

HIGH ORDER THINKING SKILLS IMPLEMENTATION POLICY

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Abstract

Studies This investigate about Implementation Policy *High Order Thinking Skills* (HOTS) in infrastructure education national. Purpose from studies This is For analyze compilation policy, strategy implementation, and obstacle in HOTS implementation in institutions Education. Methodology study use approach qualitative with studies library. Findings from studies This show that government has to compose policy For integrating HOTS into in curriculum, teaching process, and system evaluation. Implementation strategy covering revision standard competence, development focused teaching materials on HOTS, as well as training for teachers, Challenges identified main is difference understanding between educators, limitations source power, and absence agreement to change method conventional teaching. Study This conclude that success implementation HOTS policy requires approach attached which includes strengthening teacher capacity, adjustment system evaluation, and connection sustainable from parties related.

Keywords: *Policy, Implementation, High Order Thinking Skills*

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INTRODUCTION

In the context of human development as an ever-evolving creature, high-level thinking skills or *High Order Thinking Skills* (HOTS) are a crucial aspect that distinguishes humans from other living creatures. The anthropological perspective emphasizes that humans, as subjects and objects of education, have extraordinary cognitive potential to be developed. The human ability to analyze, evaluate, and create which is the core of HOTS not only reflects the complexity of the human mind, but also becomes real evidence of human adaptability to the increasingly complex challenges of modern life.

The implementation of HOTS in education raises ontological questions about the nature of knowledge itself. In this context, knowledge is no longer viewed as a static entity that can be passively transferred, but rather as a dynamic construction that requires active involvement from the thinker. HOTS policy recognizes that reality and truth are often contextual and can be interpreted from various perspectives. Thus, the development of HOTS is not only aimed at improving cognitive abilities, but also at forming a deeper understanding of the complexity of reality and the role of humans in constructing knowledge. This approach is in line with the ontological view that emphasizes the interconnectivity between the thinker, the thinking process, and the reality that is thought about.

From an epistemological perspective, the implementation of *the High Order Thinking Skills* (HOTS) policy reflects a paradigm shift in understanding the process of

knowledge acquisition and validation. Epistemology, as a branch of philosophy that studies the theory of knowledge, questions how we know what we know and how we can ensure that our knowledge is valid. In this context, HOTS is not only seen as a collection of cognitive skills, but as a fundamental approach to the construction and evaluation of knowledge. The HOTS policy recognizes that knowledge is not something that is passively received, but is actively constructed through critical thinking, in-depth analysis, and creative synthesis. This is in line with the epistemological view of constructivism which emphasizes the active role of individuals in constructing their understanding of the world.

RESEARCH METHODS

Study This use method studies library , which is technique data collection through review sources written like books , journals , articles , and relevant documents with Topic research (Zed, 2014). In context policy implementation of High Order Thinking Skills (HOTS), study library done with analyze various literature related policy education , documents curriculum , report research , and article scientific that discusses about HOTS and its implementation in system education . **Method** This chosen Because allow researcher For to obtain comprehensive understanding about development HOTS policies , the theories underlying them , and practices best in its implementation in various context education (Creswell & Creswell, 2018).

Study process library in study This involving a number of stage systematically . First , identify And collection relevant sources using keywords such as "HOTS", " policy" education ", and " implementation curriculum " from various academic databases And repository institutional . Second , screening and selection source based on criteria inclusion And exclusion that has been set , such as relevance with topic , year publications , and credibility source . Third , analysis content to sources selected For extracting information key related HOTS policy , strategy implementation , and challenges faced . Finally , synthesis findings For identify themes main , trend , and gap in existing literature (Snyder, 2019). **Approach** This allow researcher For build strong argument And give runway solid theoretical For analysis policy HOTS implementation .

RESULT AND DISCUSSION

Results

Results studies library show that HOTS implementation in learning at school has become focus main reform education in various country . Brookhart (2010) identified that HOTS implementation correlates positive with improvement ability think critical , creativity , and breakdown problem student . Analysis to curriculum in several country proceed like Singapore , Finland and Australia show integration HOTS systematic to in standard learning And assessment (Tan & Halili , 2015). However , studies comparative study conducted by Zohar & Alboher Agmon (2018) revealed existence gap significant between policies that support HOTS and practice actual in class , especially in developing countries develop .

Study more carry on disclose a number of factor key in success implementation of HOTS in schools . First , development sustainable teacher professionalism And effective is element critical , as expressed by Darling-Hammond et al. (2017) in their longitudinal study . Second , design explicit curriculum integrating HOTS into in objective learning And activity class proven more effective compared to separate approaches (Miri et al., 2007) . Third , the use of technology And approach learning based on project can in a way significant increase application of HOTS , as shown in

meta- analysis by Hattie (2009). However , Retnawati et al. (2018) found that many teachers still experience difficulty in designing And apply effective assessment For measuring HOTS.

Challenge main in identified HOTS implementations through studies library This includes : resistance to change from for stakeholders interest , lack of understanding deep about HOTS among educators , limitations source Power And training , as well as pressure For fulfil standard tests that are often not in line with HOTS principles (King et al., 2015). Although Thus , some studies case show success HOTS implementation through a whole-school approach that involves collaboration between administrators, teachers, students , and parents (Voogt & Roblin , 2012) . More further , analysis policies implemented by Schleicher (2019) in The OECD report emphasizes importance harmony between policy education , development curriculum , teacher training , and system evaluation For support effective HOTS implementation And sustainable in schools .

Discussion

Understanding *High Order Thinking Skills*

Higher Order Thinking Skill (HOTS) is the ability to think critically, logically, and creatively which is included in high-level thinking skills. HOTS or high-level thinking skills are thinking skills which are not only remembering, but also require other higher skills, namely critical and creative thinking skills.

HOTS is not a subject, nor is it an exam question. According to Abduhzen, HOTS is the ultimate goal achieved through learning approaches, processes and methods (Sofyan, 2013). HOTS skills are thinking processes that require students to develop ideas in a certain way that gives them new understanding and implications.

According to Thomas and Thorne HOTS is a higher way of thinking than memorizing, stating facts, formulas and procedures. Resnick also argues that HOTS is a complex thinking process in describing material, making conclusions, building representations, analyzing and building relationships by involving the most basic mental activities (Jailani, 2018).

Meanwhile, according to Andreson and Krathwol, high-level thinking (HOTS) can be divided into six stages, namely remembering, understanding, applying, analyzing, evaluating, and creating. They describe HOTS starting from low-level thinking to high-level thinking, so that educational goals can be achieved (Raiha, 2021).

Based on the several definitions above, the author concludes that HOTS is a high-level thinking skill that students must have. Which not only tests memory skills, but also creativity, analysis, and evaluation, and emphasizes the importance of critical thinking to solve problems.

Implementation of *High Order Thinking Skills Learning*

High Order Thinking Skills (HOTS) or Higher Order Thinking Skills are thinking skills that are more than just memorizing facts. HOTS involves the ability to analyze information, evaluate ideas, and create new solutions. In modern education, teaching HOTS is very important because it can help students deal with complex problems in the real world. According to Brookhart (2010), HOTS includes critical, logical, reflective, metacognitive, and creative thinking skills. All of these skills are important to prepare students for future challenges.

To implement HOTS in the classroom, teachers need to change the way they teach. It is not enough to just provide information to students, teachers must encourage students to think more deeply. This can be done by asking challenging questions, giving problem-solving tasks, and encouraging in-depth class discussions. Anderson and

Krathwohl (2001) suggest that teachers design learning activities that focus on higher cognitive levels such as analyzing, evaluating, and creating, rather than just remembering and understanding.

HOTS assessments are also different from regular assessments. Rather than simply testing students' memory, HOTS assessments should test students' ability to use their knowledge in new situations. This could be a project, an essay, or an open-ended problem-solving task. King et al. (2013) emphasize the importance of providing students with detailed feedback on their thinking process, not just the final answer. In this way, students can learn how to improve their thinking skills.

Although HOTS is important, implementing it in schools is not always easy. Many teachers find it difficult to teach and assess HOTS, especially if they are used to traditional teaching methods. Zohar and Dori (2003) found that some teachers were concerned that HOTS was too difficult for low-achieving students. However, research shows that all students can benefit from HOTS learning if taught in the right way. Therefore, it is important for schools to provide training and support to teachers in implementing HOTS in their classrooms.

In the implementation of HOTS learning, there are 3 things, namely reviewing information critically, creating students' creative power, and improving problem-solving skills.

First, reviewing information critically, so in this HOTS learning process the teacher conducts apperception to stimulate students in developing student-level thinking skills and make students feel interested in responding to the apperception given. Teachers are certainly familiar with the term apperception when learning activities take place. Apperception is basically a preliminary learning activity with the aim of raising students' learning motivation. The apperception given by the teacher here is in the form of pictures, videos, or case examples which will then be responded to or criticized by students regarding the content and form of what is displayed. The results of this study are in accordance with the opinion of (Fisher, 2009) "critical thinking as an active process, where someone thinks about everything in depth, asks questions, finds relevant information rather than waiting for information passively. So students do not just sit and wait for explanations from the teacher but students are invited to review or study more deeply related to the information given.

Second, creativity. Creativity is a person's ability to produce something new, either in the form of ideas or real works that are relatively different from what has existed before. that to create students' creative power, namely through observation, making reports, making essays. So here the teacher asks students to produce something new. in line with the opinion (BALGA, 2019) regarding "creative thinking includes the ability to draw conclusions, study natural conditions and events through observation, experiments to find out facts, concepts, and discovery processes". Furthermore, students are presented with a problem that must be solved through their own observations or research and find the answer themselves, from here the teacher can see whether the research report is in accordance with the report format or not.

With this creativity will help students to gain ideas, understanding, experience, skills and thinking abilities and be able to apply them in everyday life and can be accounted for. Related to this in line with the opinion (Rohaeti, 2008) to become a creative person someone must collect as much information as possible, come up with

many ideas, find the best combination of those ideas, decide which is the best combination and take action.

Third, namely improving students' ability to solve problems. One way to improve students' ability to think highly, educators must facilitate students to become better thinkers and problem solvers is by providing a problem that allows students to use high-level thinking skills. Namely through discussion, so the teacher raises a problem then discusses it together, then students are required to find out for themselves what the root of the problem is or what the solution to the problem is. from the results of the study in line with Piaget's constructivism theory "knowledge will be meaningful if the process is sought, found by the students themselves, not the result of being given by others including teachers" (Mishra, nd) Furthermore, through debate, by raising an issue divided into 2 camps, namely pro and con. Furthermore, the teacher provides the opportunity to convey their respective arguments. After that, the teacher unites students' perceptions to obtain alternative problems, so that there is no debate (Sumiarti et al., 2018). From here it can be seen how students provide arguments about the problems being faced, solve problems, and are able to convey alternative problems or conclusions well.

HOTS Learning Models

Higher Order Thinking Skills must be improved by teachers through the right approach and model that can trigger students' thinking skills. The implementation of a scientific approach and some educational models such as problem-based learning, project-based learning, discovery learning, and cooperative learning, are opportunities for teachers to practice educational activities at the HOTS level .

1. *Problem Based Learning* (Education Based on Problems)

Problem based learning is an approach that uses real-world problems as a context for students to learn about critical thinking methods and problem-solving skills to gain essential knowledge from learning modules (Maya Agustins, 2018: 166).

2. *Project Based Learning* (education based on project)

Project Based Learning is an educational teaching that focuses on the main concepts and principles of a discipline, involves students in problem-solving activities and other meaningful tasks, provides students with the opportunity to work autonomously to construct their own learning, and ultimately creates valuable and realistic student work products (Ngalimun, 2012: 185).

3. *Discovery Learning* (education based on findings)

Discovery learning is a part of education that is centered on learners, learners are expected to be active and independent in their learning process, who are responsible and take the initiative to meet their learning needs, create data sources to be able to respond to their needs, build and present their knowledge based on the sources they find (Sri Indarti, 2019) is an educational process that occurs when learners are not presented with education in its final form, but learners are expected to organize it themselves (Cheni, 2018: 2).

4. *Cooperative learning*

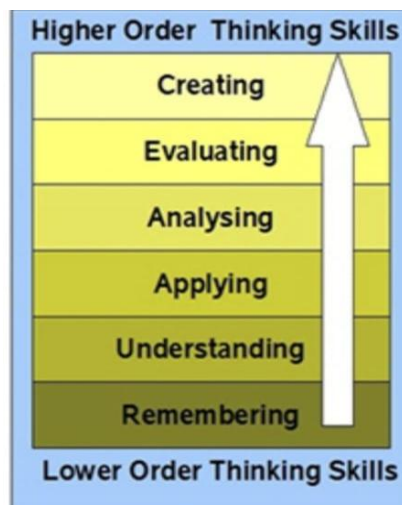
Cooperative learning is defined as an educational model that emphasizes collaborative activities of students in terms of learning in the form of small groups to achieve the same goals by using various learning activities to improve student skills in mastering lesson modules and solving problems collectively. Each member not only learns the modules that have been taught but also helps other members to learn. The *cooperative learning method* is an educational method that focuses on the use of small groups of students to collaborate in optimizing learning conditions to achieve learning goals (Syahraini, 2017: 3).

Bloom's Taxonomy

The word taxonomy is taken from the Greek 'tassein' which means 'to group' and 'nomos' which means 'rules'. Taxonomy can be interpreted as a grouping of something based on a certain hierarchy (level) (Wowo Sunaryo, 2011: 8). In Bloom's Taxonomy of improvement, HOTS is a cognitive skill at the level of implementation, analysis, assessment, and innovation (Indra Mulyaningsih, 2018: 117).

Higher order thinking skills are not only analyzing, evaluating and creating, but also include the process of creating (inquiry), critical thinking, and problem solving (Nurris Septa, 2015: 106). Markers for measuring Higher Order Thinking Skills include analytical skills (C4), evaluating (C5), and producing (C6) (Nailur, 2018: 150).

The following are the levels of cognitive growth in Bloom's taxonomy (Deri Hendriawan, 2019: 183):



1. Remembering

Remembering or knowledge here is the memory of the module or material that has been studied. This includes the ability to remember data universally and broadly and be able to recite what has been learned. In the cognitive domain, knowledge is a very low level of educational outcomes. The verbs used to describe tasks include: what, who, when, where, determine, describe, mention, etc.

2. Understand (*Understanding*)

The meaning that is meant is the skill to capture the meaning of a module or data that is studied. This skill can be demonstrated by translating and changing the module that is studied into another form. This skill also involves the skill to be able to predict events that may arise as a result or consequence of a condition (Adi W Gunawan: 183).

3. Applying

Applying here means the skill to use or practice the module or data that has been learned into a new and concrete condition by only finding a little direction. This includes the application of a provision, concept, procedure and theory to solve a problem.

4. Analyzing

Analysis is the ability to break down or describe a module or data into smaller components that are easier to understand. At this level, our brain works hard to carry out the thinking process. This level is more complicated because students are aware of the thinking process they use and understand the content and structure of the lesson module. The educational outcomes of this level are greater intellectually than interpretation and application. The special characteristics of analytical thinking are linking logical thinking processes and reasoning including skills such as comparison, classification, sequencing, triggers/impacts, and patterns.

5. Evaluating

In terms of language, the word evaluation comes from the English word Evaluation which means evaluation (Anas Sudijono, 2016: 1). Assessment or evaluation is related to the expertise to determine the value of a module (calculating a statement, report, story, etc.) for a particular purpose. The evaluation attempted is based on standard and clear criteria. The educational outcomes at this level are a very large level in the cognitive hierarchy because they have covered all other levels.

6. Creating (*Creating*)

Creating or creating relates the process of arranging elements for a coherent or functional totality. For Kwartolo, the level of creation refers to the expertise of student participants in combining various data and their development so that a new form is formed. Not only that, it is also shown by expertise in designing, building, producing, creating, perfecting, strengthening and beautifying. While Kuswana said, creating is putting parts together into an inspiration, all interconnected to create good results. So creating is the final process in improving Bloom's taxonomy where students have the highest cognitive level, so they can mix all the knowledge they have (Kwartolo Yuli, 2012: 71).

Bloom's Taxonomy is a framework used to classify levels of thinking difficulty. Bloom's Taxonomy is divided into 6 levels, namely remembering, understanding, applying, analyzing, evaluating, and creating. The remembering, understanding, and applying levels are included in the Lower Order Thinking Skills (LOTS) category, while analyzing, evaluating, and creating are included in the Higher Order Thinking Skills (HOTS) category. HOTS involves high-level thinking skills such as analyzing, assessing, and creating.

There is a positive correlation between Bloom's taxonomy and HOTS. The levels of thinking in Bloom's taxonomy that include HOTS such as analyzing, evaluating, and creating involve students' critical, creative, and reflective thinking skills. Teachers can use Bloom's taxonomy in designing indicators and allocation of learning time that are appropriate to the level of difficulty of thinking. Thus, Bloom's taxonomy can help teachers in designing learning that is able to develop students' high-level thinking skills or HOTS.

CONCLUSION

Implementation High Order Thinking Skills (HOTS) policy in system education is step important For increase quality learning at school . HOTS encourages student For think more in , analyzing information in a way critical , and solve problem with creative . Policy This aiming For prepare student face challenges in the world increasingly real complex . With develop ability think level high , expected student No only capable remember fact , but Also can apply knowledge they in various situation new .

HOTS implementation requires change significant in method teach And evaluate students . Teachers need to adopt method more teaching interactive And challenging , like learning based on project , discussion deep , and breakdown problem open . Assessment Also must customized For measure ability think level high , not just test memory . Although HOTS implementation can face challenges , such as need teacher training and adjustment curriculum , benefits term length for development student very big .

Finally , success HOTS policy depends on support from all party in system education . Government need provide source Power And adequate training . School must create supportive environment development skills think level high . Teachers need to Keep going increase ability they in teach HOTS. Parents And public Also play a role important in support the learning process this is outside school .

SUGGESTIONS

Researching influence term long from HOTS policies in various ASEAN countries, Identifying practice best , and offer outlook For repair policies in Indonesia.

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