Integration of Social and Science Studies in Kurikulum Merdeka

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Abstract*:* Human life, the primary study of social studies, is primarily influenced by natural life as a human living space. Humans are multidimensional beings who will continue to relate to fellow humans and nature as a place to live. Humans are also the main subject in making decisions on using and managing natural resources. So in the application, social studies cannot be separated from strengthening the study of nature and vice versa. This strengthens tried to be realized in the learning process by combining social education studies and natural education in one subject called natural education science and social science (red: IPAS) in Kurikulum Merdeka. This study aims to examine IPAS subjects from the aspect of material content, implementation in classroom learning, and supporting activities within the scope of Kurikulum Merdeka using documentation and participatory observation techniques at Insan Amanah Elementary School in Malang. The results showed that in terms of the learning topics, the independent curriculum separated the strengthening of science concepts in the first four topics and social studies concepts in the following four topics. However, in the classroom learning process, Kurikulum Merdeka provides ample space for teachers to integrate science and social studies concepts through reflection questions, project activities, and the dimension "Profil Pelajar Pancasila," which are the basis for learning development in the independent curriculum**.**

Keywords: Social Studies, Science Studies, Integration subjects, Teaching at the right level (TaRL), Kurikulum Merdeka.

Introduction

Human life, the primary study of social studies, is primarily influenced by natural life as a human living space. Humans are multidimensional beings who will continue to relate to fellow humans and nature as a place to live (Misiaszek 2015; Murakami et al. 2020), Humans are also the main subject in making decisions on using and managing natural resources. However, human growth, development, and behavior are only sometimes in harmony with their environment and sometimes even cause problems. The irony is that error of human exploration of natural resources and their perspective on nature is the most significant factor in the destruction of nature that is happening today.

Human intervention in natural resources and the environment cannot be questioned as long as the intervention does not harm or endanger human life in the future (Ruhimat 2019). This incompatibility between humans and nature becomes a problem for human life. In other words, environmental damage has become an environmental problem and a social one (Chwialkowska, Bhatti, and Glowik 2020; Ruhimat 2019).

This awareness of the strong relationship between human social life and nature makes eco-pedagogy a domain widely studied within the scope of the school learning planning curriculum. It takes a domain that can strengthen sensitivity to the environment, seek to understand environmental problems, and maintain a positive attitude towards the environment. However, students' knowledge and understanding of the environment must be received holistically. The learning received by students should be able to display the conditions of the natural and social environment in a single unit because knowledge from the integrated natural and social sciences more adequately reflects the nature of most environmental problems (Bamberg & Rees, 2015; Nadiroh, Zulfa, and Yuliani 2021).

So in the application, social studies cannot be separated from strengthening the study of nature and vice versa. This strengthens tried to be realized in the learning process by combining social education studies and natural education in one subject called natural education science and social science (red: IPAS) in the Merdeka curriculum.

Science subjects are currently only intended for the 4th-grade level of elementary school. In the "Free Curriculum Questions and Answers Pocket Book," the reason for the merging of the two subjects - Science and Social Sciences - in elementary schools is based on the background of elementary school-aged children who tend to see the problem intact and integrated. This curriculum will be implemented on a limited basis in several driving schools starting in 2021. It will be followed by several other schools which state that they are ready to change independently.
One of them is SD Insan Amanah in the city of Malang. This school officially implemented the independent curriculum for grades 1 and 4 in July 2022. There are things that the government is trying to highlight in the independent curriculum, especially in the 'IPAS subject. They are:

1. Necessary to carry out project-based learning at least two times a year
2. The emphasis is on inquiry-based learning strategies
3. As well as learning outcomes that are appropriate to the age phase of students

The age phase of students stated that at the end of the phase, students are expected to be able to carry out their roles and responsibilities as part of family members and school members, describe how social interactions occur around their homes and schools, identify various landscapes and their relationships with community professions, and some other achievements learning.

Therefore, researchers are interested in studying the extent to which social science and natural science content is integrated into the social science material content, programs in an independent curriculum that can support the achievement of holistic social science learning, and how SD Insan Amanah implements it in the learning process.

Methods and Research Design

Methods. This research uses a case study method with a qualitative research approach to see the implementation of IPAS at Insan Amanah Elementary School in Malang. This study aims to examine IPAS subjects from the aspect of material content, implementation in classroom learning, and supporting activities within the scope of Kurikulum Merdeka using documentation, participatory observation, and interview techniques.

Research Design. The respondents in this study are four-grade students and teachers who teach natural sciences. Documentation techniques are carried out to review curriculum documents and also teacher learning tools related to science subjects. The purpose of technical documentation is to determine to what extent IPS and IPS content are integrated into the content of IPAS courses. At the same time, researchers carried out observations in a participatory manner by observing and participating in learning activities with students and teachers within a period of 4 months. The researcher was present in the process of developing teacher competence in the readiness to implement the independent curriculum through various seminars and workshops, the learning planning process with all grade 4 teachers, the implementation of learning in the classroom, to the supervision process from school principals and representatives of the Malang city education office.

The purpose of participatory observation is to record situations/events in actual events in the group under study. The target of this observation is the activity, event, setting, or student and teacher behavior that the researcher is trying to record using written field notes, video recording, and an observation checklist. Researchers also used interview techniques to validate the findings obtained from documentation and observation techniques.

Researchers carried out data validity by conducting method triangulation and data source triangulation. Method triangulation is done by comparing information or data with different data collection techniques. While triangulation of data sources is carried out using different informants or documents to check the truth of the information (Fadli 2021; Firman 2018). It is hoped that the results obtained will be closer to the truth through various perspectives or views.

Results and Discussion

Combining Social and Science by Multidimensional Approach in IPAS Lesson

IPAS lessons in grade 4 contain 29 learning objectives flow points which are then summarized in eight units or chapters. In terms of presenting content in student

books published by the Center for Curriculum and Books of the Ministry of Education and Culture, the content of the Science and Social Sciences material seems to separate the content of Science and Social Sciences material, as the researchers show in the following table:

Table 1 Unit and Material Coverage in IPAS for 4th Grade

Semester	Unit/Chapter	Material coverage
First semester	Plants: the source of life on Earth	Photosynthesis and plant reproduction
	Forms of matter and its changes	What is that creature?
		How can the shape of an object change?
	Forces around us	The Effect of Forces on Objects.
		Elastic thing
	Changing the form of Energy	Transformation Energy Around Us
		Stored energy
		Moving energy.
Second semester	Stories about my region	my region and its natural resources
	Indonesia is rich in culture	the uniqueness of the customs of the people around me
		the richness of Indonesian culture
		Diversity Benefits
		Preserving Cultural Diversity
		Me and my needs

	How to get all our needs?	Buying and selling activities as an effort to fulfill needs
	Building civilized humans	Norms in local customs

(Fitri et al. 2021)

In addition to the contents of the chapter content, the Learning Outcomes (CP) of this subject also direct the teacher first to strengthen the content of science material in the first semester and then continue it to regional and cultural contexts, where this context emphasizes social studies content in the following semester.

The achievement of learning IPAS phase B states that in the first semester, students are expected to be able to identify the process of changing the form of substances and changes in the form of energy in everyday life. Students identify sources and forms of energy and explain the process of changing forms of energy in everyday life, for example, heat energy, electricity, sound, and light. Students use the phenomenon of magnetism in everyday life and demonstrate how various types of forces affect the motion of objects (Fitri et al., 2021).

Then at the end of the phase (end of the school year), students are expected to be able to carry out their roles and responsibilities as part of family members and school members and describe how social interactions occur around their homes and schools. Students are also expected to be able to identify various landscapes and their relationship to community professions, describe the occurrence of the water cycle, and show the location of the city/district and province where they live.

Thus, from material content and learning outcomes, instead of showing interdisciplinary or transdisciplinary integration, science subjects still tend to be multidisciplinary, where science and social studies materials are aligned, and each offers their point of view. However, there has yet to be an attempt to integrate them holistically. Benagiano & Brosens (2014) and Helmane & Briška (2017) states several characteristics of a multidisciplinary approach, namely:

- *Each division of science plays a significant role in joint management planning.*
- *Each part of the activity is based on the limits of knowledge.*
- *Conceptual and operational are still separate*
- *To fulfill learning achievements, various sciences seek to integrate their scientific concepts but still limit themselves firmly from entering the realm of other sciences.*

These characteristics are seen in the content and achievements of IPAS learning, which to directs students' understanding in the context of natural knowledge first. Then they are invited to use the understanding of nature in the context of social knowledge so that the boundaries of the natural and social sciences are still clearly visible.

Although the integration of science and social studies in social science subjects has yet to be seen, the content of the science teacher's book contains reflection questions for students that teachers can use to link science and social studies material implicitly. As in the discussion unit on plant photosynthesis, several reflection statements can provoke students' awareness of the interconnectedness of the natural and social contexts, like:

- When viewed from how they get their food, what is the difference between plants, humans, and animals?
- What is the benefit to other living things by dispersing seeds?
- After studying pollination and seed dispersal, what do you think plants need from humans?

The Important Points Made by the Teacher in Optimizing IPAS Learning

Although the integration and integration of science and social studies are still not optimal, however, in the classroom learning process, Merdeka Curriculum provides ample space for teachers to improve the learning processes and try to integrate science and social studies concepts by this point such as:

Cognitive and Non-Cognitive Diagnostic Assessment

At the first meeting at the beginning of the semester, namely in July 2022, the science subject teacher first invited students to carry out a diagnostic assessment in the form of psychological questions and general understanding questions related to science and social studies material from the previous grade level. The teacher will use the results of this assessment to map the various learning styles and their readiness to accept the content of the subject matter that will be delivered this semester. Implementing this assessment is an essential part of teachers to be the ability to implement differentiation learning in the learning process later (Anon 2021).

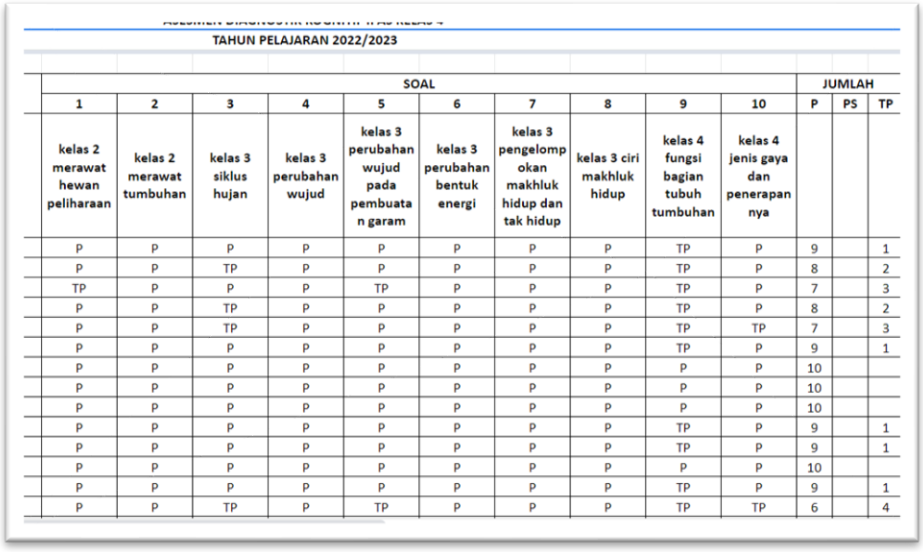
Diagnostic, formative, and summative assessments must be interrelated. Mapping the strengths and weaknesses of students can be seen from the diagnostic assessment results, which can be used as a reference when determining student indicators when designing formative and summative assessments. Formative assessments prepared with due regard to summative assignments can reduce students' workload and clarify the relevance of formative assignments (Setiyaningsih & Wiryanto, 2022). The variety of learning styles and learning readiness facilitated by the teacher in the lesson plan must refer to the actual conditions of the students. So that the implementation of the assessment here has a vital role in the process of planning, implementing, and evaluating learning as a whole. In general, student learning styles can be categorized into four types, namely (1) visual learning styles, (2) auditory learning styles, (3) kinesthetic learning styles, and (4) mixed/combined learning styles. Based on the teacher's assessment of grade 4 students, the variety of student learning styles can be seen in the following table.

Table. 2 The Result of Students' Non Kognitive Asessment in SD Insan Amanah

Class	Visual	Auditory	Kinesthetic	Auditory Kinesthetic	Visual Auditory
4A	1	13	8	5	1
4B	2	23	3	1	1

4C	2	13	10	3	1
4D	6	17	1	4	0

Figure 2 Capture of Students' Kognitive Asessment for IPAS Lesson in SD Insan Amanah Malang



TAHUN PELAJARAN 2022/2023

SOAL										JUMLAH		
1	2	3	4	5	6	7	8	9	10	P	PS	TP
kelas 2 merawat hewan peliharaan	kelas 2 merawat tumbuhan	kelas 3 siklus hujan	kelas 3 perubahan wujud	kelas 3 perubahan wujud pada pembuatan garam	kelas 3 perubahan bentuk energi	kelas 3 pengelompokan makhluk hidup dan tak hidup	kelas 3 ciri makhluk hidup	kelas 4 fungsi bagian tubuh tumbuhan	kelas 4 jenis gaya dan penerapannya			
P	P	P	P	P	P	P	P	TP	P	9		1
P	P	TP	P	P	P	P	P	TP	P	8		2
TP	P	P	P	TP	P	P	P	TP	P	7		3
P	P	TP	P	P	P	P	P	TP	P	8		2
P	P	TP	P	P	P	P	P	TP	TP	7		3
P	P	P	P	P	P	P	P	TP	P	9		1
P	P	P	P	P	P	P	P	P	P	10		
P	P	P	P	P	P	P	P	P	P	10		
P	P	P	P	P	P	P	P	P	P	10		
P	P	P	P	P	P	P	P	TP	P	9		1
P	P	P	P	P	P	P	P	TP	P	9		1
P	P	P	P	P	P	P	P	P	P	10		
P	P	P	P	P	P	P	P	TP	P	9		1
P	P	TP	P	TP	P	P	P	TP	TP	6		4

Teaching at The Right Level (TaRL) Approach

In the learning evaluation process, both formative and summative, the teacher no longer uses an approach that refers to the minimum completeness criterion score but instead refers to the level of achievement or ability of each student. In this case, students are no longer encouraged to meet the minimum scores that are usually set for each subject or the school's minimum grades. Because in the teaching at the right level (TaRL) approach, the cognitive, affective, and psychomotor development of students is no longer tied to class level but is grouped based on developmental phases or according to the ability level of the same students. Each phase, or level, has learning outcomes that must be achieved. The teacher will arrange the learning process with reference to the learning outcomes but adjust to the students' characteristics, potential, and needs.

The progress of learning outcomes will be determined based on the learning evaluation. The teacher will see how each student progresses from one learning goal to the next learning goal regardless of their average class score. This distinguishes TaRL from the usual approach, which has been implemented by SD Insan Amanah and is also manifested in the report card format used in reporting student learning outcomes. Students who have yet to achieve the learning outcomes in their phase will receive assistance from the teacher to be able to achieve their learning achievements. In this case, the teacher at Insan Amanah Elementary School will provide several different treatments according to student achievements, including as:

1. Additional study assistance outside of effective study hours,
2. Reducing the level of student questions,
3. Using other evaluation instruments according to student potential, such as portfolios, videos, or product creation.

Differentiation Learning

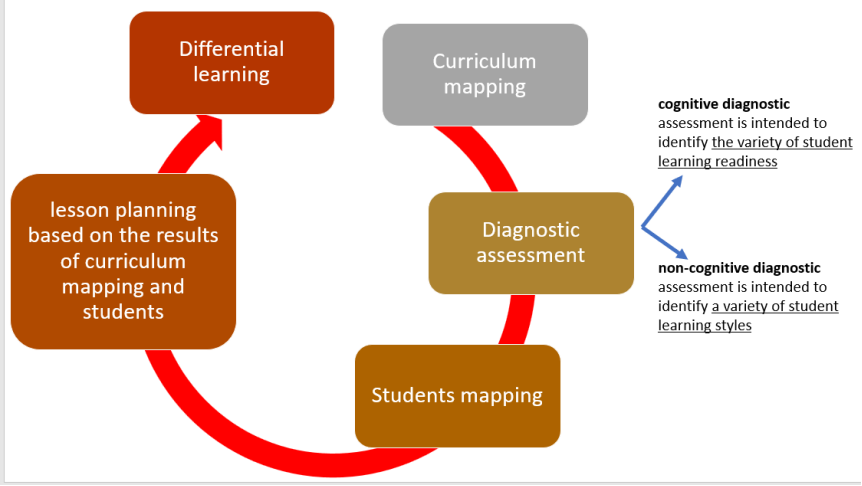
In a school or even a class, there are various characteristics of students with different learning readiness levels, interests, talents, and learning styles. Therefore, they need teaching services that are different from one another in achieving learning goals. Carol A. Tomlinson, an educator since 1995, has written down her ideas in a book entitled How to Differentiate Instruction in Mixed-Ability Classrooms regarding teaching that pays attention to individual differences in students (Irdhina et al. 2021). Then the idea is known as differentiated instruction or differentiated learning. In differentiated learning, the teacher teaches material by paying attention to students' readiness, interest, and learning styles.

IPAS teachers at SD Insan Amanah Malang try to use deferential learning by doing some like:

- Modifying the content
- Modifying learning processes, products, or results of the lessons taught.
- Modifying the learning environment in which students learn so that they can meet the various learning styles that appear in the diagnostic assessment.

The teacher applies the differentiated learning process to liberate students in learning because students are not required to be the same in all respects as others. Based on a review of several kinds of literature, differentiation learning is based on student differentiation which can be in the form of (1) interest differentiation, (2) readiness differentiation, and (3) learning style differentiation (Bauer et al. 2018; Gregory and Chapman 2012; Herwina 2021). In order to find out the presence of these three things in the class and to be able to plan differentiation learning according to the conditions of the students, the teacher at SD Insan Amanah carries out the stages as shown below.

Figure 2 Steps to Plan Differential Learning



Pancasila Student Profile

The Pancasila student profile contains six dimensions where all subjects are expected to build student competence on these dimensions. The six dimensions are (1) believing, fearing God Almighty, and having noble character, (2) global diversity, (3) working together, (4) being independent, (5) critical reasoning, and (6) being creative. From this dimension, the dimensions developed by the IPAS teacher of SD Insan Amanah this semester are the dimensions of faith, fear of God Almighty and noble character, cooperation, and critical reasoning. From the third

dimension, the following elements and sub-elements can bridge teachers in integrating science and social studies material.

Dimensions	Elemen	Subelemen	Phase B Outcomes
Believing, fearing God Almighty, and having noble character	Akhlaq to nature	Understanding the Connectedness of Earth's Ecosystems	Understanding the relationship between one creation and another of God's creations
		Protecting the Natural Environment	Get used to understanding actions that are friendly and not environmentally friendly, and get used to behaving environmentally friendly.
	Akhlaq to humans	Empathize with others	Accustomed to giving appreciation in the school and community environment
	State morals	Exercising Rights and Obligations as Indonesian Citizens	Identify the rights and responsibilities of people, their environment, and their relation to faith in God Almighty.
Working together	Collaboration	Positive interdependence	Realizing that everyone needs others to fulfill their needs and the need to help each other
		Social coordination	It realizes that he has a different role from other people/friends and knows his role's consequences on achieving goals.

Critical reasoning	Obtaining and processing information and ideas	Asking question	student asking questions to identify a problem and confirm understanding of a problem regarding himself and the surrounding environment.
	Analyze and evaluate reasoning and procedures	-	Explain the reasons that are relevant in problem-solving and decision making

(Keputusan Kepala Badan Standar, Kurikulum, Dan Asesmen Pendidikan Kementerian Pendidikan, Kebudayaan, Riset, Dan Teknologi Nomor 009/H/Kr/2022 Tentang Dimensi, Elemen, Dan Subelemen Profil Pelajar Pancasila Pada Kurikulum Merdeka, 2022; Setiyaningsih & Wiryanto, 2022)

Conclusion and Recommendations

The results showed that in terms of the learning topics, the independent curriculum separated the strengthening of science concepts in the first four topics and social studies concepts in the following four topics. However, in the classroom learning process, Kurikulum Merdeka provides ample space for teachers to integrate science and social studies concepts through reflection questions, project activities, and the dimension of pancasila students' profile which are the basis for learning development in the independent curriculum**.** However, of course, a holistic understanding of environmental and social issues will be more achievable if the content of science and social studies can be integrated in a more integrated manner, because knowledge from the integrated natural and social sciences more adequately reflects the nature of most environmental problems (Bamberg & Rees, 2015; Nadiroh, Zulfa, and Yuliani 2021).

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