Analysis of the Implementation of IPAS (Natural and Social Sciences) Learning in the Merdeka Curriculum

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Abstract:

Science and Social Studies (IPAS) learning in the Independent Learning Curriculum is an important part of education development in Indonesia. In IPAS learning, students will be equipped with the knowledge and skills needed to understand complex natural and social phenomena and to make appropriate decisions based on evidence and available data analysis, as social beings who interact with the natural and social environment every day this subject becomes very important in achieving the knowledge and skills needed. To achieve this, of course, the right application is needed, therefore in this case it will be discussed related to planning, implementation, and evaluation. The method used in this article is descriptive qualitative literature study, with the steps used to collect information and data with the help of various materials available in the library such as documents, books, magazines, historical stories, and others. Thus producing the conclusion that in the process of planning IPAS learning includes, analyzing the CP Learning Outcomes to compile learning objectives and learning objectives flow, planning and implementing diagnostic assessment, developing teaching modules, learning with stages of achievement and characteristics of learners, planning, implementation, and processing of formative and summative assessments, reporting learning progress, and evaluating learning and assessment. Whereas in the implementation through several preliminary stages, orientation activities, aperception activities, motivation activities, core activities, and closing activities. But the learning implementation activities are certainly inseparable from the main learning experience process, as stated in Permendikbud Number 81 A of 2013 appendix IV which mentions five main learning experiences, namely: Observing, asking, collecting information / experiments, associating / processing information, and communicating. While the evaluation stages consist of several stages that certainly adjust to the Curriculum that is by using assessment consisting of rubrics, check lists, development graphs, projects, written tests, oral tests, assignments, portfolios and several other assessments that are considered relevant to the material taught by educators.

Keyword: Learning IPAS, Kurikulum Merdeka, Planning, Implementation, Evaluation

Introduction

As per the curriculum principle, one of which is flexibility, meaning the curriculum should adapt to the needs of students and educators as well as the changing times[1]. In meeting the needs

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[1] Huesn Ali and Sarhad Samin, "Curriculum Principles," *Journal of Garmian University* (2022); R. Oliver et al., "Curriculum Structure: Principles and Strategy," *European Journal of Dental Education* (2008); Bradley Setiyadi, Irma Suryani, and Resty Framadita, "LANDASAN DAN ASAS PENGEMBANGAN KURIKULUM," *Daiwi Widya* (2023); Arif Rahman Prasetyo and Tasman Hamami, "Prinsip-Prinsip Dalam Pengembangan Kurikulum," *PALAPA* (2020).

of students, the government introduced a new curriculum known as Kurikulum Merdeka (Independent Learning Curriculum). Kurikulum Merdeka is a curriculum with diverse intracurricular learning where content is optimized to allow students sufficient time to delve into concepts and strengthen competencies[2]. Teachers have the flexibility to choose various teaching tools, enabling learning to be tailored to the needs and interests of students. A notable development within Kurikulum Merdeka is the integration of Natural Sciences (IPA) and Social Sciences (IPS) into the combined subject of IPAS (Imu Pengetahuan Alam dan Sosial)[3].

IPAS learning in the context of Kurikulum Merdeka Belajar holds a pivotal role in the educational development of Indonesia. The overarching goal of Kurikulum Merdeka Belajar is to grant students the freedom to determine their educational path and align it with their individual interests. IPAS learning within Kurikulum Merdeka Belajar is also designed to cultivate basic skills in both science and social studies.

In IPAS learning, students are equipped with the knowledge and skills necessary to comprehend complex natural and social phenomena, requiring precise decision-making based on available evidence and data analysis. IPAS learning engages students in active, creative, and innovative learning that strengthens their understanding and skills. Furthermore, it aids in fostering curiosity, critical thinking attitudes, and critical thinking skills.

Within Kurikulum Merdeka Belajar, IPAS learning is also designed to promote collaborative and interdisciplinary learning. This approach helps students understand that complex problems often require solutions from various different disciplines. IPAS learning in Kurikulum Merdeka Belajar also assists students in developing social skills such as cooperation, communication, and leadership. Overall, the aim of IPAS learning in Kurikulum Merdeka Belajar is to provide an engaging, beneficial learning experience with positive impacts for both students and society. Through innovative and interdisciplinary IPAS learning, students are expected to develop skills and knowledge relevant to the needs of society and the modern world, preparing themselves to face future challenges. Therefore, this article comprehensively discusses the implementation of IPAS learning, covering planning, implementation, and evaluation in the learning process.

Methods

The method employed in this research is qualitative descriptive, specifically falling under the category of literature research. The utilization of qualitative descriptive method is chosen due to its alignment with the object and focus of the studied subject. This is because the research aims to generate findings that cannot be achieved through measurement or statistical procedures. Literature study is an approach used to collect information and data with the assistance of various materials available in the library, such as documents, books, magazines, historical narratives, and others.

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[2] Dewi Rahmadayanti and Agung Hartoyo, "Potret Kurikulum Merdeka, Wujud Merdeka Belajar Di Sekolah Dasar," *Jurnal Basicedu* (2022); Achmad Fauzi, "Implementasi Kurikulum Merdeka Di Sekolah Penggerak," *Pahlawan: Jurnal Pendidikan-Sosial-Budaya* (2022); Syahrul Hamdi, Cepi Triatna, and Nurdin Nurdin, "Kurikulum Merdeka Dalam Perspektif Pedagogik," *SAP (Susunan Artikel Pendidikan)* (2022).

[3] Sri Nuryani Sugih, Lutfi Hamdani Maula, and Irna Khaleda Nurmeta, "Implementasi Kurikulum Merdeka Dalam Pembelajaran IPAS Di Sekolah Dasar," *Jurnal Pendidikan Dasar Flobamorata* (2023).

The data collection process in this research involves observation, meaning the tracking of various references relevant to the focus of the study, including books, articles, and other sources that support the collected data. Additionally, to complement the sources used in this writing, the author incorporates both primary and secondary data. Primary data collection begins by gathering literature and all works by the respective figures. The data analysis technique employed in this research is content analysis method. In this analysis, a process of selecting, comparing, combining, and sorting information obtained from related data sources will be undertaken to derive valid inferences.

Result And Discussion

The Merdeka Curriculum is a curriculum with diverse intracurricular learning, where content is optimized to allow students sufficient time to delve into concepts and strengthen competencies. Teachers have the flexibility to choose various teaching tools, enabling learning to be tailored to the needs and interests of students. The changes in the Merdeka Curriculum are a result of an evaluation of the 2013 curriculum, deemed in need of renewal or development. As a result, there are several changes from the 2013 Curriculum to the Merdeka Curriculum.

One significant change is the transformation of Core Competencies (KI) into Learning Achievements (CP) in the Merdeka curriculum. In the Merdeka curriculum, KI is changed to Learning Achievements. The difference lies in CP being a time span allocated to achieve targeted objectives, designed based on phases. CP is further detailed into the flow of Learning Objectives (ATP). The development of teaching modules aims to enrich the reference tools for teachers in the learning process.[4]

Differences between Lesson Plans (RPP) and teaching modules lie in the implementation of the ATP learning objective flow, developed from the Learning Achievements (CP) with the Pancasila learner profile target.[5] In the 2013 curriculum, Core Competencies (KI) were detailed into basic competencies, competency achievement indicators, learning objectives, and then the Lesson Plan (RPP). Learning Achievements (CP) in the Merdeka curriculum represent an innovation from the Core Competencies in the 2013 curriculum, designed to focus on students during competency development.[6]

These changes also impact the freedom of managing study time in each field of study in the Merdeka curriculum. In the 2013 curriculum, each lesson hour (JP) was regulated per week. The unit had already set the time allocation for routine weekly learning in one semester. The minimization of Lesson Plan (RPP) implementation, changed into teaching modules, aims to simplify administrative tasks for teachers, allowing them more time to focus on varied learning. Teaching modules in the Merdeka curriculum provide freedom for educators to create learning processes that suit students. This freedom of time is also related to the development of components in teaching modules that are adapted to the environmental context and the learning needs of students.

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[4] Maulida, U. *Pengembangan Modul Ajar Berbasis Kurikulum Merdeka.*Jurnal Tarbawi, 2022, Vol 5 (2), 130–138.

[5] Rahimah.*Peningkatan Kemampuan Guru SMP Negeri 10 Kota Tebingtinggi dalam Menyusun Modul Ajar Kurikulum Merdeka melalui Kegiatan Pendampingan Tahun Ajaran* 2021/2022. JURNAL Ansiru PAI, 6(1), 92–106

[6] Rindayati, E., Putri, C. A. D., & Damariswara, R. *Kesulitan Calon Pendidik dalam Mengembangkan Perangkat Pembelajaran pada Kurikulum Merdeka.* PTK: Jurnal Tindakan Kelas, 3(1), 2022. 18–27.

In the Merdeka Curriculum, the subjects of Natural Sciences (IPA) and Social Sciences (IPS) are combined into one subject called Integrated Natural and Social Sciences (IPAS), with the hope of encouraging students to manage the natural and social environment as a whole. IPAS (Integrated Natural and Social Sciences) is considered a curriculum development that combines the learning material of Natural Sciences with Social Sciences into one theme. Natural Sciences, which study the environment, are highly compatible with societal or environmental conditions, making it feasible to be taught integratively. Thus, it can be said that IPAS (Integrated Natural and Social Sciences) learning in the Merdeka Curriculum is an effort by the education government to shape students capable of managing their environment effectively as a whole.

Learning IPAS (Natural and Social Sciences) in the Merdeka Curriculum

Udin Syaefuddin and Abin Syamsuddin state that planning is a series of activities to prepare decisions about what is expected to happen (events, conditions, atmosphere, etc.) and what will be done (intensification, extension, revision, renovation, substitution, creation, etc.). [7] nother statement is mentioned by Mulyono, who states that planning is a rational and systematic activity process aimed at making decisions, activities, or steps to be taken to achieve effective and efficient goals.[8] Thus, planning can be interpreted as a system that includes decision-making, steps to be taken to achieve specific goals so that a goal can be achieved effectively and efficiently.

In the Merdeka curriculum, lesson planning provides teachers with the flexibility to create, choose, and modify teaching modules according to the context, characteristics, and needs of students. Syllabi and Lesson Plans (RPP) are still created and developed in accordance with the process standards or Circular Letter Number 14 of 2019 concerning the Simplification of Lesson Implementation Plans. In the Merdeka Curriculum, subject planning certainly has its own stages to achieve the specified learning objectives. This is similar to the IPAS (Natural and Social Sciences) subject, which, fundamentally, does not differ much from the planning of other subjects. The following are some components that need to be prepared by educators before conducting lessons, including the IPAS subject :[9]

a. Analyzing Achievement Learning (CP) to formulate learning objectives and the flow of learning objectives. CP is the learning competence that students must achieve at each developmental stage for each subject at the early childhood education, elementary education, and secondary education levels. Achievement learning includes a set of competencies and scope of material arranged comprehensively in narrative form. Adjusting the developmental stages of students, mapping achievement learning is divided into age phases.

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[7] T.G. Ratumanan dan Imas Rosmiati. *Perencanaan Pembelajaran* (Depok: PT Raja Grafindo Persada, 2020), 22.

[8] Mulyono, M. A, *Manajemen Administrasi dan Organisasi Pendidikan* (Jogjakarta: Ar-Ruzz Media, 2010), 27.

[9]Kemdikbud,https://ditsmp.kemdikbud.go.id/tujuh-tahapan-perencanaan-pembelajaran-dalam-kurikulum-merdeka/ (di akses 01 April 2023, pukul 01:18 WIB).

b. Planning and implementing diagnostic assessments. Diagnostic assessments aim to identify the competencies, strengths, and weaknesses of students. The results are used by educators as references in planning learning according to students' learning needs. In certain conditions, information related to family background, readiness to learn, learning motivation, student interests, and other information can be used as considerations in planning learning.

c. Developing teaching modules. The development of teaching modules aims to create teaching tools that guide educators in implementing learning. Adjustment of the developed teaching modules must be essential, attractive, meaningful, and relevant, as well as contextual and continuous.

d. Learning with achievement stages and student characteristics. New paradigm learning is student-centered. Therefore, this learning is adjusted to the stages of achievement and characteristics of students. The scope of learning materials is what educators will teach in class or what students will learn in class. Then educators adjust the learning process, adapt the products of learning outcomes, and condition the learning environment.

e. Planning, implementation, and processing of formative and summative assessments. In planning and conducting assessments, there are five principles of assessment that should be considered. The first principle is assessment as an integral part of the learning process, facilitating learning, and providing holistic information as feedback. The second is that assessment is designed and carried out according to the function of assessment, with the freedom to determine assessment techniques and timing. Third, assessment is designed to be fair, proportional, valid, and reliable. The fourth is progress reports and achievements of students are simple and informative. Finally, assessment results are used by students, educators, education personnel, and parents.

f. Reporting progress in learning. Effective reporting of learning outcomes involves parents, students, and educators as partners. It reflects the values upheld by the school; it is comprehensive, honest, fair, and accountable; it is clear and easily understood by all parties.

g. Learning and assessment evaluation. Learning and assessments that have been carried out are then evaluated. Educators reflect on learning and assessments in each teaching module. After that, educators identify what has been successful and what needs improvement. By identifying these aspects, teaching modules can be refined.

With the various stages of lesson planning outlined above, it undoubtedly serves a valuable function in assisting and directing the learning process. This will greatly aid teachers in implementing lessons and also facilitate students in organizing the information and knowledge gained from the learning process.

Evaluation of IPAS Learning in the Merdeka Curriculum

Evaluation is an effort to assess the condition of an object using a specific tool (instrument) and comparing the results with certain standards to draw conclusions..[10] According to Suharsimi Arikunto in his book titled "Fundamentals of Educational Evaluation," evaluation is a series of intentionally conducted activities to assess the success level of a program.[11]

Therefore, the evaluation stage is essential to measure the success or failure of a planned and implemented learning program. The evaluation stage involves measurement, assessment, and tests, although evaluation and measurement, assessment, and tests are fundamentally different; they cannot be separated. Measurement is an activity conducted to quantify something, such as body temperature measured with a thermometer resulting in 36.0 degrees Celsius, 38.0 degrees Celsius, 39.0 degrees Celsius, etc. From this example, it can be understood that measurement is quantitative. Thus, based on the above definition, evaluation, in general, is a process to diagnose learning and teaching activities.[12]

Assessment is a systematic process that includes collecting information (numeric or verbal descriptions), analysis, and interpretation to make decisions. Educational assessment is the process of collecting and processing information to determine the achievement of students' learning outcomes. Therefore, reliable data is needed as a basis for decision-making. In this context, decisions are related to whether or not students have successfully achieved a competence. [13] Thus, assessment is one of the pillars in the implementation of the Curriculum at the Unit Level of Education (KTSP) based on competence. Assessment is carried out through various forms, including performance assessment, attitude assessment, written assessment (paper and pencil test), project assessment, assessment through a collection of students' work/products (portfolio), and self-assessment. Formal and informal assessments of learning outcomes are conducted in an enjoyable atmosphere, allowing students to demonstrate what they understand and can do.

A test is a systematic tool or method for measuring a sample of behavior. As a measuring tool, a test contains various items or a series of tasks that must be completed or answered by students. A good test is one that meets the requirements of validity and reliability.[14]

In a teaching module, the assessment or evaluation plan is accompanied by instruments and methods for conducting assessments. In the pedagogical and assessment field, there are many theories and approaches to assessment. Assessment is carried out to find evidence or considerations about the achievement of learning objectives. Therefore, educators are encouraged to conduct the following assessments: [15]

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[10] Dharma Kusuma, Cepi Triatna, dan Johar Permana. *Pendidikan Karakter Kajian Teori dan Praktek di Sekolah* (Bandung: PT Remaja Rosda Karya, 2011), 138.

[11] Suharsimi Arikunto. *Dasar-Dasar Evaluasi Pendidikan* (Jakarta:Bumi Aksara, 2008). 290.

[12] Aunurrahman. *Belajar dan Pembelajaran*. (Cet. IV; CV Alfabeta: Bandung, 2010), h. 98.

[13] Zaenal Arifin, *Evaluasi Pembelajaran*. (Cet. II, PT Remaja Rosdakarya : Bandung, 2010), 50-51.

[14] Nana Sudjana*, Penilaian Hasil Proses Belajar Mengajar*. (Cet. I, Bandung: PT. Remaja Rosdakarya, 1989), 34.

[15] Ahmad Teguh Purwanto, *Perencanaan Pembelajaran Bermakna dan Asesmen Kurikulum Merdeka*, Jurnal Ilmiah Pedagogy, Vol 20, 1 Juli, 2022. 87-88.

1. Formative Assessment

   It aims to provide information or feedback for educators and students to improve the learning process. Assessment at the beginning of learning is conducted to determine students' readiness to learn the material and achieve the planned learning objectives. Thus, this assessment is classified as formative assessment because it is intended for the teacher's needs in designing learning, not for the purpose of assessing students' learning outcomes reported in report cards. Additionally, assessments conducted during the learning process, to monitor students' progress and provide quick feedback, are also considered formative assessments.

2. Summative Assessment

   It is conducted to ensure the overall achievement of learning objectives. This assessment is carried out at the end of the learning process or simultaneously for two or more learning objectives, depending on the educator's considerations and the education unit's policy. Unlike formative assessment, summative assessment is part of the calculation of assessment at the end of the semester, academic year, or education level.

Both types of assessments do not have to be used in a lesson implementation plan or teaching module, depending on the scope of learning objectives. Educators are the individuals who best understand students' learning progress, so educators need to have the competence and flexibility to conduct assessments according to the needs of each student. This flexibility includes designing assessments, timing, using assessment techniques and instruments, and determining criteria for achieving learning objectives.

The following are some assessments that can inspire educators to support the implementation of the learning evaluation stage, including rubrics, checklists, progress charts, projects, written tests, oral tests, assignments, portfolios, and other relevant assessments related to the material taught by educators, including the IPAS subject.

In the implementation of the IPAS subject, the evaluation stages consist of several steps that are adjusted to the prescribed Curriculum, namely the Merdeka Curriculum using assessment. The assessment is designed and conducted according to the function of the assessment, with the flexibility to determine the technique and timing of the assessment to effectively achieve the learning objectives. The learning process supports the development of students' competencies and characters holistically. The assessment is designed to be fair, proportional, valid, and reliable to explain learning progress and make decisions about the next steps. This becomes a reflection to improve the quality of learning.

Conclusion

Learning IPAS Planning in the Merdeka Curriculum for Elementary Schools (MI/SD) includes several aspects: 1) Analyzing Learning Achievement (CP) to formulate learning objectives and the sequence of learning objectives, 2) Planning and implementing diagnostic assessments, 3) Developing teaching modules, 4) Learning with achievement levels and characteristics of students, 5) Planning, implementing, and processing formative and summative assessments, 6) Reporting progress of learning, 7) Learning evaluation and assessments.

In the implementation of IPAS learning in the Merdeka Curriculum for MI/SD, it goes through several stages, starting with preliminary activities, orientation activities, apperception activities, motivation activities, core activities, and closing activities. However, the implementation of these learning activities is certainly not separated from the core learning experiences, as stated in Permendikbud Number 81 A Year 2013 Attachment IV, which mentions five core learning experiences: 1) Observing, 2) Asking, 3) Collecting information/experiments, 4) Associating/processing information, 5) Communicating.

Regarding the evaluation of IPAS learning in the Merdeka Curriculum for MI/SD, the evaluation stages consist of several steps that certainly adapt to the Curriculum by using assessment. Assessment is designed to determine the technique and timing of the assessment to effectively achieve the learning objectives. The following are some assessments or evaluations that can inspire educators to support the implementation of the learning evaluation stage, including rubrics, checklists, progress charts, projects, written tests, oral tests, assignments, portfolios, and other assessments considered relevant to the material taught by educators.

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