IMPLEMENTATION OF HOTS-BASED INSTRUCTIONS IN PESANTREN: A CASE STUDY IN PONDOK MODERN TAZAKKA BATANG CENTRAL JAVA

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Abstract

The development of Higher Order Thinking Skills (HOTS) in students at Islamic boarding schools (pesantren) is crucial due to their numerous advantages, such as the capacity to tackle social, scientific, and practical problems with effectiveness. Whether or not Pondok Modern Tazakka successfully integrated the use of HOTS questions in exams is the goal of this study. Through the application of descriptive phenomenological research methods and data collection techniques, including the tabulation of 132 test sheets in 44 subjects tested on KMI Class 6 students and interviews with 62 teachers in 8 subjects, it was discovered that 8 subjects exhibited no HOTS questions at all (19%), 6 subjects exhibited a decreasing number of HOTS questions (14%), 19 subjects exhibited a sharp increase in HOTS questions (45%), and 9 subjects exhibited a constant number of HOTS questions. The study's findings also demonstrate that, as long as supervisors (senior teachers) take a more proactive approach to giving junior teachers comprehensive training and ensure that all exam questions in each subject are HOTS exam questions, it is possible to guarantee that all exam questions will contain HOTS.

Keywords: *Higher Order Thinking Skills (HOTS); KMI; Lower Order Thinking Skills (LOTS); Pondok Modern Tazakka; Revised Bloom's Taksonomy.*

Abstrak

Higher Order Thinking Skills (HOTS) sangat penting untuk ditanamkan pada santri di pesantren karena memiliki banyak manfaat, seperti kemampuan mengatasi tantangan sosial, tantangan ilmiah dan tantangan praktis secara efektif. Penelitian ini bertujuan menjelaskan apakah penyertaan soal HOTS dalam ujian berhasil dilaksanakan di Pondok Modern Tazakka ataukah tidak. Dengan menggunakan metode penelitian deskriptif fenomenologi dan metode pengumpulan data berupa tabulasi 132 lembar tes pada 44 mata pelajaran yang diujikan pada siswa KMI Kelas 6 dan wawancara kepada 62 guru pada 8 mata pelajaran, ditemukan bahwa 8 mata pelajaran yang diujikan tidak mengandung pertanyaan HOTS sama sekali (19%), 6 mata pelajaran yang diuji mengalami penurunan jumlah soal HOTS (14%), 19 mata pelajaran

yang diuji mengalami peningkatan jumlah soal HOTS yang drastis (45%), dan 9 mata pelajaran yang diuji memiliki jumlah pertanyaan HOTS yang konstan. Hasil penelitian ini juga menunjukkan bahwa HOTS dapat dijamin untuk dimasukkan dalam semua soal ujian asalkan pengawas (supervisor) semakin berperan aktif dalam memberikan pelatihan intensif kepada guru junior dan menjamin bahwa semua soal ujian pada setiap mata pelajaran adalah soal ujian HOTS.

Kata Kunci: *Keterampilan Berpikir Tingkat Tinggi; KMI; Keterampilan Berpikit Tingkat Rendah; Pondok Modern Tazakka; Taksonomi Bloom Revisi..*

INTRODUCTION

Higher order thinking skills (HOTS) are crucial in 21st-century education. HOTS encompass critical thinking, creative thinking, decision-making, and problem-solving abilities (Bin et al., n.d.). These skills enable students to effectively address social, scientific, and practical challenges (Miterianifa et al., 2021). In English language teaching, HOTS help students think critically and innovatively, preparing them to be independent problem-solvers and decision-makers (Singh & Marappan, 2020). HOTS involve complex cognitive processes that go beyond memorization, including developing logical steps, assessing contexts, finding solutions, and making judgments through self-monitoring and reflection (Phakiti, 2018). Despite student interest in HOTS activities, teachers often lack expertise and motivation to implement them effectively. Recommendations for enhancing HOTS integration include providing additional teacher training, adequate resources, and proper guidelines from educational authorities (Singh & Marappan, 2020).

Fostering higher-order thinking skills (HOTS) in middle and high school students is crucial for developing competent citizens capable of problem-solving and creative thinking (Hilton & Hilton, 2020). Strategies to cultivate HOTS include providing challenging open-ended questions, encouraging student exploration, and promoting collaborative learning (Mao, 2023). However, teachers often struggle with implementing HOTS in their classrooms, with some using strategies that may impede autonomous thinking (Barak & Shakhman, 2008). Many teachers are uncertain about fostering HOTS, highlighting the need for professional development in this area (Barak & Shakhman, 2008; Crump et al., 1988). To effectively integrate HOTS into science education, a combination of constructivist pedagogy and specific steps aimed at fostering higher-order thinking is recommended (Barak & Shakhman, 2008). School policies and resources can also influence the teaching of HOTS (Hilton & Hilton, 2020).

Recent studies have explored the development of higher-order thinking skills (HOTS) in Indonesian Islamic boarding schools (*pesantren*). While traditional learning methods in pesantren often focus on memorization and lower-level thinking (Yuliana et al., 2021), there is a growing emphasis on fostering critical and creative thinking among students. Implementing HOTS in pesantren education is seen as a strategy to counter radicalism and promote a more moderate Islamic perspective (Ardiansyah, 2018). Some modern pesantren have incorporated innovative teaching methods, such as *turats* (classic Islamic texts reading) deliberation, project-based learning, and problem-based learning, to enhance students' thinking skills (Yuliana et al., 2024). However, the application of HOTS in pesantren varies,

with some institutions still struggling to shift from traditional approaches to more contemporary educational theories and methods (Tata, 2023). Overall, these studies highlight the importance of integrating HOTS into pesantren education to prepare students for complex problem-solving and decision-making in the modern world.

Research indicates that fostering higher-order thinking skills (HOTS) in examination questions is crucial for developing critical and creative thinking abilities in students. Studies have analyzed the presence of HOTS in various national exams, including those in Indonesia, Uganda, and English language tests (Mitana et al., 2018; Narwianta et al., 2019; Suwandi et al., 2021). These studies reveal that while HOTS questions are present, they often comprise a small percentage of total exam questions, with lower-order thinking skills (LOTS) dominating assessments (Mitana et al., 2018; Narwianta et al., 2019). To improve this, researchers recommend using frameworks like the Revised Bloom's Taxonomy to categorize assessment items and increase the proportion of HOTS questions (Mitana et al., 2018). Additionally, assessment practices and teaching methods play a crucial role in fostering HOTS, with national examinations potentially compelling teachers to refocus their pedagogical practices towards developing learners' thinking skills (Mitana et al., 2021). However, success in this approach requires teachers to possess the necessary technical capabilities to nurture these skills effectively.

The present research is on the practice of fostering HOTS exam questions in *Kuliyyatul Mu'allimin Al-Islamiyah* (KMI). Kuliyyatul Mu'allimin Al-Islamiyah (KMI) system is an integrated educational approach that combines traditional

pesantren methods with modern education (Kirno, 2023; Yuliana et al., 2024). It aims to produce teachers capable of applying their knowledge in Islamic boarding schools (Kirno, 2023). The KMI curriculum integrates religious and general subjects, emphasizing both 100% (Kirno, 2023). Unlike traditional pesantren, KMI focuses on developing students' thinking skills through activities like turats deliberation, project-based teaching, and problem-based learning (Yuliana et al., 2024). The system includes a compulsory service program and 24-hour disciplined living arrangements (Kirno, 2023). KMI planning involves *i'dad tadris* (teaching preparation) by *asatidz* (teachers) (Yuliana et al., 2021). The learning process typically runs from 04:00-21:30, using various teaching methods and media (Priyatna, 2017). Evaluation is conducted through both formative and summative assessments (Priyatna, 2017).

There have been 4 (four) articles found on the Internet exploring the application of higher order thinking skills in pesantren examinations. The first article by Fauzi & Baroroh focuses on the assessment of *Sharf* (Arabic conjugational patterns) lessons in *pesantren* (Islamic boarding schools) from the perspective of Higher Order Thinking Skills (HOTS) (Fauzi & Baroroh, 2023). The research, conducted at Pondok Pesantren Darussalam in Yogyakarta, indicates that while *Sharf* exercises and assessments are conducted, they often do not promote higher-level thinking (Fauzi & Baroroh, 2023). The second study is recorded in an article from the *Journal of Educational Technology and Innovation*, focusing on the impact of the Problem-Based Learning (PBL) model on critical thinking and problem-solving skills in Islamic learning for students at Islamic boarding schools (*pesantren*). The author, Halimatus Sya'diyah, conducted

research that involved a pretest-posttest design with a sample of 30 students (Halimatus, 2024). The study found that the PBL method effectively improved these cognitive skills and learning outcomes. The third article by Aisyah analyzes the implementation of High Order Thinking Skills (HOTS) in the final exam questions at MA Nahdlatul Ulama Putri, in Pesantren Buntet Cirebon (Aisyah, 2023). The study concludes that the current exam questions do not effectively measure students' higher-order thinking abilities, suggesting a need for improvement in the quality of assessment instruments (Aisyah, 2023). The last article by Iqbal Ahmad & Sukiman discusses a qualitative descriptive analysis of the final exam questions for the Dirasah Islamiyah subject for 6th-grade students at Pondok Modern Tazakka (Ahmad & Sukiman, 2019). According to the analysis, only 6 out of 25 questions in the Tarikh Islam subject had HOTS characteristics. The subjects with the most questions meeting the HOTS characteristics were Fiqih, followed by Tauhid and History of Islam (Ahmad & Sukiman, 2019).

This article aims at two objectives: (1) researching whether including the HOTS exam questions in the semester examination can be conducted successfully or not, based on the four studies above-mentioned; and (2) extending the scope of research already carried out in 2019 by Ahmad & Sukiman above-mentioned by researching not only realization of Higher Order Thinking Skills (HOTS) of the Revised Bloom's Taxonomy in Dirasah Islamiyah (Islamic sciences subjects) examination questions but also the one in Dirasah Lughowiyah (Arabic & English language subjects) as well as Dirasah 'Ammah (modern sciences subjects) examination questions in academic years of 2021, 2022, and 2023, in order to have a wider picture of the

practice. The research setting is at Pondok Modern Tazakka, Central Java Province, Indonesia, which holds the KMI program.

RESEARCH METHODS

This study employs a qualitative descriptive approach through documentary research using data sources comprising Higher Order Thinking Skills (HOTS) question indicators and examination sheets for 44 subjects in the KMI curriculum, consisting of 132 examination sheets from years 2021, 2022, and 2023. The author then examined these sheets utilizing an indicator list to determine which questions fell into the HOTS category and which into the Lower Order Thinking Skills (LOTS) category. Questions categorized as HOTS or LOTS were tabulated, their totals calculated, and those with the highest and lowest scores identified before being analyzed in detail to further validate the data, interviews were also conducted to obtain additional information suitable for triangulation purposes, particularly when it was found that certain subject teachers did not include HOTS questions in their exams.

RESULT & DISCUSSION

It was found out through the interview that every semester, teachers (*ustadz*) received training on how to improve higher level thinking skills (HOTS) prior to administering exams to students (*santri*). Training was given before the new school year

began or before pupils (*santri*) began studying. Following that, teachers (*ustadz*) were taught how to include higher order thinking skills (HOTS) into their classrooms. They were taught that lessons began with a question or problem, which the students would solve when the teachers had finished teaching. As a result, pupils' interest would grow, prompting them to seek a solution. Such instruction lasted for one semester. Then, at the end of each semester, students took an exam that included questions that helped them improve their higher order thinking skills. Before creating exam questions, senior teachers who are well-versed in Revised Bloom's Taxonomy, HOTS, and LOTS advised junior teachers on how to construct questions that assessed higher order thinking skills. Teachers were informed which questions assessed LOTS and which tested HOTS. Afterwards, they were allowed to construct exam questions based on the guidelines. The end result was exam problems that sharpened high-level pupils' thinking abilities.

The following was a list of HOTS exam question markers which were taught to all teachers by the senior teachers before they made HOTS exam questions:

Table 1. HOTS Levels & Markers.

Level	Note	Marker	Example
LOT 1 **(Memorizing)**	Memorizing what is taught by teacher in the classroom	*Mention!* *Memorize!* *Determine!* *Choose!* *Blacken!* *Decide!* *Indicate!* *Show!* *Describe!* *Match!*	*Mention three animals which human can breed!*
LOT 2 **(Understanding)**	Understanding what is taught by teacher in the classroom	*Explain!* *Exemplify!* *Classify!*	*Explain the causes of the Badr War!*

Level	Note	Marker	Example
LOT 3 **(Applying)**	Applying what is memorized and what is understood in different settings or contexts	*Implement!* *Carry out!* *Do!* *Apply!* *Use!*	*Use your knowledge of Prophet Muhammad's history to describe moral characteristics of the Prophet!*
LOT 4 **(Analyzing)**	Analyzing the memorized material and the understood material and the applied material in categories, in summaries, in contrast and comparisons	*Distinguish!* *Compare!* *Structure!* *Determine!* *Categorize!*	*Compare the causes of the Badr Battle and the Uhud Battle, then conclude the causes of victory and of loss in both battles!*
LOT 5 **(Evaluating)**	Evaluating the memorized material and the understood material and the applied material as well as the analyzed material; finding plus and minus of the materials; criticizing the materials	*Check!* *Criticize!* *Evaluate!* *Correct!* *Examine!* *Deconstruct!*	*Is this description of Prophet Muhammad's attitude toward his wifes true or false? Give the reasons of your opinion!*
LOT 6 **(Creating)**	Creating a new material out of the memorized material, the understood material, the applied material, the analyzed material and the evaluated material; creating a new meaning; creating a new way of understanding; creating a new perspective	*Generate!* *Make!* *Formulate!* *Build!* *Create!* *Invent!* *Recreate!* *Remake!* *Construct!*	*Collect vocabulary about dormitory and dormitory life, then create categories out of the vocabulary based on certain criteria!*

The list was used by the present researchers to determine which exam questions were in the HOTS category and which were in the LOTS category. The 44 (forty-four) KMI subjects, comprising 132 (one hundred thirty-two) sheets of examination question, were examined one by one to determine which were in the HOTS category, then tallied, tabulated, and compared between 2021, 2022, and 2023. A comparison of the three years revealed that the number of KMI exam questions classified as HOTS rose year after year, as seen below:

Table 2. Number of HOTS Exam Question Per Year.

Subjects	Year 2021	Year 2022	Year 2023
Biology	HOTS = 0	HOTS = 0	HOTS = 0
Islamology	HOTS = 4	HOTS = 9	HOTS = 9
Comparative Religions	HOTS = 8	HOTS = 8	HOTS = 8

Subjects	Year 2021	Year 2022	Year 2023
Chemistry	HOTS = 0	HOTS = 0	HOTS = 0
English Dictation	HOTS = 16	HOTS = 10	HOTS = 10
Arabic Dictation	HOTS = 7	HOTS = 7	HOTS = 9
History of Islam	HOTS = 5	HOTS = 0	HOTS = 0
Al-Quran	HOTS = 0	HOTS = 0	HOTS = 0
Geography	HOTS = 2	HOTS = 4	HOTS = 4
Arithmetics	HOTS = 0	HOTS = 0	HOTS = 0
Applied Arabic Grammar	HOTS = 6	HOTS = 6	HOTS = 6
Arabic Calligraphy	HOTS = 0	HOTS = 0	HOTS = 0
Faraid	HOTS = 7	HOTS = 7	HOTS = 9
Sociology	HOTS = 4	HOTS = 7	HOTS = 7
Arabic Writing	HOTS = 7	HOTS = 15	HOTS = 9
History of Arabic Literature	HOTS = 0	HOTS = 4	HOTS = 4
Arabic Language	HOTS = 3	HOTS = 3	HOTS = 3
Translation	HOTS = 19	HOTS = 19	HOTS = 19
Hadith	HOTS = 12	HOTS = 3	HOTS = 16
Sharf	HOTS = 6	HOTS = 2	HOTS = 8
Didactics & Pedagogics	HOTS = 15	HOTS = 25	HOTS = 23
Arabic Grammar	HOTS = 11	HOTS = 7	HOTS = 20
Psychology	HOTS = 6	HOTS = 10	HOTS = 7
English Grammar	HOTS = 13	HOTS = 13	HOTS = 22
Introduction to Hadith	HOTS = 0	HOTS = 2	HOTS = 3
Maths	HOTS = 0	HOTS = 4	HOTS = 6
Indonesian History	HOTS = 4	HOTS = 2	HOTS = 9
Kepondokmodernan	HOTS = 5	HOTS = 7	HOTS = 6
Arabic Rhetorics	HOTS = 3	HOTS = 8	HOTS = 9
Ayat al-Ahkam	HOTS = 0	HOTS = 0	HOTS = 0
Ulum al-Quran	HOTS = 0	HOTS = 0	HOTS = 4
Fiqh	HOTS = 19	HOTS = 18	HOTS = 18
Tawhid	HOTS = 0	HOTS = 0	HOTS = 0
Logics	HOTS = 8	HOTS = 8	HOTS = 9
Indonesian Language	HOTS = 7	HOTS = 7	HOTS = 11
Civic Education	HOTS = 16	HOTS = 16	HOTS = 10
Tafsir	HOTS = 1	HOTS = 1	HOTS = 8
English Writing	HOTS = 5	HOTS = 5	HOTS = 10
Physics	HOTS = 0	HOTS = 0	HOTS = 2
Ushul Fiqh	HOTS = 7	HOTS = 7	HOTS = 8
English Reading	HOTS = 10	HOTS = 10	HOTS = 25
Mahfuzhat	HOTS = 5	HOTS = 5	HOTS = 15

Subjects	Year 2021	Year 2022	Year 2023
Arabic Reading	HOTS = 0	HOTS = 0	HOTS = 0

According to the table above, the subjects which never entered the HOTS category (Never HOTS) numbered 8 (19% of the total 44 subjects), whereas the subjects whose number of HOTS questions dropped (Decreasing HOTS) were 6 (14%). The subjects whose number of HOTS questions increased substantially (Increasing HOTS) were 19 (45%), while the subjects whose number of HOTS questions remained stable, fixed, or did not rise (Steady HOTS) during three years were 9 subjects (**Figure 1**). Biology, Chemistry, Al-Quran, Arithmetic, Calligraphy, Ayat al-Ahkam, Tawhid, and Arabic Reading (*Muthala'ah*) are not included in the HOTS category. Meanwhile, the following subjects had less HOTS questions: English Dictation, History of Islam, Arabic Writing (*Insya'*), Psychology, Civic Education (*PKN*), and Kepondokmodernan. Islamology (*Din al-Islam*), Comparative Religion (*al-Adyan*), Geography, Applied Arabic Grammar (*Kasy al-Mu'jam*), Sociology, History of Arabic Literature (*Tarikh Adab al-Lughah*), Arabic Language (*Tamrin al-Lughah*), Translation (*Tarjamah*), and Fiqh are among the subjects whose the number of HOTS questions should be increased.
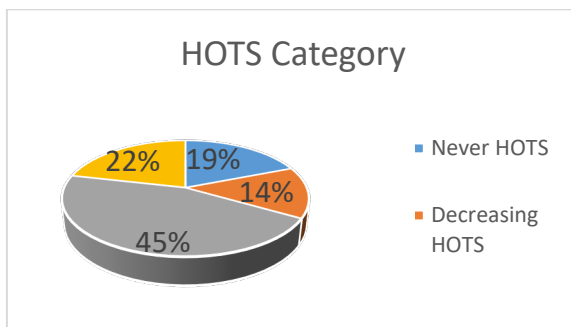

Figure 1. Subjects Including HOTS Exam Questions.

According to the results above, disciplines that should include HOTS questions, such as Biology, Chemistry, Al-Quran, Arithmetics, Calligraphy, Ayat al-Ahkam, Tawhid, and Arabic Reading, do not. This discovery is surprising because the teachers who teach these courses have been trained and instructed by senior teachers on how to construct HOTS questions, based on the previous researcher's interview result.

As a triangulation, some interviews were undertaken by the present researchers to determine why they did not include the HOTS exam question in the exam sheet they wrote. The result of the interviews is as follows:

Table 3. Reasons of Excluding HOTS Exam Questions.

Subject	Lack of Expertise	Uncertainty	Not Understand
Biology	L = 7	U = 7	N = 0
Chemistry	L = 7	U = 7	N = 0
Al-Quran	L = 12	U = 12	N = 0
Arithmetic	L = 7	U = 7	N = 0
Calligraphy	L = 5	U = 5	N = 0
Ayat al-Ahkam	L = 5	U = 5	N = 0
Tawhid	L = 7	U = 7	N = 0
Arabic Reading	L = 12	U = 12	N = 0

The interview findings above reveal that all of the teachers who did not design HOTS exam questions understood they were unable of doing so and were unsure of their ability to do so, despite the fact that none of them did not comprehend the Revised Bloom's Taxonomy; this corresponded the study by Singh & Marappan (2020) and by Barak & Shakhman (2008) that most teachers who did not include HOTS questions in their examination sheets felt the lack of expertise (Singh & Marappan, 2020) and uncertain that they had capability in making the kind

of questions (Barak & Shakhman, 2008). Like Mitana (2018) who found out that using Revised Bloom's Taxonomy could cultivate HOTS question frequency in examination questions (Mitana et al., 2018), the present writers discovered that the use of the taxomony should be followed by more intensive trainings. This discovery can be used by senior teachers to conduct longer and more intensive training or workshops on how to create HOTS test questions, ensuring that no more teachers are unable to create HOTS test questions and that no teachers are unsure of their ability to create them.

The teachers of Pondok Modern Tazakka, amounting to 62 (sixty two) people, who had problems of including HOTS test questions in 8 (eight) subjects above-mentioned shared the similar problems with their colleagues in other institutions. The study conducted by Ahmad Ali et.al. found out that lecturers in some universities faced difficulties in developing HOTS questions in Biology, with only 33% being very capable (Ali et al., 2021), while the study by Herunata et.al. discovered that the implementation of HOTS questions in summative examinations in Chemistry is still limited, with one study finding only 12.50% of test questions containing HOTS elements (Herunata et al., 2020). This is also the case with Arabic writing or Calligraphy. Raswan et.al. found out many Arabic teachers still struggled with developing HOTS questions, indicating a need for specialized training in this area (Raswan et al., 2022). Similarly, a study by Muhajir & Hidayat on Ayat al-Ahkam test in the Fiqh field of study found that questions were predominantly at lower cognitive levels due to the lack of teachers' expertise (Muhajir & Hidayat, 2023). Sholiha et.al. also found in their research, while some Arabic Reading (*Muthala'ah*) have implemented HOTS

cognitive level tests, there is still limited use of such instruments (Sholiha et al., 2023). However, challenges remain in developing and implementing HOTS questions since there had been many *Muthala'ah* teachers lack understanding of HOTS questions and require specialized training (Raswan et al., 2022).

The small percentage of exam question complained by Narwianta (Narwianta et al., 2019), as a matter of fact, can be increased when teachers are given more intensive training on strategies to cultivate HOTS (Barak & Shakhman, 2008) and on technical abilities to nurture the skills (Mitana et al., 2021), as shown in this study that 45% out of 44 tested subjects contained more HOTS examination questions than the rest, with a dramatic increase of teachers' capability of making HOTS exam questions as a positive result of intensive training by senior teachers on how to make HOTS test questions. This was reinforced by studies by some researchers, such as Prasetyo & Nurhidayah (2021) who found that HOTS questions could be successfully implemented in Biology exams; it was found that 95% of analyzed Biology exam questions were HOTS-type, featuring stimuli such as pictures, case fragments, diagrams, and tables (Prasetyo & Nurhidayah, 2021). Halimatus Sya'diyah (2024) found that the use of the PBL (problem-based learning) method effectively improved these cognitive skills and learning outcomes in Al-Quran subject (Halimatus, 2024). Ernawati (2023) also found that Maths teachers successfully increased the number of HOTS exam questions for junior high school students using the Rasch model analysis (Ernawati, 2023). Moreover, in the context of Islamic education, an analysis of final exams for Islamic studies subjects, including Tawhid, revealed the presence of some HOTS questions, although they were not

explicitly designed as such (Ahmad & Sukiman, 2019). Furthermore, an examination of the State Islamic Religious Higher Education entrance test (UM-PTKIN) found that Tawhid test had already contained HOTS category questions (Huriyah et al., 2020).

This study, on the other hand, contradicted the result of the study conducted by Ahmad Iqbal & Sukiman in 2019 which found that the majority of exam questions assess lower-order thinking skills, primarily focusing on remembering and understanding, according to Bloom's taxonomy (Ahmad & Sukiman, 2019) and that the subjects with the most questions meeting the HOTS characteristics were Fiqih, followed by Tawhid and History of Islam (Ahmad & Sukiman, 2019). Two years later on (2021 through 2023), apparently, it was found by this study that 45% of 44 subjects already contained HOTS exam questions and that Tawhid test questions contained nil HOTS test questions; History of Islam test questions contained decreased number of HOTS test questions (14% out of 44 subjects tested); while Fiqh test questions contained steady number of HOTS test questions. Further, the subjects of Dirasah Islamiyah found lack of HOTS test questions by Ahmad Iqbal & Sukiman in 2019 increased dramatically two years later on, from 2021 to 2023; Faraid, Ulum al-Quran, Tafsir, and Ushul Fiqh test questions raised substantially in number thenceforth. On the other hand, this study confirmed Halimatus Sya'diyah's study (2024) that the lessons begun with a question or problem (or the PBL, in Syadiyah's term) would successfully foster and cultivate HOTS within students' selves, with an 81.7% success rate in implementing the variables in Pesantren Wahid Hasyim Puger

in Jember (Halimatus, 2024) and 45% success rate in Pondok Modern Tazakka.

The decrease of number of HOTS exam questions in the fields of English Dictation, History of Islam, Arabic Writing (*Insya'*), Psychology, Civic Education (*PKN*), Kepondokmodernan occurring in Pondok Modern Tazakka found in this study by the present researchers showed the main role played by senior teachers as supervisors. Supervisors play a crucial role in enhancing teachers' ability to develop Higher Order Thinking Skills (HOTS) exam questions. They create harmonious relationships, analyze needs, develop strategies, and assess teacher performance (Hosnan, 2020). Supervisors employ participative methods, including direct guidance and Focus Group Discussions, to improve teachers' competence in creating HOTS-based assessments (Setyowati et al., 2023). They provide training on learning evaluation systems and assist teachers in drafting HOTS questions (Maryani & Martaningsih, 2020). Regular supervision by school supervisors in teacher organizations has been shown to significantly improve mathematics teachers' ability to design HOTS-based questions (Budi & Junaini, 2018). The supervisory process involves planning, implementation, and evaluation stages, with supervisors addressing challenges and providing solutions to overcome obstacles in developing HOTS questions (Budi & Junaini, 2018). Overall, supervisors are instrumental in guiding and supporting teachers to effectively incorporate HOTS in their exam questions.

In contrast with the finding in Fauzi & Baroroh's study (2023) that *Sharf* test did not promote higher-level thinking (Fauzi & Baroroh, 2023), this study found that *Sharf* tests did

promote HOTS on condition that *Sharf* teachers had former intensive trainings on how to make HOTS test questions. Also, in comparison with the findings in Aisyah's study (2023) which showed that 75% of the questions in 12 exam sheets containing 550 questions in Pesantren Buntet Cirebon were categorized as low-level thinking, primarily focusing on remembering and understanding, with very few assessing higher-order skills like evaluating and creating (Aisyah, 2023), the study conducted by the present researchers found only 55% of the questions in 132 exam sheets were categorized as LOTS test questions, with 45% of the all questions were as HOTS, in Pondok Modern Tazakka.

Confirming the finding of Ardiansyah's study (2018) that implementation of HOTS in pesantren education was one of strategies to counter radicalism and to promote a more moderate Islamic perspective (Ardiansyah, 2018), this study found that radicalism could never be studied, let alone be taught, in pesantrens which required HOTS exam questions as school policy since it would be criticized, then eliminated and finally deleted before it was written in test sheets.

All in all, despite pesantrens still struggling to implement HOTS-based instructions as found in Tata's study (Tata, 2023), more open possibility in implementing it has been developing since the 2021s; as showed in Yuliana et.al.'s study (2024), there has been a growing emphasis on fostering critical and creative thinking among students in modern pesantrens (Yuliana et al., 2024).

CONCLUSION

While studies by Fauzi & Baroroh at Pesantren Darussalam Yogyakarta (2023), Aisyah at Pesantren Buntet Cirebon (2023), and Iqbal & Sukiman at Pondok Modern Tazakka (2019) indicated that integrating HOTS-categorized exam questions in pesantren exams is challenging, this study demonstrates that it is not (45% success rate), as it was successfully implemented in exams at Pesantren Wahid Hasyim Puger Jember (Halimatus Sya'diyah 2024), Pondok Pesantren Darussalam Kunir Subang (Yuliana 2024), Pesantren Tebuireng Jombang and Pondok Modern Gontor Darussalam Gontor Ponorogo (Tata 2023), and Pondok Modern Tazakka starting in 2021 under the special condition that the PBL method of teaching was followed in every subject, that every lesson started with a challenging question, and that the supervisors—senior master teachers—effectively fulfilled their crucial role in instructing junior teachers on how to construct HOTS exam questions for the exam sheets and making sure that a greater proportion of the exam questions fell into the HOTS category than the LOTS category.

Moreover, all KMI subjects have the potential to develop and instill HOTS in students, provided that the educational institution mandates that all teachers use HOTS-based teaching in every lesson and that the KMI Office develops, implements, and oversees a quality assurance system for exam questions that are categorized based on HOTS. To guarantee that all subjects are taught in the context of intensive HOTS cultivation and that no teacher is left believing that they lack the intelligence or confidence to write HOTS exam questions, supervisors' role must also be strengthened and maximized. This will ensure that no subject is taught that does not contain HOTS questions, that

the number of HOT questions in every subject is constant, and that no subject is taught that does not contain HOTS exam questions. With all of these in place, it is quite feasible and successful to create HOTS questions in any subject of study, including the sciences taught in pesantren curriculum.

However, the research's weakness is that it does not address several aspects, such as santris' ability to answer questions with HOTS categories, the effectiveness and efficiency of training and workshops organized by the KMI Office, and the impact of HOTS questions in KMI exams on santri's lifestyle and behavior, all of which require further investigation and have not been explored and covered in this study.

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