

CRITICAL REVIEWS OF IPAS LEARNING IN PRIMARY EDUCATION IN INDONESIA'S INDEPENDENT CURRICULUM

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Abstract

Learning Natural and Social Sciences (IPAS/*Ilmu Pengetahuan Alam dan Sosial*) in basic education has its benefits because it combines two sciences at once, namely science and social sciences. In reality, many dynamics are found in the learning process at school. For this reason, this study critically reveals the learning of IPAS in basic education in the *Merdeka* Curriculum. Researchers use qualitative research by using content analysis as the analysis technique. The results showed that IPAS learning has two essential elements, namely understanding IPAS theoretically and process skills in practice. IPAS learning must also implement three phases, from grade 1 to grade 6. Although it has many benefits, the reality is that there are challenges in the learning process, including teachers still depending on textual with the lecture method and very rapid curriculum changes that confuse teacher performance in teaching. The classroom environment is not entirely conducive. For this reason, stakeholders need to provide appropriate solutions, one of which is by giving many comprehensive teacher competency improvement programs.

Keywords: IPAS Learning, Primary Education, Merdeka Curriculum, Elementary School, Madrasah Ibtidaiyah

INTRODUCTION

Everyone realizes that a meaningful way to improve the welfare and civilization of the nation is through education. In Indonesian education, national civilization must be based on character education (Muna & Ichsan, 2022). Many elements need to be considered to improve the quality of education, such as teachers, students, media, learning strategies, and the curriculum applied in the learning process (Khasanah, 2015). The independent learning curriculum is a new curriculum designed to give learners the opportunity to learn calmly, without pressure, in a fun and stress-free way so that they can show their natural abilities. The independent learning curriculum emphasizes freedom and creative thinking (Hattarina et al., 2022).

The *Merdeka Belajar* Curriculum has shown promising results in increasing students' creativity and innovation and building their character well. It is understood that this method has improved learners' understanding of subject matter in schools (SD/MI) throughout Indonesia. However, problems remain, such as educational disparities due to differences in access and quality of distance learning. To ensure that every child has equal learning opportunities, educators, parents, and communities must work together to address these and other educational dynamics. After all, the tri-center of education remains the solution to overcoming the problems of education (Ichsan & Samsudin, 2019).

Based on the challenges, the *Merdeka* Curriculum also underwent innovations, namely the Pancasila Student Profile Strengthening Project (P5) and the Natural and Social Sciences (*Ilmu Pengetahuan Alam dan Sosial*/IPAS) subject. This IPAS is a combination of natural and social sciences. Scientific learning is related to aspects related to nature and social context. The learning process in the independent learning curriculum is divided into three stages: planning, implementation, and evaluation of learning (Maulydia et al., 2023).

IPAS is a field that encompasses both natural and social sciences, studying the world's organisms and non-living things, as well as their instincts, and analyzing human life as individuals and social beings interconnected with their environment. The IPAS learning process focuses on the part that helps realize the Pancasila Learner Profile as an ideal reflection of the profile of learners in Indonesia. IPAS encourages learners to distinguish themselves by exploring their interest in understanding what is happening around them. This interest can enable them to know how the universe works and its interaction with human life

on this planet. This knowledge can be used to recognize the challenges they face and find solutions to achieve the goal of possible improvements (Wahidah et al., 2024).

IPAS learning has a very vital role in improving the intelligence and creativity of students, especially in basic education (Elementary School / Madrasah Ibtidaiyah). IPAS is systematically designed to make the learning process interactive, inspiring, fun, and challenging and encourage active involvement. It also aims to support creativity, independence, and the psychological aspects of children. In addition, it is expected that children can hone their critical thinking, creative, and curiosity skills (Purwaningsih et al., 2024).

As a country with diverse cultures and local knowledge, it is expected that through IPAS, learners can explore and utilize the wealth of local knowledge in solving problems. Therefore, the main goal of teaching IPAS in basic education (SD/MI) lies not in how much material learners can understand but in the extent to which learners can use the knowledge they have. Considering that children at the elementary/middle school age tend to see things directly, as a whole, and integrated, the science and social studies lessons are combined into one subject, namely IPAS. This step is also taken because children at this age are still in the stage of thinking simple/concrete, holistic, comprehensive, and not detailed. The teaching and learning process in SD/MI should provide opportunities for students to explore, investigate, and expand their understanding of the environment around them (Aini, 2024). Therefore, it is essential to study natural phenomena and interactions between humans and nature and among fellow humans in this phase. It is because students in the *Merdeka* Curriculum are given the freedom to optimize all their potential in understanding natural and social phenomena in their environment (Ichsan et al., 2023).

There are at least several previous studies on IPAS learning conducted by researchers, including research from Miftakhur Rizki et al., who studied the implementation of IPAS in grade IV elementary schools. The results of his research show that learning planning has been done well up to the development of teaching modules. However, there are obstacles to the limitations of infrastructure and the condition of students with diverse backgrounds (Rizki et al., 2024). Other research also mentions that IPAS learning needs authentic assessment that includes cognitive, affective, and psychomotor aspects in the hope of providing a complete picture of students' progress (Cholifah et al., 2024). Another study explored the use of inquiry in IPAS learning in grade IV. Through this model, students can

increase their involvement in the learning process because they continue to be encouraged to be actively involved in discussions by linking scientific explanations (Wulandar et al., 2023).

Not only that, but the research of Rafi Ramadhan et al. shows that there are several challenges in the integrated learning of IPAS. So, teachers need some training in adjusting teaching materials to optimize the potential of learning in the classroom for the common good (Ramadhan et al., 2024). Finally, the research revealed how the use of varied learning media in IPAS subjects can increase the enthusiasm of students, both in class and outside the classroom. The results of his research encourage the availability of media in every school, especially in elementary schools in Indonesia (Ummah & Mustika, 2024). Therefore, from the various literature reviews above, no research has been found that scientifically discusses IPAS learning in the *Merdeka Belajar* Curriculum in basic education at present. For this reason, this research is interesting to reveal as an essential reference in understanding IPAS learning in SD/MI in the Indonesian region.

METHODS

Researchers use qualitative research with the type of literature study or library research (Nasution, 2023). Researchers seriously reviewed various literature sources from journals and books related to the theme of IPAS learning in primary education in the *Merdeka* Curriculum in Indonesia. Literature research includes all efforts to collect information related to the topic or problem to be studied. Information can be collected from research reports, scientific articles, theses, dissertations, regulations, annual report books, encyclopedias, and other written sources in both print and electronic formats (Creswell, 2013).

In this research, relevant literature, journals, and articles that are in accordance with the topic to be discussed are the data sources used. The data analysis technique for this literature study is content analysis (Sugiyono, 2017). This means that researchers analyze the incoming data by focusing on the content of the various information, namely IPAS learning in primary education in the *Merdeka* curriculum in Indonesia.

RESULTS

A Brief Understanding of IPAS Learning

IPAS is one of the subjects in the *Merdeka* Curriculum that studies knowledge about life, non-living objects, and their relationships in the universe. By studying Natural and Social Sciences (IPAS), students can better understand the wealth that Indonesia has and use this knowledge to preserve and develop the environment and nature. It is stated in the Decree of the Minister of Education, Culture, Research and Technology of the Republic of Indonesia Number 262/M/2002 concerning Guidelines for the Implementation of Curriculum for Learning Recovery. Social Science subjects for the elementary school (SD) level are combined with Natural Science subjects and are divided into one subject called IPAS (Natural and Social Science) (Setiawati, 2024). Based on the Basic Education Social Studies book published by Nawa Litera, IPAS explores the existence of living and non-living things in the universe, as well as learning about human life as individuals and social beings who have interactions with the surrounding environment (Hasanah et al., 2024).

Aims and Characteristics of IPAS Subjects

By studying IPAS, learners develop themselves to fit the profile of a Pancasila learner. Learners also get other objectives, including: *First*, learners build interest and curiosity so that learners are triggered to study the phenomena around humans and understand the universe and its relation to human life. *Second*, learners play an active role in maintaining, preserving, and conserving the natural environment and managing natural resources and the environment wisely. *Third*, learners develop inquiry skills to identify, formulate, and solve problems through real action. *Fourth*, learners understand who they are, understand how their social environment is, and interpret how human life and society change over time. *Fifth*, learners understand the requirements needed for learners to become members of a community group and nation and understand what it means to be a member of the nation and world community so that they can contribute to solving problems related to themselves and the environment around them; and develop knowledge and understanding of concepts in IPAS and apply them in everyday life (Septiana & Winangun, 2023).

As times change, science continues to evolve. What has been considered scientific truth in the past may change in the present and future. This is why science is flexible and a continuous human endeavor: to discover the truth and utilize it in everyday life. The ability

of nature to fulfill human needs over time is also diminishing. The rapid growth of the human population also creates new problems. Often, the issues that arise cannot be solved with just one perspective, either from the natural sciences or social sciences, but require a more comprehensive approach that includes various disciplines (Hidayat, 2013). To convey this understanding to learners, natural and social science learning needs to be brought together into a single unit called IPAS.

In IPAS learning, there are two main components, namely, the understanding of IPAS (natural and social science) and process skills (Adnyana & Yudaparmita, 2023). *First* is the IPAS (Science and Social) Understanding Element. It means that science plays a crucial role in developing theories that help one understand how the world works. In addition, scientific knowledge also contributes to technological advances and management systems that support the creation of a better life. By mastering science, one is able to do things to solve problems or face challenges. Understanding IPAS is evident when one selects and combines appropriate scientific knowledge to explain and predict a phenomenon or fact and applies this knowledge in various situations. This scientific knowledge includes facts, concepts, principles, laws, theories, and models that researchers have established.

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second is the Process Skills Element. That is, in the profile of Pancasila learners, it is stated that students in Indonesia who think critically have the ability to process both qualitative and quantitative information objectively. They can build relationships between information, analyze, evaluate, and conclude information. With good process skills, this profile can be realized. Process skills are deliberate steps in diagnosing situations, formulating problems, criticizing experiments, and finding differences between alternatives. They also include seeking opinions built on incomplete information, designing investigations, gathering information, building models, arguing with peers using facts, and constructing coherent arguments.

Inquiry is highly recommended as an approach to teaching as it is proven to increase learner engagement in the learning process. In IPAS teaching, there are two pedagogical approaches: deductive and inductive (Setyawati, 2023). In the deductive approach, the teacher's role is to present a concept and its accompanying logic and give examples of its application. In this approach, learners act as passive learners who only receive information. In contrast, in the inductive approach, learners are given more freedom to make observations

and experiments and are guided by the teacher to build concepts based on their knowledge. Inquiry-based learning has a significant role in science education.

It is based on the recognition that questions, open-ended processes, accountable thinking, and predictability drive science. Therefore, learners must gain hands-on experience in applying scientific inquiry so that these essential elements of IPAS can be internalized. Thus, there are at least six inquiry skills that learners should possess (Sylvia et al., 2019), among them:

1. Observing phenomena and events is the first step in the inquiry process, leading to the next stage. When making observations, learners pay close attention to phenomena and events, taking notes and comparing the information obtained to identify similarities and differences. Observation can be done directly or using other tools, such as questionnaires or interviews.
2. Questioning and prediction. Learners are encouraged to ask questions about what they want to know when making observations. At this stage, learners link their existing knowledge with the new knowledge to be learned so that they can predict what will happen based on the principle of cause and effect.
3. Planning and conducting an investigation. After asking questions and making predictions based on their knowledge and information, learners develop plans and operational steps based on correct references. They can answer questions and prove predictions by conducting investigations. This stage also includes identifying and inventorying operational factors, both internal and external, that may support or hinder the activity. Based on the plan, learners collect data and carry out a series of actions to obtain findings.
4. Processing and analyzing data and information. Learners select and organize information that has been obtained. They interpret the information honestly and responsibly. Next, they analyze the information with appropriate tools and methods, assess the relevance of the information found by citing references, and conclude the results of the investigation.
5. Evaluating and reflecting. At this stage, learners assess whether the activities undertaken have achieved the objectives set. At the end of this cycle, learners also reflect on the learning process they have gone through and what needs to be maintained or improved for the future. They reflect on how their new knowledge

can benefit themselves, others, and the environment in a global context for a sustainable future.

6. Delivering results: Learners report findings in a structured way, both orally and in writing, using graphs, diagrams, or illustrations, and process them into digital and non-digital media to strengthen the explanation. Furthermore, learners communicate the findings by publishing the report in various media, both digital and non-digital. Reporting can be done through collaboration with multiple parties. Process skills do not always follow a sequence of steps but are a dynamic cycle that can be adapted to the development and abilities of learners.

DISCUSSION

IPAS Subject Learning Outcome Phase

1. Phase A (for Grades I and II)

In this stage, learners can usually maximize their sensory abilities to observe, ask questions, conduct experiments, and tell the learning experiences they have gained in relation to the events around them, both verbally and nonverbally, by utilizing various types of media such as pictures, symbols, or works. At the end of phase A, learners are expected to learn to undergo a process of inquiry, namely, observing and asking questions about things related to themselves and about conditions, phenomena, or simple events that occur around the house and school. Furthermore, learners are expected to be able to express ideas, conduct research, conduct experiments, communicate, summarize, reflect, and apply the learning experience from the inquiry process they have done (Suprikhati et al., 2024).

2. Phase B (for Grades 3 and 4)

In stage B, students recognize the relationship between the knowledge they have just learned and find out how concepts from Natural and Social Sciences are interrelated in their environment in everyday life. Students' ability to master the material being studied is reflected in how they overcome challenges that arise in everyday life. Furthermore, students propose ideas, conduct research or experiments, communicate, draw conclusions, reflect, apply, and follow up on the exploration process they have done (Septiana & Winangun, 2023).

3. Phase C (for grades V and VI)

In stage C, learners are introduced to systems consisting of connected elements that operate according to a number of rules to carry out certain functions, especially those related to the interaction between nature and social life in the context of diversity. Based on their understanding of the material they have learned, learners take actions, make decisions, or solve problems related to everyday life.

Dynamics of IPAS Learning in Elementary Education in Indonesia

Overall, science learning in elementary schools should be designed by considering the characteristics of students and their needs. Learning outcomes can be improved by using interactive learning models, using interesting media, and actively involving teachers in the learning process. It will not only prepare students to understand basic science concepts but will also equip them with critical thinking skills needed in the future (Zakirman et al., 2022).

In reality, science learning faces many challenges and problems in the basic education space. These problems affect the quality of learning. The majority of conventional teaching methods that only focus on the lecture method are still the main problem. It makes students passive and less involved in the teaching and learning process. As a result, they are less interested in science lessons. Various studies show that many teachers still rely on textbooks as the primary source without adding more interactive and engaging teaching methods (Larasati, 2021). It causes science learning to be less than optimal and creates obstacles to being used as important evaluation material.

In addition, the rapid change of curriculum is a big problem for teachers. Even the concept of "change the Minister, change the curriculum" is still a big problem in Indonesian education. Thus, many educators are still confused and even hesitant to implement the new curriculum, which means they have to adapt to a new learning approach that may not be implemented in the next five years. This lack of understanding can cause a difference between student learning outcomes in the classroom and the learning objectives set. In addition, several studies have shown that the lack of training and information about the new curriculum hinders teachers' ability to deliver material effectively and efficiently in the classroom (Hanum et al., 2024).

Another factor that causes dynamics in science learning is an uncomfortable and less conducive classroom environment. Many teachers say that overly active student behavior or lack of supporting facilities often disrupts the learning environment at school. The learning

process is disrupted because classroom management becomes more difficult due to both of these things. According to research, an unsupportive classroom atmosphere can affect student concentration and overall learning outcomes (Hanipah et al., 2022).

Therefore, teachers' involvement in various training programs needs to be seriously considered. It helps them prepare to face the challenges of learning, especially learning in the new curriculum. Not only that but through various training and discussions, teachers optimize their quality for the sake of improvement and enhancement in their educational units. For this reason, stakeholders must provide many opportunities to improve teacher competence through teacher work forums, training, routine discussions, and various other activities that support the quality of IPAS learning.

CONCLUSION

Science learning in elementary education is designed by considering the characteristics of students and their needs in the context of strengthening two scientific disciplines, namely natural and social sciences. Science learning can be improved by using interactive learning models, using engaging media, and actively involving teachers in the learning process. Because in science learning, there are at least two essential elements in it, namely theoretical understanding and practical skills. If practiced properly, then science learning must refer to the three phases of its education. For this reason, various challenges and problems faced in the science learning process in SD/MI must be understood as essential reflection materials so that stakeholders immediately provide appropriate solutions, one of which is by providing various programs to improve teacher competence.

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