



## Initial Needs Analysis of Media Development in Supporting Student's Critical Thinking Skills at SDN Kedungboto

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### **Abstract**

The result of this is that students' critical reasoning skills are not honed. The ability to think critically in children is very important as a provision for student growth and development. In this study, researchers used measuring instruments in the form of questionnaires, observation guideline sheets, and interview sheets. Through interviews, it is known that students have difficulty solving problems and the lack of interesting learning media during learning. Through observation, it is known that the atmosphere of the class is livelier and students are more enthusiastic when learning is done with electronic learning media. Questionnaires filled out by 68 students in grades IV-VI show that 95.6% of students like learning with electronic media, but teachers more often do learning using whiteboard media with a percentage of 61.8%. According to Latifa, et al (2022), "Interactive learning media has the potential to significantly boost the positive response of students to the learning material presented". While Jannah, et al (2022) also argued that, "Science teaching in elementary schools needs to keep up with the times because good education is education that always develops following the changing times". IPAS learning is learning that often requires logical thinking skills. Therefore, the development of this interactive media is suitable in IPAS learning.

**Keywords:** *Analysis; Media; Critical Thinking*

### **Introduction**

National education is defined as, "National education is education based on Pancasila and the 1945 Constitution of the Republic of Indonesia, which is rooted in religious values, Indonesian national culture and responsive to the demands of changing times" (Ikhwan. 2015, h:1). The understanding of national education has been refined and developed dynamically following the development of the times. This thinking is in line with the thoughts of Indonesia's leading educational figure, Ki Hajar Dewantara. "Ki Hajar has put forward two fundamental concepts that become the foundation of education, namely the Nature of Nature and the Nature of the Age" (Hussen. 2024, h:2). In educating children, the nature of nature and the times are important considerations so that children feel encouraged to learn and education will be meaningful and easily understood by children. Rafaek in Irianti (2024) suggests that, "The nature of the times needs to emphasize children's abilities, while in nature, namely each region has different characteristics".

Along with refining the meaning of national education, the national curriculum has also been refined from the 2013 curriculum to the independent curriculum. The independent curriculum requires students to have a Pancasila learner profile. According to Irawati, et al (2022) through the implementation of the Pancasila student profile policy, it is expected to be able to build the character of the Indonesian nation that is superior and able to compete globally.

In addition, according to Susilawati (in Setiyaningsih, 2022) the Pancasila student profile is one of the efforts to improve the quality of education in Indonesia which emphasizes character building. The Pancasila learner profile has 6 dimensions. Kahfi (2022) suggests that the six dimensions of the Pancasila learner profile are “faith in God, and noble character, global diversity, mutual cooperation, independence, critical reasoning, and creativity”. The profile of Pancasila students is the great hope of the Indonesian nation to welcome changes in the face of the Golden Indonesia 2045. Realizing Indonesian students who have all six aspects at once is not an easy thing, because the changing times make today's elementary school children belong to the alpha generation.

The alpha generation are children born after 2010. Arifah, et al (2018) revealed that, “They were born dan grew up during the rapid development of technology. Because that’s why since childhood, even since birth they have been used to intracting with cyberspace and the case of existing technology”. Seeing the current conditions, where students who are the alpha generation cannot be separated from technology, resulting in the dimensions of the Pancasila student profile starting to deteriorate. The sophistication of technology that has been attached to their lives, makes them become addicted to it. This has an impact on their mindset, where when doing assignments, they always use technology to find the answer, without understanding the process. The result of this habit is that students' critical reasoning skills are not honed. Critical thinking skills in children are very important. According to Bassham, et al (2010), “Critical thinking is the general term given to a wide range of cognitive skills and intellectual dispositions needed to effectively identify, analyze, and evaluate arguments and truth claims; to discover and overcome personal preconceptions and biases; to formulate and present convincing reasons in support of conclusions; and to make reasonable, intelligent decisions about what to believe and what to do”. At school, developing students' critical reasoning skills is the teacher's job. Teachers have various important roles in learning. According to Nuraida (2019) A teacher/learner must be able to create a challenging classroom atmosphere to facilitate the development of students' critical thinking processes. Looking back at the nature of the age of elementary school children, the use of technology-based learning media will be able to awaken students' critical reasoning skills.

According to Suminar (2022) in his research shows that, the application of interactive video MERRDEKA flow of bernoulli's law material can improve critical reasoning skills in class XI IPA students SMAN 10 Pontianak and improve understanding of the concept of Bernoulli's law. In addition, the use of interactive learning media creates effective learning, and teachers can also teach efficiently. Other benefits of using multimedia are also expressed by Riani, et al (2024) who argue that the use of interactive videos has a significant effect on improving students' critical reasoning skills. Arni, et al (2024) conducted research with the title, “The Effect of Interactive Learning Media on Improving Students Critical Thinking Skills” concluded that, “there is an effect of interactive learning media on improving students critical thinking skills”. Based on the above research and the problems faced by researchers at SDN Kedungboto, the researchers conducted research with the title, “Initial Needs Analysis of Media Development in Supporting Students' Critical Thinking Skills at SDN Kedungboto”. Through this research, it is expected to determine the type of learning media that can improve students' critical thinking skills at SDN Kedungboto.

## **Research Method**

This research is descriptive research. According to Rahmat (2020), description research is carried out through the steps of collecting, classifying, processing or analyzing data, making conclusions and reports with the aim of describing an objective situation in a description. In addition, according to Miller, et al (2022), “Qualitative descriptive research is ideal for studies that aim to provide straight descriptions of phenomena, with the aim being to describe phenomena of interest comprehensively and keeping closely to the words and meanings of participants”. This research was conducted at SDN Kedungboto, Porong Sub-district. Researchers sampled high grade students in grades IV, V, and VI, as well as all teachers who taught in the three grades.

In every research, there is always an instrument or measuring instrument used to obtain data. In this research, researchers used measuring instruments in the form of questionnaires, observation guideline sheets, and interview sheets. The first stage of data collection in this research is interviews. According to Black and Champion (in Fadhallah, 2020) interviews are defined as face to face conversations, where one party elicits information from the other. This instrument will be used to obtain data from educators to find out the development of students' critical reasoning skills as well as students' needs and interests in developing these reasoning skills. This interview combines open and closed interview techniques. Researchers will provide 10 main questions to all teachers who teach in grades IV, V, and VI, both subject teachers and guardians. However, if it is felt that the data from the 10 questions is insufficient, then the researcher can ask other questions to get more accurate data.

The second data collection is observation, according to Kawulich (2005), “Observation is the process enabling researchers to learn about the activities of the people under study in the natural setting through observing and participating in those activities”. When conducting observations, researchers use an observation guideline sheet. The observation guideline sheet is used to determine the continuity of the learning process. Observations were made in several lessons, in order to find out students' reasoning skills and their needs to develop these reasoning skills. Researchers took observation samples from classes VI, V, and VI.

According to Taherdoost (2022) “A questionnaire is an important instrument in a research study to help the researcher collect relevant data regarding the research topic”. A questionnaire contains a set of written questions to be answered by respondents. Looking back at the lives of elementary school children today, filling out a questionnaire can be done online or offline. This questionnaire was given to students in grade IV, grade V, and grade VI at SDN Kedungboto. The data obtained is then analyzed, processed, and a discussion is made and conclusions are drawn.

## **Results and Findings**

### **Interview Result**

In this research and discussion, the researcher will present the data from the questionnaires, interviews, and observations in the form of descriptions. Interviews conducted by researchers with several teachers who teach grades IV-VI at SDN Kedungboto yielded the following results:

1. Students are less enthusiastic in participating in learning if the teacher only uses the lecture and assignment method.
2. Students' ability to grasp the material taught is lacking, especially on material that is difficult to find in everyday life
3. Students have difficulty in solving problems or working on problems with logical reasoning
4. Students are very excited and enthusiastic when using learning media, because their curiosity arises
5. In accordance with the times, students are more enthusiastic if the media used is related to today's technology

Berdasarkan hasil wawancara tersebut diketahui bahwa kebutuhan siswa dalam mengembangkan kemampuan bernalarnya adalah adanya rangsangan yang dapat menumbuhkan rasa penasaran mereka. Media pembelajaran terutama media berbasis teknologi masa kini adalah cara utama yang dapat menumbuhkan rasa ingin tahu tersebut.

### Observation Result

Learning observations in classes IV, V, and VI yielded several results that researchers have summarized. The following is a summary of the results of learning observations in classes IV, V, and VI of SDN Kedungboto.

Table 1. Summary of Student Needs Observation Results

Activities observed	Learning using electronic learning media	Learning using non-electronic learning media	Learning without learning media
Student enthusiasm	Students are very enthusiastic to listen to the teacher's demonstration. Students are also enthusiastic to try the application or online game given by the teacher.	Students are very enthusiastic to listen to the teacher's demonstration, but when trying or observing the media, students are often bored.	Students are less enthusiastic in participating in learning, and more often talk to their friends
Classroom Atmosphere	Students actively ask questions if they do not understand the material or the use of the media. Students also actively try to use the media.	Students actively ask if they do not understand the material or the use of media. However, some students do not want to try it or do not want to try it.	Students are busy with their friends.
Students' ability to solve problems	Students seem eager to solve problems, especially if the problem is faced through electronic media, such as cell phones	Students are eager at the beginning of problem solving, but they get discouraged easily when they cannot solve the problem.	Students are very difficult in solving problems, because from the beginning of learning they are not enthusiastic
Student learning outcomes	Student learning outcomes improved considerably when evaluations were conducted with electronic media. Students were also eager to complete the evaluation and sometimes asked to repeat the evaluation.	Student learning outcomes are quite good. But the completion needs encouragement.	Students get unsatisfactory results on average.

Based on the summary of the results of observations made by researchers, we can know that electronic learning media is very helpful in increasing enthusiasm, as well as student learning outcomes.

### Questionnaire Result

The questionnaire is used to analyze student needs and is given in the form of a google form and distributed through the whatsapp group of classes IV, V, and VI at SDN Kedungboto. This questionnaire

contains several questions that students must fill in to find out their needs and desires in participating in learning. This questionnaire was filled in by 68 respondents. Through the results of filling out the questionnaire, the following data was obtained:

Table 2. Summary of Student Needs Questionnaire Results

Statement	Very Like / Very Often	Like / Often	Dislike/ Rarely	Dislike/ Never
The teacher explain on the withboard	61,8%	38,2%	0%	0%
The teacher use non-electronic media	51,5%	22,1%	20,6%	0%
The teacher use electronic media	0%	0%	73,5%	26,8%
I like electronic media	95,6%	4,4%	0%	0%
I like doing assignments through electronic media	88,2%	2,9%	8,8%	0%
I like doing written assignments	0%	13,2%	22,1%	64,7%
I like non-electronic learning media	4,4%	25%	66,2%	4,4%

The results of the questionnaire that has been filled in by students show that teachers more often use non-electronic learning media or only use the blackboard. This is different from students' greater interest when using electronic learning media.

Based on the summary of interviews, observation sheets and questionnaires. Researchers can find out that so far teachers often provide learning that is not in accordance with student interests. Learning is mostly done only by the lecture method by utilizing the blackboard. In fact, almost all students feel happy when learning is done with electronic media. Whereas elementary school students are currently the alpha generation who were born and grew up with technological sophistication, then according to the nature of the times, students cannot be separated from modern technology. Learning that overrides the nature of this age of students has an unfavorable effect on the growth and development of their abilities, especially students' critical reasoning skills. The ability to reason critically is one of the dimensions of the Pancasila student profile. Therefore, its development is very important for students.

Looking back at the results of the questionnaire that has been filled out by students in grades IV, V and VI of SDN Kedungboto, researchers know that the highest interest of elementary school students, namely 95.6%, expects learning using electronic media. In addition, regarding the problem of doing assignments, doing assignments using electronic media also gets the highest percentage, which is 88.2%. Some previous research on students' critical reasoning skills, in honing them, also used electronic media, especially using interactive learning media.

### Interactive Video Media

According to Latifa, et al (2022), "Interactive learning media has the potential to significantly boost students' positive responses to the learning materials presented". Interactive learning media can also help explain learning materials that are abstract to be more easily understood by students. IT-based interactive learning media is a learning media that is in accordance with the nature of today's students. Interactive learning media, is able to make students interact directly with the media, so that students can feel things that were previously difficult to find in the real world. This is in line with the thoughts of Arni, et al (2024) conducted research with the title "The Effect of Interactive Learning Media on Improving Students Critical Thinking Skills" concluded that, "there is an effect of interactive learning media on improving students critical thinking skills".

Jannah, et al (2022) also argued that, "Science teaching in elementary schools needs to keep up with the times because good education is education that always develops following the changing times".

IPAS learning should be done by presenting concrete objects. However, Wicaksono, et al (2022) argued that, “The utilization of concrete objects is not always easy to obtain, so it requires teacher creativity in managing appropriate and efficient learning media in achieving science learning objectives”. Learning IPAS with material that is not easily found in real life requires innovation in the form of using learning media that is in accordance with the nature of the students' times.

Arifah, et al (2018) revealed that, “They were born dan grew up during the rapid development of technology. Because that’s why since childhood, even since birth they have been used to interacting with cyberspace and the case of existing technology”. Interactive learning media is in accordance with the needs and nature of the students. Interactive video media will be developed through the powerpoint application by utilizing the hyperlink feature that can create movement between pages according to student interests. The content available in the interactive video will be designed to encourage students to think critically. At the end of the video, there will be a link for student assessment. This link will be connected to googleform. The assessment is designed with questions that require students' critical reasoning skills and work using electronic devices. This is in accordance with the wants and needs of students.

### **Conclusion**

Based on the results of the research that has been conducted, it can be concluded that elementary school students who are the alpha generation want learning using electronic media. While in reality, learning is often done with non-electronic media. This results in a lack of student interest, and results in a decrease in students' critical reasoning skills. The ability to reason critically is one of the dimensions of the Pancasila learner profile which is very important to develop for the future of students. The development of critical reasoning skills in schools should pay attention to students' interests to arouse their curiosity. Based on these data, researchers found that electronic media, in the form of interactive video media, can be a way to hone students' critical reasoning skills.

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