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Strengthening the critical thinking skill through the six-hat thinking model in pancasila education

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ABSTRACT

This study aims to provide a comprehensive analysis of the implementation of Pancasila learning with the goal of improving critical thinking skills through the application of the six thinking hats model. The research adopts a descriptive approach utilizing qualitative methods. The study was conducted at the Faculty of Engineering, Universitas Negeri Yogyakarta. The participants were selected using purposive techniques based on specific criteria and considerations to ensure the collection of targeted information. Specifically, the research focused on students enrolled in the Manufacturing Engineering Class D. Data collection for this study involved the use of observation, interviews, and documentation techniques. To ensure data validity, triangulation techniques were employed by the researchers. Data analysis followed an interactive model based on the framework developed by Miles and Huberman, encompassing data reduction, data presentation, and conclusion drawing. The six thinking hats learning model significantly improved students' critical thinking skills and character values. This approach enables students to approach problems from multiple perspectives, becoming more responsive to social issues and navigating real-world challenges. These fosters heightened awareness of societal matters, enabling students to contribute meaningfully to social progress.

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1. INTRODUCTION

In higher education, Pancasila education initiatives to develop young citizen in addition to a sense of nationalism but also cultivate the soft skills and character needed to succeed in the workplace. However, student misery when presented with Pancasila information that should have been obtained at the previous level of education is one of the barriers to the application of Pancasila in higher education [1]. This is exacerbated by the educators lack of imagination when it comes to delivering Pancasila education, which includes employing traditional teaching methods much too frequently, theorizing overly frequently, and not integrating the content to actual societal issues [2]. Critical thinking is a way of thinking about a matter, substance, or problem in which the thinker improves the quality of thinking by skillfully dealing with the structure inherent in thinking and applying criteria to it, In other words, critical thinking is a skillful activity that is usually done for better or worse, and performs better or less well, and good critical thinking meets various intellectual criteria, such as clarity, relevance, coherence, appropriateness [3], [4].

In the learning process, students develop the ability to think critically and systematically, because thinking learning strategies are not well used in the learning process [5], [6]. Learning strategies have not been used appropriately in the learning process. In the current learning process, teachers are required to be active, effective, creative, and fun [7], for this reason, teachers must be creative in choosing approaches and learning models that are effective, creative and fun [8], [9]. Therefore, teachers must be creative in choosing approaches and learning models that are in accordance with the learning material provided, so that students do not feel taught.are capable of thinking; however, individuals who are content with their thinking often have less developed thinking abilities. Confusion presents a significant hurdle to human cognition, hindering clear thinking by inundating individuals with a multitude of factors to consider simultaneously, encompassing emotions, ideas, creativity, information, and logic, especially during practical thought processes. Typically, three main challenges arise: emotions, helplessness, and confusion itself. Emotions obstruct rational thinking by prompting reliance on instinctual responses, immediate hunches, and ingrained prejudices instead of deliberate reasoning when making decisions. Helplessness arises from a pervasive sense of inadequacy, undermining initiative and confidence in problem-solving. Meanwhile, confusion arises when attempting to process an overwhelming amount of information at once, resulting in cognitive disarray and impeding effective decision-making. Addressing these barriers is crucial for promoting clarity and efficacy in navigating practical challenges [10], [11].

This condition is also experienced by students in higher education environment, especially in manufacturing engineering students that they must have the ability to evaluate and analyze a case study of learning Pancasila education. Critical thinking is essential for effective teaching, as it requires students to evaluate and decide if something is acceptable noire [12]. This requires them to judge and think carefully before making their decisions and their options carefully as a result of this [13], [14]. Analyzing things has a tendency to employ mathematical logic, accordingly Pancasila learning is necessary to acquire critical logic. Tend to use mathematical logic in analyzing something so that critical logic needs to be developed through Pancasila learning [15], [16]. Through suitable learning methodologies, such as six hats thinking, Pancasila education courses may build and teach students critical thinking abilities. In order to meet the educational needs of learners in the twenty-first century, Pancasila education must be able to foster the development of creative, inventive, and collaborative thinking abilities [17], [18]. Today's reality is that most students are passive, preferring to sit silently and listen rather than analyzing or debating what they have learned. In order to identify learning alternatives on acceptable learning techniques, how to inspire students to be creative and confident, and how encourage critical thinking, educators must take the problem seriously [19].

Regarding this case a method is required to teach students how to think critically. This method will benefit learners not just in their educational pursuits but also in other areas of their lives where critical thinking is necessary [20], [21]. The six thinking hats method, a tool that is frequently used in the learning process, is applied in this study. Students should be able to think critically while analyzing societal issues, particularly those that are the subject of heated debate, according to the six thinking hats implementation [22]. It was necessary to provide them with direction and a framework so that they could better define the study's components [23]. Learners utilize color choices to make decisions. They must embrace the perspective required by the situation, akin to putting on a new hat. They need to analyze a topic thoughtfully and critically. The six thinking hats concept effectively guides learners' mental state and emotions, aligning with each other [24]. When students lack a clear strategy, they may feel lost, but employing various colors provides them with a simple framework to determine clear steps.

In consequence of this, there will be uncertainty since it might be challenging for learners to decide which factor should be taken in to consideration first. Therefore, the concept of the six different colors in the six thinking hats is a six-step cognitive strategy to assist learners in thinking critically, understanding an issue, and attempting to come up with fresh ideas [25]. Claiming that both individually and collectively, the six thinking hats are highly useful tools to aid in decision-making. Each of these colors black, blue, green, red, white, and yellow represents a philosophical and logical method for approaching fundamental problem-solving [26]. The effects of additional research support the rationale for employing the six thinking hats methods, supporting the claim that it may evaluate student performance in analysis using qualitative descriptive assessment.

2. METHOD

This study is descriptive research employing a qualitative approach. The primary objective of this research is to provide a comprehensive description of the implementation of Pancasila learning in the development of critical thinking skills. The descriptive method is utilized to accurately portray the data, employing sentences to describe intricate events and facts encountered in the field [27]. The research was conducted at the Faculty of Engineering, Universitas Negeri Yogyakarta. The selection of research subjects followed purposeful techniques based on specific criteria and considerations to obtain targeted information. The

research subjects consisted of students from the Manufacturing Engineering Class D. Data collection in this study was conducted through observation, interviews, and documentation techniques. To ensure data validity, the researcher employed the source triangulation technique by cross-checking and comparing the obtained data with other data sources that shared similar characteristics. The data obtained from observations, interviews, and documentation were subsequently analyzed using an interactive model based on the framework developed by Miles and Huberman, which involves data reduction, data presentation, and conclusion [28].

3. RESULTS AND DISCUSSION

3.1. Result

The six hats thinking models, learner can enhance their critical thinking skills in several ways. It encourages them to approach problems from different angles, consider multiple perspectives, and think both analytically and creatively. It also helps in reducing biases, improving decision-making processes, and fostering a collaborative thinking environment [29], [30]. Overall, the six hats thinking method can enhance critical thinking skills by providing a structured framework that guides individuals to explore different dimensions of a problem or decision [31]. The six hats thinking model strengthens critical thinking skills by promoting multidimensional thinking [32], [33], balancing emotions and logic, overcoming biases, fostering creativity, enhancing collaboration, and providing a structured approach to decision-making. Incorporating this model into various contexts, individuals can develop a more comprehensive and effective approach to critical thinking [34], [35]. By incorporating the six hats thinking model into Pancasila education, students can enhance their critical thinking skills by exploring Pancasila from different perspectives, analyzing its strengths and weaknesses, fostering empathy and creativity, and developing skills in objective analysis and collaborative thinking. This approach can deepen their understanding and appreciation of Pancasila principles while equipping them with critical thinking abilities applicable to various aspects of life. The result of observation phase in Table 1.

The first stage is to conduct an observation to assess the extent of problems occurring in manufacturing class D. This initial observation made by the author aims to observe the type of learning model being implemented by students in the classroom. Additionally, it examines the behaviors and characteristics that are present or absent in the class. In the classroom, it is evident that students are less active, and there is a lack of material that connects the Pancasila course with social life in society. The next stage involves determining which material will be analyzed by referring to the syllabus provided by the lecturer, in order to visualize an appropriate learning model for the students. It is noticeable that many students still display indifference and insensitivity when discussing social issues in their surrounding environment [36], [37]. This indicates a deficiency in students' social attitudes and necessitates a thorough review of this matter. During each meeting, four main themes will be explored, centering on social phenomena in the environment to assess students' awareness and involvement in social life. Additionally, the application of six thinking hats encompasses several aspects observed by researchers in the classroom, as outlined in Table 2.

Table 1. Result of the topics that will be addressed during each meeting

Meeting	Relevant cases
First Meeting	The phenomenon of online begging and its relation to Pancasila education
Second Meeting	The phenomenon of young people showcasing on social media
Third Meeting	The phenomenon of differing opinions during the 2024 political year
Fourth Meeting	The phenomenon of misallocated scholarships

Table 2. The step on using six thinking hats models

Thinking Hat	Statements
Black (Critical)	Assess critical steps in solving social issues
	Conclusions drawn from a critical perspective on social issues.
Red (Emotional)	How students feel when interacting with someone in need.
	How does emotion or compassion play a role in resolving social issues
White (Factual)	Identify important facts about the social issue under discussion.
	Compile relevant data and information for a comprehensive understanding of the social issue
Yellow (Optimistic)	What is student vision for potential solutions to resolve social issues.
	How confident are you that your actions can make a difference in solving social issues
	Creative ideas that can aid in solving social issues.
Green (Creative)	Various new ways or approaches to address social issues.
	How student process using various thinking hats to solve social issues
Blue (Process Control)	Contribution of each thinking hat in solving social issues.

3.2. Discussion

First meeting, the results were obtained in the form of student opinions regarding the phenomenon of online begging, analyzed through the lens of the six thinking hats [38]. However, the dominant hat that strongly emerged in this meeting was the red hat, which encompasses emotions and sentiments in responding to the case. Students predominantly expressed feelings of anxiety, disappointment, and concern for the younger generation affected by online begging cases. Emotions took precedence as students expressed their unwillingness to succumb to the current viral trend of online begging [39]. Notably, the yellow hat, representing optimism, was absent during this meeting. The characteristic of social concern evident at this stage was the students' sensitivity to viral cases, specifically online begging. They deliberated on their direct responses to the phenomenon, strategies to prevent further virality, and contemplated actions they could take in real life when encountering such situations.

From this first meeting, it can be concluded that the utilization of the six thinking hats model allows for the exploration of students' potential for critical thinking, specifically in the deductive reasoning stage [40], [41]. This category emphasizes drawing logical conclusions from general principles or premises by employing established rules and principles to arrive at specific conclusions [42], [43]. The focus of this meeting was on the case of online writing. Moving forward, the subsequent stage will involve assessing the hats that have not yet been utilized and maximizing their impact in the upcoming meeting, while also relating them to the value of Pancasila in everyday life.

From second meeting, it was observed that the phenomenon of young people showcasing on social media and its relation to Pancasila education received positive feedback. Students actively participated in discussing and answering questions related to the phenomenon. This enthusiasm stemmed from the previous meeting, where the topic for the current meeting was introduced, allowing students time to read news articles and prepare for the discussion using the thinking hats approach. The green hat, focused on finding solutions and determining actions, emerged as the dominant hat. While the other hats were present, the white hat's contribution was not clearly visible [9], [44].

During this stage, a sense of social responsibility developed among the students regarding their conduct as young individuals, urging them to exercise restraint and wisdom in uploading content on social media or their timelines. Utilizing the six thinking hats, individuals or groups can systematically approach problem-solving, analyze information from various perspectives, and make well-rounded decisions [45]. Each hat brings a unique thinking style, facilitating a comprehensive and balanced exploration of ideas.The students also recognized the importance of perceiving the phenomenon as a reflection of their self-image and becoming more attuned to community life [46], [47]. They acknowledged that certain behaviors, once considered unfavorable, are now encouraged due to the prevailing trend of sharing everything on social media. Critical reasoning skills were evident in their analysis of this phenomenon, and the thinking hat model facilitated critical, independent, and creative thinking [48].

Third meeting, it is evident that the white hat, which represents the collection of information, has been utilized effectively by students. They have been able to gather information about the upcoming political year. However, the blue hat, which pertains to managing information wisely, is also prominently present alongside the white hat. On the other hand, the black hat, which addresses concerns and critical judgment, appears but is not highly visible [7], [49]. In this case, the anticipation for next year's election is already being felt, even a year in advance. Students can observe and analyze various issues that arise during the political year, such as the proliferation of fake news, hate speech, political manipulation, and widespread black campaigns both online and offline. Additionally, students view the political year as an opportunity to learn about the Indonesian democratic process. Another characteristic that emerges in this case is the students' sense of social responsibility, which aligns with their overall social care character [50], [51]. As a result of this study, students have become more sensitive to societal issues and are equipped to take appropriate actions when they encounter them. They actively discourage others from being swayed by false information circulating on social media or within society itself.

In the fourth meeting, students demonstrated their ability to analyze the issue of misallocated scholarships using the six thinking hats approach effectively. The utilization of the six hats was commendable, as students employed the white hat to analyze information, expressed their emotions through the red hat, considered the drawbacks using the black hat, engaged in creative thinking with the yellow hat, explored solutions with the green hat, and made informed decisions using the blue hat [52]. The focus of their analysis was the phenomenon of scholarships being awarded to students who do not meet the intended criteria. It was observed that many students who are financially stable receive scholarships that are meant for those in need, and subsequently, they utilize the funds for purposes unrelated to their studies.

This situation highlights the significance of social responsibility. Students recognized the need to address this issue and provide feedback to the scholarship provider, namely the university [53]. They emphasized the importance of tightening scholarship regulations to ensure that deserving individuals are not overlooked [54], [55]. Moreover, they should be commended for their proactive approach as members of the

social community. They acknowledged their responsibility in taking appropriate action when they encounter students who are deserving of scholarships but have been overlooked. By doing so, they contribute to minimizing the recurrence of such incidents in the future.

4. CONCLUSION

Providing the appropriate learning model for students will have a significant impact on their academic and societal development. Educators play a crucial role in actively designing classroom learning experiences that are relevant to social issues prevalent in society. By incorporating these elements, students' social care can be enhanced. Social care, in this context, involves understanding and analyzing phenomena occurring in the community and its connection to Pancasila education within the learning process. Based on research findings and data analysis, it can be concluded that the implementation of the six thinking hats model, or the text-to-thinking model, in Pancasila subjects can effectively enhance and strengthen students' critical thinking skills. Moreover, it enables them to produce tangible outcomes such as podcasts or senior projects, which are further discussed in the course's final project. Throughout the four meetings, various positive behaviors and habits emerged as students engaged with the six thinking hats learning model. Additionally, critical thinking, disciplined thinking, and a sense of responsibility towards society were among the other characters that became evident. The success of this research is attributable to the supportive supervision and the active participation of students who collaboratively discussed, solved cases, and took tangible actions through the project as part of their implementation of the six thinking hats model.

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