on other concepts in the same subject or other subjects. Applying certain factual, conceptual, and procedural knowledge to solve contextual problems. Questions at level 2 may be in the medium or difficult category, but level 2 is not yet considered HOTS.

Reasoning (level 3)

The reasoning level is a high-level thinking ability (HOTS) level. Because to answer questions at level 3, students must be able to remember, understand, and apply factual, conceptual, and procedural knowledge and have high logic and reasoning to solve contextual problems (non-routine real situations). The reasoning level includes the dimensions of the analytical thinking process (C4), evaluating (C5), and creating (C6). The analytical thinking process dimension (C4) requires students to specify aspects/elements, describe, organize, compare, and find implied meanings. The evaluating thinking process dimension (C5) requires students to formulate hypotheses, criticize, predict, assess, test, justify or blame. While the creative thinking process dimension (C6) requires students to design, build, plan, produce, discover, renew, perfect, strengthen, beautify, and change. Questions at the reasoning level are not always difficult.

The characteristics of questions at level 3 are that they require the ability to use reasoning and logic to make decisions (evaluation), predict and reflect, and the ability to develop new strategies to solve non-routine contextual problems. The ability to interpret, find relationships between concepts, and the ability to transfer one concept to another are very important skills for solving level 3 questions (reasoning). Operational verbs (KKO) that are often used include describing, organizing, comparing, formulating hypotheses, criticizing, predicting, assessing, testing, concluding, designing, building, planning, producing, discovering, updating, perfecting, strengthening, beautifying, and composing (Ahmad & Sukiman, 2019).

Stages of making HOTS Instruments

The following are the steps for compiling HOTS instruments according to Wiwik Setiawati et al (Yuliani, 2024):

Analyzing Basic Competencies (KD) or Learning Outcomes

The basic competencies analyzed are those contained in the Minister of Education and Culture Regulation Number 37 of 2018. The determined basic competencies are then analyzed based on their cognitive levels. To create HOTS questions, the cognitive levels used are C4 (analyzing), C5 (evaluating), and C6 (creating). Then, based on these cognitive levels, teachers can begin developing HOTS questions.

Compiling a Question Grid

The HOTS question writing grid aims to assist teachers in writing HOTS questions. In general, the grid is needed to guide teachers in selecting core competencies from which HOTS questions can be created, selecting core material related to the core competencies to be tested, formulating question indicators, and determining cognitive levels.

Selecting engaging and contextual stimuli

The stimulus used should be engaging, meaning it encourages students to read. Engaging stimuli are generally new and never read by students. Contextual stimuli, on the other hand, are stimuli that are relevant to everyday life and engaging and encourage students to read. In the context of school exams, teachers can select stimuli from the school environment or local area.

Write questions according to the grid

Next, teachers can construct HOTS questions according to the rules and proper writing. These questions are naturally based on the previously analyzed SKL, KI, and KD. This aims to determine whether student achievement aligns with the learning objectives.

Create scoring guidelines (rubrics) or answer keys

Both LOTS and HOTS questions should be accompanied by scoring guidelines or answer keys. Scoring guidelines are used for essay-based questions, while answer keys are used for multiple-choice, complex multiple-choice (yes/no and true/false), and short answer questions.

5. Conclusion And Suggestions

Conclusion

HOTS-based learning evaluation is crucial for improving the quality of education, particularly in Islamic Religious Education (PAI). This evaluation not only assesses memorization or understanding (LOTS), but also emphasizes critical thinking, creativity, problem-solving, and decision-making (HOTS). HOTS assessments encourage students to understand religious teachings deeply and contextually, and apply them to real-life situations. By using HOTS instruments, students are trained to think analytically, evaluatively, and creatively, enabling them to become reflective and competitive individuals in the modern era. Therefore, teachers are required to develop contextual and varied HOTS questions so that the evaluation process truly measures students' higher-order thinking skills.

Suggestion

It is hoped that teachers and schools will be better prepared to adopt and develop effective HOTS-based learning as part of the evaluation of Islamic Education learning, so that it can improve the quality of Islamic education in Indonesia as a whole.

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