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TEACHERS' STRATEGIES AND CHALLENGES IN IMPLEMENTING HIGHER-ORDER THINKING SKILLS (HOTS) IN EFL READING INSTRUCTION: A CASE STUDY OF AN INDONESIAN SENIOR HIGH SCHOOL

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ABSTRACT

This study explores the implementation of Higher-Order Thinking Skills (HOTS) in reading instruction at the senior high school level, focusing on teachers' practices and the challenges encountered during the learning process. A qualitative descriptive design was employed, involving one English teacher at SMAN 1 Kabila selected through purposive sampling. Data were collected through semi-structured interviews, one month of classroom observations across seven learning sessions, and documentation, and were analyzed using an interactive model consisting of data reduction, data display, and conclusion drawing. The findings reveal that HOTS was implemented through structured lesson planning, open-ended questioning, differentiated instruction, and interactive learning activities. Three HOTS dimensions were identified in classroom practice: analyzing, evaluating, and creating. Students demonstrated analyzing skills by interpreting information and examining relationships between ideas, evaluating skills by justifying opinions with logical reasons and responding to alternative viewpoints, and creating skills by generating new ideas and products based on the texts they read. The study also identified major challenges, including differences in students' abilities and learning styles, as well as limited instructional time for facilitating higher-order thinking activities. This study contributes to HOTS implementation research by providing empirical evidence of how HOTS is enacted in classroom reading practices and by highlighting the instructional strategies and challenges experienced by teachers in fostering higher-order thinking in EFL reading contexts.

Keywords: *Higher-Order Thinking Skills, Reading Comprehension, Qualitative Study, Teaching Strategies, Classroom Challenges*

Introduction

In 21st-century education, fostering students' critical and creative thinking skills is one of the primary goals of the learning process, particularly in language learning (Adelisa & Edy Mulyono, 2025). Higher-Order Thinking Skills (HOTS), which include the ability to analyze, evaluate, and create, are essential competencies that enable students to process information in depth and apply their knowledge in various contexts. In reading instruction, the integration of HOTS is expected to enhance students' abilities not only in literal comprehension but also in interpreting, evaluating, and critically constructing meaning (Umam et al., 2022). In addition, critical thinking is one of the key competencies in 21st-century learning because it enables students to analyze information, evaluate arguments, and make rational decisions (Raj et al., 2022). Therefore, integrating higher-order thinking skills into learning is essential for preparing students to face real-world challenges (Wigati et al., 2023).

The importance of HOTS has been widely emphasized in educational practice, including in Indonesia (Nurmaharaeni et al., 2022). The implementation of HOTS-based learning has been reported to improve student reading and critical thinking skills(Aziz & Rawian, 2022). Students who participate in HOTS-based learning activities tend to demonstrate better analytical skills and a deeper understanding of the text (Silalahi et al., 2022). In addition, the integration of HOTS into English language instruction at the secondary school level also makes a significant contribution to the development of students' higher-order cognitive skills (Ratnam et al., 2025). Reading is not merely the process of understanding a text

literally, but also involves the process of constructing meaning through the interaction between the reader and the text (Cirstea, 2025). This indicates that reading instruction should encourage students to engage in higher-order thinking, such as interpreting, evaluating, and reflecting on information from the text (Tasrif, 2022). However, the implementation of HOTS in reading instruction still faces various challenges (Syafryadin et al., 2021). Previous studies have shown that many teachers struggle to effectively apply HOTS in the classroom. These challenges include limited understanding of the HOTS concept, a lack of professional training, limited learning resources, and limited instructional time (Astrid et al., 2022). In addition, teachers often focus more on completing the curriculum and meeting learning objectives than on developing students' higher-order thinking skills, so the implementation of HOTS has not yet been fully optimized (Faradella et al., 2024). This indicates that the implementation of HOTS is influenced not only by theoretical conceptual understanding but also by actual classroom conditions and teachers' readiness to manage the learning process. Several previous studies have investigated the implementation of Higher-Order Thinking Skills (HOTS) in English language learning. Research has shown that HOTS-based instruction can enhance students' critical thinking and reading comprehension skills. In addition, many studies have focused on the development of HOTS-based questions, instructional materials, assessment instruments, and learning media designed to promote higher-order thinking (Hamzah et al., 2022).

These studies have contributed significantly to the advancement of HOTS-oriented learning and have demonstrated its effectiveness in improving students' learning outcomes. However, despite the growing body of research on HOTS, most studies have primarily focused on instructional products and learning outcomes rather than examining how HOTS is actually implemented in classroom practice (Aziz & Rawian, 2022). Research that specifically investigates how teachers facilitate analyzing, evaluating, and creating skills during reading instruction remains limited. Furthermore, studies exploring teachers' classroom practices, questioning techniques, instructional strategies, and challenges in implementing HOTS in authentic EFL reading classrooms are still relatively scarce, particularly at the senior high school level in Indonesia. As a result, there is still limited understanding of how HOTS is translated from theoretical concepts into everyday teaching practices. To address this gap, the present study explores the implementation of HOTS in reading instruction from the perspective of an English teacher at a senior high school. By examining classroom practices, instructional strategies, and challenges encountered during the implementation process, this study provides a deeper understanding of how HOTS is enacted in an Indonesian EFL reading classroom. The findings are expected to contribute to the existing literature by extending the discussion beyond instructional products and learning outcomes toward the actual implementation of HOTS in classroom practice, while also offering practical insights for English teachers seeking to foster higher-order thinking skills through reading instruction.

Method

This study employed a qualitative approach using a descriptive research design (Creswell, 2012). The qualitative approach was selected to obtain an in-depth understanding of how Higher-Order Thinking Skills (HOTS) are implemented in reading instruction at the secondary school level. The study focused on exploring the teacher's understanding, instructional strategies, classroom practices, and challenges related to the implementation of HOTS in reading activities. The study was conducted at SMAN 1 Kabila and involved one English teacher as the research participant. The participant was selected through purposive sampling based on their responsibility for teaching tenth-grade students and their involvement in reading instruction. The focus on tenth-grade students was considered relevant because they are in a transitional stage from junior high school to senior high school, where they are expected to adapt to more complex learning demands, including the development of higher-order thinking skills. Therefore, investigating the implementation of HOTS at this level was expected to provide valuable insights into how critical and higher-order thinking skills are fostered in the classroom.

Data were collected over approximately one month in February 2026 through semi-structured interviews, classroom observations, and documentation. The interview was conducted once before the classroom observations and lasted approximately 20–30 minutes. It consisted of ten semi-structured questions designed to explore the teacher's understanding of HOTS, instructional strategies, and challenges encountered during implementation. The interview was audio-recorded to ensure the accuracy of the collected data and was subsequently transcribed for analysis. Classroom observations were conducted across seven tenth-grade classes (X-1 to X-7). Due to the school

schedule and the availability of reading-related lessons, each class was observed for one to two meetings, with each observation lasting approximately two hours. The observations focused on how the teacher implemented HOTS during reading instruction, particularly in facilitating students' abilities to analyze, evaluate, and create. Attention was also given to classroom interactions, questioning techniques, and learning activities designed to stimulate students' higher-order thinking.

Documentation was used as supporting data to strengthen the findings obtained from interviews and observations. The documentation sources included teaching modules, interview records, and observation records. These documents provided additional evidence regarding the planning and implementation of HOTS in reading instruction. The research instruments were developed based on the HOTS indicators in the revised Bloom's Taxonomy, namely analyzing, evaluating, and creating. These indicators served as the foundation for developing the interview guidelines and observation sheets, enabling the collected data to be systematically categorized according to the targeted HOTS dimensions. Data were analyzed using the interactive model proposed by (Miles et al., 2023), which consists of data reduction, data display, and conclusion drawing. Following data collection, the interview recordings were transcribed, while observation notes and documentation were organized systematically. The data were then coded and categorized according to the HOTS indicators of analyzing, evaluating, and creating. After the coding process, patterns and themes were identified and interpreted to generate the study findings. To enhance the credibility of the findings, data triangulation was employed by comparing information obtained from interviews, classroom observations, and documentation. The use of multiple data sources enabled the researcher to verify the consistency of the findings and strengthen the trustworthiness of the study.

Findings and Discussion

Teachers' Understanding of HOTS, Based on the interview findings, the teacher demonstrated a clear understanding of Higher-Order Thinking Skills (HOTS) as a learning approach that encourages students to think beyond simply finding correct answers. The teacher explained that HOTS requires students to think critically, provide reasons for their responses, and develop their own ideas during the learning process. HOTS was therefore understood not merely as a theoretical concept but as an approach that should be integrated into classroom practice to promote deeper thinking and active student engagement. Previous studies have also emphasized that teachers' understanding and competence in HOTS play a significant role in the successful implementation of higher-order thinking in classroom instruction (Riza et al., 2024). In the context of reading instruction, the teacher emphasized that a literal understanding of the text is not sufficient to achieve optimal learning outcomes. Students need to be encouraged to connect the information in the text with their personal experiences, provide reasons for their answers, and consider various possible interpretations. This view is consistent with (Aziz & Rawian, 2022), who highlighted that higher-order thinking in reading comprehension involves analyzing, evaluating, and creating meaning from texts rather than merely recalling information. Thus, reading is no longer viewed as a process of finding the correct answer, but rather as a process of understanding, evaluating, and reflecting on the content of the text in greater depth.

In addition, the teacher recognized that the quality of questions and the management of classroom discussions play a crucial role in fostering students' thinking skills. Open-ended questions that require explanations and reasoning are considered more effective than closed-ended questions that only require brief answers because they encourage deeper cognitive engagement and higher-order thinking. This finding is supported by (Wang, 2025), who emphasized the importance of structured questioning strategies in promoting students' logical, critical, and creative thinking during English reading instruction. This understanding serves as the foundation for designing lessons that provide students with opportunities to think more actively and critically (Aznar-Mas et al., 2023).

Implementation of HOTS in Reading, The implementation of HOTS in reading instruction is evident from the planning stage through to classroom implementation. Teachers formulate learning objectives that focus not only on literal comprehension of the text but also on students' ability to analyze information, compare ideas, and express their opinions on the content of the reading material. This planning serves as the foundation for guiding the learning process so that it does not stop at the level of basic comprehension (Akbar et al., 2025). Based on the interview and classroom observation findings, the teacher explained that HOTS was implemented through open-ended questions that encouraged students to think more deeply about the text and relate it to their own perspectives and experiences. The teacher

attempted to create learning situations in which students were required not only to understand the content of the text but also to analyze and justify their responses (Muhamad Syafiqul Humam & Muh. Hanif, 2025).

"If you were Malin Kundang's mother, what would you do to Malin Kundang?"

This question encouraged students to analyze the situation presented in the story from different perspectives. In addition to providing answers, students were required to explain the reasons behind their responses. The classroom observation revealed that students expressed various viewpoints and supported their opinions with logical explanations. This finding indicates that students were actively engaged in higher-order thinking processes rather than simply recalling information from the text. This finding is consistent with (Wang, 2025), who emphasized the importance of questioning strategies in promoting critical thinking during reading instruction. The implementation of HOTS was also evident in procedure text lessons. After students read and understood a procedure text about making a healthy broccoli juice, the teacher encouraged them to use the information from the text as a basis for generating new ideas and products.

> "After students learn how to make a healthy broccoli juice, I ask them to create a similar product using different ingredients and explain its benefits."

Based on the classroom observation, students developed various healthy drink ideas using different ingredients while maintaining the structure of the original procedure text. In other learning activities, students were also encouraged to modify food recipes by creating different combinations of sauces or seasonings from the examples provided. These activities provided opportunities for students to apply information from the text and transform it into new ideas and products. This finding demonstrates that reading instruction was not limited to comprehension but also enabled students to use textual information as a foundation for generating new ideas and products (Aziz & Rawian, 2022). Through the use of open-ended questions and text-based creative activities, HOTS was meaningfully integrated into reading instruction. These findings indicate that reading activities provided opportunities for students to engage in analyzing, evaluating, and creating, which are essential components of higher-order thinking skills (Kosasih et al., 2022).

HOTS Levels in Classroom Practice The implementation of Higher-Order Thinking Skills (HOTS) in reading instruction can be observed not only in the final outcomes achieved by students but also in the learning process that takes place in the classroom (Nurmaharaeni et al., 2022). This process reflects how students are actively engaged in understanding, processing, and constructing meaning from the texts they read. Thus, reading instruction no longer focuses solely on finding correct answers but rather on how students develop understanding through deeper thinking processes (Riswanto, 2022). In practice, the application of HOTS is reflected in various learning activities that encourage students to identify information, compare ideas, make judgments, and develop new ideas based on the texts they read (Adzidzah & Yudiawan, 2024). Through these activities, students do not merely act as recipients of information but also as individuals who actively process, interpret, and develop their understanding of the text. Based on these findings, the implementation of HOTS in reading instruction can be analyzed through three main cognitive levels: analyzing, evaluating, and creating. These three aspects are used to examine the extent to which students engage in higher-order thinking during the learning process. Therefore, the following discussion outlines how each of these aspects manifests in classroom teaching practices.

Analyzing, At the analyzing stage, students were encouraged to identify important information, understand relationships between events in the text, and interpret the meanings conveyed in the reading material. Based on the interview findings, the teacher explained that analytical skills were developed through questions that encouraged students to examine events from different perspectives and provide reasons for their opinions. Through this approach, students were expected not only to understand the content of the text but also to explore the relationships between ideas and situations presented in the reading.

> "If you were Malin Kundang's mother, what would you do to Malin Kundang?"

The question was given after students had read and understood the story of Malin Kundang. According to the teacher, this type of question encouraged students to look beyond the surface meaning of the story and consider the situation from another perspective. Rather than focusing solely on the plot, students were encouraged to think about the characters' actions, the circumstances surrounding those actions, and the possible responses to the situation presented in the text. Based on the classroom observation, students were not only asked to answer the teacher's question but were also required to explain the reasons behind their responses. This activity

encouraged students to examine the situation described in the story and consider different possible responses based on their understanding of the text. During the learning process, students actively engaged with the content of the story and attempted to connect information from the text with their own perspectives. These findings indicate that students were involved in a deeper level of thinking than simply recalling information from the text. They were encouraged to identify relationships between events, actions, and consequences within the story, as well as to interpret the meaning conveyed by the text. Through this process, students developed a more comprehensive understanding of the reading material by breaking information into smaller parts and examining how those parts were connected.

In line with the "analyzing" level in the revised Bloom's Taxonomy, this skill emphasizes the process of breaking down information into smaller parts and understanding the relationships between those parts (Anderson & Krathwohl, 2001). In addition, analytical reading skills include the ability to identify main ideas, distinguish important information, and interpret meanings that are not explicitly stated in the text (Matsunaga, 2024). Thus, the learning activities conducted by the teacher demonstrate that the "analyzing" indicator has been effectively implemented in the reading instruction process. Evaluating At the evaluating stage, students were encouraged to make judgments about situations presented in the text and provide reasons to support their opinions. Based on the interview findings, the teacher explained that evaluating skills were developed through questions that required students to make decisions and justify their responses. Through this approach, students were encouraged not only to express their opinions but also to explain the reasoning behind their judgments.

> "If you were Malin Kundang's mother, what would you do to Malin Kundang?"

Although the same question was used in the analyzing activity, the cognitive focus was different. In the analyzing stage, students were encouraged to understand and interpret the situation presented in the story. In contrast, at the evaluating stage, students were required to make judgments about the situation and determine what they considered the most appropriate action. Thus, the same activity could facilitate different levels of HOTS depending on the thinking processes involved during the learning process. Based on the classroom observation, students were not only asked to provide answers but were also required to explain the reasons behind their choices. During the learning process, the teacher provided follow-up questions to encourage students to clarify and defend their opinions. This activity gave students opportunities to reconsider their thinking and reflect on the decisions they made based on their understanding of the text. These findings indicate that students were engaged in evaluating information before reaching a conclusion. Rather than simply accepting information from the text, students were encouraged to consider different possibilities, justify their viewpoints, and support their decisions with logical reasoning. As a result, students developed more reflective and structured arguments based on their understanding of the reading material. This finding is consistent with the evaluating level in the revised Bloom's Taxonomy, which emphasizes making judgments based on specific criteria and supporting evidence (Anderson & Krathwohl, 2001). Furthermore, the ability to provide evaluations accompanied by clear reasoning reflects students' engagement in higher-order thinking and critical thinking processes (Resnick, 2023). Activities such as these also involve critical thinking skills, which require students to carefully evaluate information before drawing conclusions (Shalikhah & Nugroho, 2023). Therefore, the learning process provides students with opportunities to develop more reflective and argumentative thinking skills in understanding texts.

Creating, At the creating stage, students were encouraged to generate new ideas and products based on the information obtained from the texts they read. Based on the interview findings, the teacher explained that creating skills were developed through activities that allowed students to develop their own ideas while still using the information provided in the text as a foundation. Through these activities, students were expected not only to understand the content of the reading material but also to use it as a basis for producing something new.

> "After students learn how to make a healthy broccoli juice, I ask them to create a similar product using different ingredients and explain the benefits of those ingredients."

Through this activity, students were not only required to understand the procedures presented in the procedure text but were also encouraged to develop their own ideas based on the information they had learned. The teacher gave students the freedom to choose different ingredients and explain the benefits of the products they created. Therefore, students did not merely imitate the example provided by the teacher but

also developed new ideas based on their understanding of the text. Based on the classroom observation, students were able to generate various healthy drink ideas using ingredients different from those presented in the example. In other learning activities, students also developed food recipes by modifying ingredients, sauces, or seasonings from examples they had previously studied. These activities demonstrated that students used information from the text as a basis for producing new products and ideas relevant to the learning context. These findings indicate that students no longer functioned solely as recipients of information but also as creators of ideas. The information obtained from the text served as a foundation for developing new ideas that reflected their creativity and understanding. Through this process, students were given opportunities to explore different possibilities and produce outcomes that differed from the examples provided by the teacher. This finding is consistent with the creating level in the revised Bloom's Taxonomy, which emphasizes the ability to generate new ideas, products, or solutions based on existing knowledge (Anderson & Krathwohl, 2001). Furthermore, the ability to develop ideas and produce new products demonstrates that students not only understood the information presented in the text but were also able to apply and extend that information in different contexts. Therefore, the findings of this study indicate that the creating aspect of HOTS was implemented through activities that encouraged students to generate new ideas and products based on information obtained from the text.

Challenges in Implementing HOTS, Although HOTS has been implemented in reading instruction, its implementation still faces several challenges. Based on the interview findings, the teacher explained that one of the main challenges was the diversity of students' abilities and learning styles. This condition required the teacher to adapt instructional strategies to ensure that all students could participate in learning activities and engage in HOTS-based tasks effectively.

> "It is difficult to select materials and strategies that suit all students because they have different abilities and learning styles."

Differences in students' abilities were reflected in the way they responded to the teacher's questions and assignments. Some students were able to understand questions and provide responses quickly, while others needed more time to comprehend the instructions and the content of the reading texts. These differences became a challenge for the teacher in ensuring that all students could actively participate in the learning process. In addition to differences in students' abilities, limited instructional time also became a challenge in implementing HOTS. The teacher explained that reading instruction in English required sufficient time for students to understand the content of the text before engaging in higher-order thinking activities. In practice, activities involving analyzing, evaluating, and creating required more time than those focusing solely on basic comprehension. As a result, the teacher needed to manage classroom time effectively to ensure that the learning objectives could still be achieved.

To address these challenges, the teacher implemented differentiated instruction by adapting learning approaches to students' needs. Students who experienced difficulties were provided with additional guidance and support before being introduced to more complex tasks. This strategy helped students build their understanding gradually and enabled them to participate more effectively in the learning process. Based on the classroom observation, the teacher also used group discussions as a strategy to support the implementation of HOTS. During the procedure text lesson, for example, students worked in groups to design healthy drink products using ingredients different from those presented in the example. Through these discussions, students had opportunities to exchange ideas, share their understanding, and develop ideas collaboratively before presenting their work. This activity helped students who experienced difficulties learn from their peers and increased their participation in classroom learning. These findings indicate that the implementation of HOTS depends not only on instructional design but also on the teacher's ability to adapt strategies to students' characteristics and classroom conditions. The teacher functioned not only as a provider of knowledge but also as a facilitator who supported students in developing higher-order thinking skills through approaches that met their learning needs.

Overall, the challenges in implementing HOTS demonstrate that successful instruction is influenced not only by the use of HOTS-oriented activities but also by the teacher's ability to manage differences in students' abilities, limited instructional time, and classroom dynamics. Therefore, flexibility in selecting and adapting instructional strategies plays an important role in supporting the effective and sustainable implementation of HOTS.

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