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Higher Order Thinking Skills: Concept and Implementation in Learning

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Abstract

Kurikulum pendidikan modern menekankan pada pengembangan keterampilan abad 21, yang meliputi kemampuan berpikir kritis, kreativitas, kolaborasi, dan komunikasi. HOTS menjadi bagian integral dalam proses pendidikan ini untuk mempersiapkan siswa menghadapi tantangan global. Tujuan penelitian ini mencoba untuk mengelaborasikan konsep dan implementasi HOTS dalam pembelajaran. Metode penelitian yang digunakan ialah library research. Adapun hasil penelitian menunjukan, mengembangkan HOTS memberikan kemampuan bagi individu untuk mengambil keputusan yang lebih baik, menjadi pemikir yang mandiri, dan berkontribusi secara positif terhadap masyarakat. HOTS membantu individu untuk berpikir di luar batasan konvensional dan menjadi inovator dalam berbagai bidang. Implikasinya, dengan pemahaman yang mendalam tentang konsep dan komponen HOTS, serta strategi dan metode pengajaran yang tepat, pengembangan HOTS dapat diimplementasikan secara efektif

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INTRODUCTION

The background to the development of higher-order thinking skills (HOTS) stems from the need to prepare individuals to face the complex challenges of increasingly dynamic and technologically advanced global life, work, and society. The modern world of work demands more complex skills than in the past (Darmawati & Mustadi, 2023). Routine and manual jobs are increasingly being replaced by automation and technology. Therefore, individuals need to have critical, creative, and analytical thinking skills to solve more complex problems.

The rapidly evolving information and communication technology is changing the way we interact, learn, and work. With very wide access to information, individuals need to have the ability to evaluate, analyze, and synthesize information effectively (Utami dkk., 2017). The modern educational curriculum emphasizes the development of 21st-century skills, which include critical thinking, creativity, collaboration, and communication skills. HOTS is an integral part of this educational process to prepare students for global challenges (Riberio, 2023).

Research in the field of education shows that the development of HOTS can improve long-term understanding and retention of knowledge. Bloom's Taxonomy theory, which classifies thinking skills from low to high levels (such as remembering, understanding, applying, analyzing, evaluating, and creating), is the basis for developing teaching strategies that focus on HOTS (Neswary & Prahani, 2022).

An increasingly globally connected world demands that individuals have high-level thinking skills in order to be able to compete in the global marketplace. HOTS is needed to understand and address complex global issues such as climate change, the global

economy, and other social issues. Developing HOTS provides the ability for individuals to make better decisions, become independent thinkers, and contribute positively to society. HOTS helps individuals to think outside conventional boundaries and become innovators in various fields (Sawu dkk., 2023).

Against this background, various educational institutions and training institutions began to focus on teaching and learning methods that promote the development of HOTS. This approach is expected to produce a generation that is better prepared to face future challenges with more advanced and adaptive thinking skills.

Research on learning Higherer Order Thinking Skills (HOTS) is very important because it has a significant impact on various aspects of education and individual development. Research on HOTS helps in designing more effective curricula and teaching methods. By understanding how HOTS can be taught and learned, educators can develop better strategies to improve students' critical, analytical, and creative thinking skills.

This research encourages innovation in teaching methods, including the use of technology and active learning approaches that can stimulate HOTS. Methods such as project-based learning, collaborative learning, and the use of interactive technology can be developed and evaluated through this research.

Developing HOTS is not only important for academic and professional success, but also for individual empowerment. Students who have high-level thinking skills are better able to make informed decisions, understand complex issues, and contribute positively to society.

Overall, research on HOTS learning is essential because it provides a scientific foundation for improving educational practice,

preparing students for a challenging future, and developing more critical, creative, and innovative individuals.

METHOD

The research method used in this study is *library research* with a qualitative research approach (Sugiono, 2015). Library research on Higherer Order Thinking Skills (HOTS) is a very useful approach to collect, analyze, and synthesize existing information from various sources.

The primary data sources include: scientific journal articles, academic books, dissertations, and research reports. Meanwhile, the secondary sources are in the form of review articles, conference papers, and materials from educational institutions or educational organizations. The data collection techniques used are observation and documentation, with qualitative data analysis data analysis.

RESULT AND DISCUSSION

Higherer Order Thinking Skills (HOTS) is a thinking skill that involves analyzing, evaluating, and synthesizing information (Hajaroh, 2022). In contrast to Lower Order Thinking Skills (LOTS) which include remembering and understanding basic information, HOTS requires individuals to process information in a more complex and critical manner. HOTS is essential in modern education because it prepares individuals to face complex challenges in life and the world of work.

Konsep Dasar Higher Order Thinking Skills

Higher Order Thinking Skills (HOTS) are higher-order thinking skills that involve analysis, evaluation, and creation (Muradi dkk., 2020). These skills go beyond basic thinking skills such as remembering

and understanding, and are considered essential for complex problem-solving, innovation, and effective decision-making.

HOTS is a thinking skill that involves critical thinking, creative thinking, and the ability to apply knowledge in new situations. It includes the ability to analyze, evaluate, and create something new based on a deep understanding (Thahir dkk., 2021).

One of the most well-known frameworks for understanding HOTS developed by Benjamin Bloom and his colleagues, this taxonomy classifies thinking skills into six categories, of which the three highest categories are part of HOTS are remembering (remembering information), understanding (understanding the meaning of information), applying (using information in new situations), analyzing (breaking information into parts and understanding its structure), evaluate (assess the value or quality of information or ideas), create (combine parts to form something new or original) (Intan dkk., 2020).

The main components of HOTS are analysis, evaluation, and creativity. Analysis is the ability to break down information into smaller parts to understand the structure and relationships between those parts (Dwijayanti, 2021). Meanwhile, evaluation is the ability to assess information or situations based on certain criteria and make informed decisions. Creativity is the ability to generate new, innovative ideas, or solutions to problems.

The importance of HOTS can help individuals in solving problems that do not have an immediate solution and require critical thinking (Asfiyah, 2021). In addition, it encourages the creation of new and innovative ideas that can bring positive change in various fields. Assists in making better and wiser decisions based on in-depth analysis and evaluation.

The form of HOTS development in Education has evolved in the form of learning methods and environments. Teaching that promotes HOTS often uses methods such as project-based learning, case studies, group discussions, and simulations (Kurniasih dkk., 2020). Meanwhile, an environment that supports the development of HOTS typically emphasizes critical thinking, provides intellectual challenges, and encourages exploration and experimentation.

The challenges in HOTS Teaching must be able to ensure that the curriculum includes adequate opportunities for HOTS development. Additionally, it provides the necessary training and resources for teachers to teach and evaluate HOTS effectively. Balancing the need for standardized assessments with the goal of developing higher-order thinking skills.

By understanding the basic concepts of HOTS, educators and policymakers can better design educational programs that focus not only on understanding and applying knowledge, but also on developing the analytical, evaluation, and creation abilities necessary for success in an increasingly complex and rapidly changing world.

Implementasi Higher Order Thinking Skills

The implementation of Higher Order Thinking Skills (HOTS) in education requires a systematic and strategic approach. The curriculum is planned to be able to ensure that learning objectives include the development of HOTS such as analysis, evaluation, and creation. Integrate HOTS into a variety of subjects, not just one specific subject (Hanik dkk., 2020).

It is also important to have a restrictive teaching strategy, such as project-based and problem-based. Project-Based Learning engages students in complex projects that require critical thinking, problem-solving, and collaboration (Aini & Putri, 2020). Meanwhile, Problem-

Based Learning exposes students to real problems that require analysis, evaluation, and creative solutions.

Project- and problem-based learning certainly encourages students to think critically and present evidence-based arguments. Using real cases to encourage students to analyze situations and develop solutions (Rinda Fauzian, M Gufron Fauzi, 2021). Meanwhile, it is just as important to use technology that is friendly to learning. Use software and applications that support HOTS, such as simulations, educational games, and online collaboration tools. Guiding students in conducting online research to find, analyze, and synthesize information.

The collaborative approach is a hallmark of HOTS-based learning. Encourage cooperation and discussion between students to complete complex tasks (Sawu dkk., 2023). Create projects where students must work together to achieve a common goal, which requires a wide range of HOTS skills. In addition, it ends with an assessment that leads to higher-level thinking. Use assessments that reflect real-life situations and require high-level thinking, such as projects, presentations, and portfolios. Develop a clear rubric to assess aspects of HOTS, so that students understand the assessment criteria. Provide feedback that helps students understand strengths and areas that need to be improved in their thinking skills.

The implications of various activities implementing HOTS learning can certainly create a classroom culture that values questions, exploration, and experimentation (Thahir dkk., 2021). Encourage and support students to take intellectual risks and face challenges. Students develop projects that integrate various disciplines to solve complex problems. Students conduct independent research on topics that interest them, then present their findings. Using simulations and role-

playing to help students understand and explore situations that require higher-order thinking.

By implementing these strategies, educational institutions can be more effective in developing higher-order thinking skills in students, preparing them to better face future challenges.

HOTS Assessment and Evaluation

Assessment and evaluation of Higherer Order Thinking Skills (HOTS) is a complex process that requires a diverse and comprehensive approach. The goal is to measure the extent to which students are able to analyze, evaluate, and create ideas or solutions based on the knowledge they have.

Assesses students' ability to plan, develop, and complete projects that require higher-order thinking. In addition, a collection of student work that shows their progress and achievements in various aspects of HOTS (Asfiyah, 2021; Intan dkk., 2020).

The assessment in the form of performance-based is an assessment of students' ability to present information clearly and critically, and answer questions well. Assess students' ability to apply knowledge and skills in real or simulated situations. Meanwhile, in addition to evaluating it is important to also provide specific and constructive feedback on the strengths and areas that need to be improved in students' thinking skills. Individual meetings between students and teachers to discuss progress and strategies for improvement.

By applying these various assessment and evaluation methods, educators can gain a more accurate picture of students' HOTS abilities and provide more effective support for the development of those skills.

CONCLUSION

Higher Order Thinking Skills are essential skills that must be developed in modern education. With a deep understanding of the concepts and components of HOTS, as well as appropriate teaching strategies and methods, the development of HOTS can be implemented effectively. Clear indicators and comprehensive assessment methods are also needed to measure and evaluate students' progress in developing these higher-order thinking skills. The importance of HOTS can help individuals in solving problems that do not have an immediate solution and require critical thinking. In addition, it encourages the creation of new and innovative ideas that can bring positive change in various fields. Assists in making better and wiser decisions based on in-depth analysis and evaluation.

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