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Analysis of the Nature of Science in the "Merdeka" Curriculum and Elementary Science Books and Their Comparison Between Countries

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Abstract: The nature of science is essential to be conveyed in the curriculum and student books because it becomes a reference in the learning process to adequately achieve learning objectives. This study aims to describe aspects of the nature of science in the "merdeka" curriculum and its comparison between countries and an analysis of the nature of science in elementary science books. The quantitative descriptive method is carried out by studying literature and analyzing documents on aspects of the nature of science in the "merdeka" curriculum documents and elementary science books. Curricula documents from other countries are analyzed to find out the comparison. Based on the analysis and comparison results, it is shown that the nature of science in the elementary school curriculum and its embodiment in student books is not explained explicitly, both in the curriculum and in student books. The percentage of science essence values in the student curriculum is > 80.00%, namely product, subjective, and creative aspects, and in student books, only product aspects have a percentage value of > 80.00%. It is known that the percentage of the emergence of the nature of science is different in each country.

Keywords: The Nature of science; "Merdeka" Curriculum; Student book.

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Introduction

Natural science not only contains knowledge but also contains skills and attitudes, which generally state that science contains components of scientific products (scientific knowledge), scientific processes (scientific methods), and scientific perspective (Widodo et al., 2019). Scientific products consist of facts, concepts, generalizations, laws, and theories: the scientific process or scientific method. In comparison, the scientific attitude is a confident attitude that must be possessed by a scientist, such as being honest, open to ideas, responsible, objective, cooperative, critical thinking, curiosity, introspection, and discipline (Putri et al., 2021).

The curriculum is essential to accompany the progress of a nation and state. The curriculum determines the nation's children who will continue the nation's development. Curriculum in some countries continues to change to improve the learning process and improve the design of learning in schools. Education systems in several countries have different objectives and characteristics and curriculum documents according to the purposes of the country's education and the nation (Shively & Palilonis, 2018).

Implementing the "Merdeka" curriculum requires extra socialization so that education actors, especially teachers, understand the purpose of implementing a "Merdeka" curriculum. One way to support the implementation of a "Merdeka" curriculum is by

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providing teacher and student books by the Indonesian Ministry of Education and Culture. Teacher books and student books are expected to help the learning process in the classroom. In the upper grades of the elementary school level, there are several lesson content, one of which is the Social Sciences content. In this curriculum, natural sciences are combined with social sciences. Science has specific characteristics that are different from other subject matter. So it is necessary to study whether the content of the science lessons contained in the 2021 textbooks meets the specified science characteristics, such as instilling the nature of science in the learning process; this is important because science is the subject matter in the TIMSS test, followed by elementary school students in Indonesia (Febriansyah et al., 2021).

According to the results of TIMSS in 2015, Indonesia was ranked 4th from the bottom with a score of 397, with an international average score of 500 points (Hooper et al., 2015). So it is deemed necessary to review the books used as references for students regarding the material used in the TIMSS study. In addition, Indonesia's ranking in PISA is also still low; Indonesia ranks 74th out of 79 (OECD, 2019). Indonesia is ranked 4th from the bottom with a score of 397, with an international average score of 500 points. So it is deemed necessary to review the books used as references for students regarding the material used in the TIMSS study. In addition, Indonesia's ranking in PISA is also still low; Indonesia ranks 74th out of 79. Indonesia is ranked 4th from the bottom with a score of 397, with an international average score of 500 points. So it is deemed necessary to review the books used as references for students regarding the material used in the TIMSS study. In addition, Indonesia's ranking in PISA is also still low; Indonesia ranks 74th out of 79 (Hooper et al., 2015).

The content of the 4th-grade science class in the Student's Book contains four chapters which have each sub-section (Fitri & Etc., 2021). Among them are plants, the Source of Life on Earth, The Form of Matter and Its Changes, The Forces Around Us, and Changing the Form of Energy.

The Learning Outcomes of the science content studied are students analyze the relationship between the form and function of body parts in humans (the five senses), students can make simulations using simple charts/tools about the life cycle of living things, students can identify problems related to preserving natural resources in the surrounding environment and their relation to efforts to protect living things, students identify the process of changing the state of matter and changes in the form of energy in everyday life, students identify sources and forms of energy and explain changing forms of energy in everyday life (example: heat energy, electricity, sound, light).

1. Students use the phenomenon of magnetism in everyday life and demonstrate how various types of forces affect the motion of objects.
2. Students identify the process of changing the state of matter and changes in the form of energy in everyday life.
3. Students identify sources and forms of energy and explain changing forms of energy in everyday life (example: heat energy, electricity, sound, light).
4. Students take advantage of magnetic phenomena in everyday life and demonstrate how various types of forces affect the motion of objects (Kemendikbud, 2021).

To analyze the nature of science in each learning achievement, researchers need to identify materials that are by the learning outcomes mentioned above (Fitri et al., 2021).

The Nature of Science as a Product

The nature of science as a product is a collection of research results carried out by scientists. It has formed concepts that have been studied as a result of empirical and analytical activities. The form of science as a product is facts, principles, laws, and science theories (Sayekti, 2019). In this discussion, the nature of science as a product is facts, concepts, generalizations, rules, and theories.

Facts are things (conditions, events) that are facts that happened and were guaranteed to be true. Or something that exists or occurs. Facts can lead to the birth of a new theory. Facts can also be a reason to reject existing theories, and even facts can encourage to sharpen the formulation of existing theories. Banks suggests that facts are positive statements and the formula is simple.

Concepts are mental images of objects, processes, or anything outside of language, which the mind uses to understand other things (Kemdikbud, 2021). The notion of a concept is an abstract idea to classify or classify, which is generally expressed by a term or a series of words, for example the principle of sunscreen material (Maulana et al., 2022).

Generalization is an abstraction and very concept-bound. Generalization connects several concepts in such a way as to form a pattern of meaningful relationships and describes a broader thing. That is, in our minds, included patterns of more general meaningful relationships. So it can be concluded that someone is said to make generalizations if that person draws two or more concepts so that they are related to one another.

A theory is a pair of related propositions and explains the relationship between several generalizations. The theory's strength lies in its ability to explain and predict phenomena. Furthermore, recommendations related to concepts are more accessible than propositions regarding stereotypes. The

higher theory will develop a more general form of the concept. While the law is a provision or rule that has been tested by experts or inventors so that it is determined to be a law, such as Newton's law (Zahro et al., 2017), Bernoulli's law, etc.

Method

The method used in this research is descriptive quantitative with literature study and document analysis. This research is conducted to study the nature of science in the "Merdeka" curriculum, conduct a comparative analysis of the curriculum from various Indonesian curricula with other countries (Singapore, US, Australia, and Germany), and analyze the nature of science in the IPAS student book. The steps taken in this research are as follows are the preparatory stage entails conducting a literature review on the NOS aspect and determining the NOS aspect from the component side, including the product, process, attitude, and nature, including tentative, subjective, empirical, and scientific methods limitations and socio-cultural. The analysis analyzes the achievement of science learning in the "Merdeka" curriculum text. The comparison stage compares the NOS aspects of the Indonesian state curriculum with other countries (Singapore, the US, Australia, and Germany). The analysis analyzes the NOS content in the IPAS grade IV student books used in the "Merdeka" curriculum.

The last stage is processing the data by calculating the percentage of each NOS aspect which is then categorized using the following criteria:

Table 1. Category of science content level

Percentage of Correct Answers	Criteria
81-100	Very good
61-80	Well
41-60	Enough
21-40	Not enough
20	Very less

Result and Discussion

Science learning must contain the nature of science in its entirety and clearly. For teachers themselves, understanding the nature of science is a "sacred" part (Putri et al., 2021; Widodo et al., 2019). The curriculum as a guide in teaching and learning activities must contain the character of science, one of which is in learning achievement as a direction of achievement and reference in learning activities. Errors in the preparation of lesson plans will impact the implementation of learning that is not by the objectives (Siswanto, 2018). Based on this, it is necessary to analyze the nature of science in the achievement of science learning in elementary schools. The analysis results show that the nature of science components has not been conveyed, both in terms of features and nature.

Table 2. The percentage of the nature of science in terms of components in the Learning Outcomes of the "Merdeka" Curriculum

Phase	The Nature of Science Product/Knowledge (%)	Process (%)	Attitude (%)
A	21.43	71.43	0
B	41.17	88.25	0
C	37.5	93.75	0
Average	33.37	84.48	0

Based on the results of the "Merdeka" curriculum document analysis in table 2, the highest percentage is in the process aspect, with a percentage of 84.48%, while the lowest percentage is in the attitude aspect, with a percentage of 0%. This attitude aspect is not explicitly stated in learning outcomes. In the nature of science in its components, the process aspect has the highest percentage of average scores, 84.48%, with the highest percentage in phase B. The process aspect is more explicitly stated in the learning achievement in the "Merdeka" curriculum document. In this curriculum, every material covered learned by students must be accompanied by clear stages of the learning process. The low aspect is the attitude aspect, with an average of 0%. The attitude aspect in this prototype curriculum is not explicitly explained in the Learning Outcomes of each phase, but the attitude aspect in each learning process must still be trained. It's just that in this curriculum, it is not explained explicitly (Putri et al., 2021). The knowledge aspect has an average percentage of 33.3%, with the highest percentage in phase B.

The results of the process aspect are higher than the knowledge and attitude aspects supported by the statement in this prototype curriculum that in the Pancasila Student profile, it is stated that Indonesian students who think critically can process information both qualitatively and quantitatively objectively, build relationships between various information, analyze data, evaluate and conclude. This profile can be achieved by having good process skills (Kepala Badan Penelitian dan Pengembangan dan Perbukuan, 2021).

Table 3: Percentage of the nature of science in terms of characteristics in the "Merdeka" Curriculum Learning Outcomes

Phase	Nature Of Science In Terms Of Characteristics								
	Tentative %	Subjective %	Empirical %	Scientific Method %	Limitations %	Knowledge is influenced by Socio-cultural %	Science is developed through the scientific method %	The scientific method has limitations %	The scientific process demands a scientific attitude %
A	0	0	50	78.57	0	28.57	78.57	0	0
B	0	0	11.76	88.23	0	29.41	88.23	0	0
C	0	12.5	18.75	93.75	0	25	93.75	0	0
Average	0	4.17	26.84	86.85	0	27.66	86.85	0	0

Based on the analysis results in Table 3, the knowledge aspect is tentative in the "Merdeka" curriculum. Phase A, phase B, and phase C are in the inferior category with the percentage of phase A 0%, phase B 0%, and phase C 0%. Learning outcomes in the curriculum do not explicitly and implicitly explain that students are asked to open up students' understanding regarding the openness of a theory to be developed continuously and can be retested through facts or evidence of new findings. Based on the results of the analysis of the tentative aspects of knowledge in the "Merdeka" curriculum, phase A, phase B, and phase C are inferior. Phases A and B have 0%, while phase C has a percentage of 12.50%.

Aspects of subjective knowledge in the "Merdeka" curriculum were only found in some learning outcomes, which indicated that this subjective knowledge aspect was not optimal in the "Merdeka" curriculum. Examples of learning outcomes that develop knowledge are subjective; namely, in phase C, the 4th knowledge learning achievement, students are implicitly involved in the diversity of individuals/creativity When carrying out the scientific method process in demonstrating (the process of the scientific method communicating the results) their understanding of the concept of waves (sound and light). In phases A and B, the subjective aspect was not found. The "Merdeka" curriculum does not involve the diversity of students when carrying out the scientific method process in generating or discovering new knowledge for themselves.

Based on the table of results of the analysis of learning outcomes in the "Merdeka" curriculum (prototype), the aspect of empirical knowledge in phase A has the highest percentage, with 50.00% being in the excellent category, while in phases B and C are in the inferior category with a percentage of 11.76% in phase B and 18.75% in phase C.

Based on the results of the analysis of learning outcomes in the "Merdeka" curriculum (prototype), aspects of the scientific method in phases B and C are in the very good category, with the percentage of phase B at 88.23% and phase C 93.75%, while phase A is in the good category with a percentage of 78.57%. Each learning achievement of process skills is a derivative of the scientific method; namely, learning outcomes on process skills have activities scientifically. The learning outcomes of process skills consist of observing, questioning, predicting, planning and conducting investigations, processing, analyzing data and information, evaluating and reflecting, and communicating results. As in the aspect of the scientific method.

The document analysis results on the "Merdeka" curriculum in phase A, phase B, and phase C is in the lowest percentage. There are aspects of limitations, with a percentage of 0% being in the inferior category. Some learning outcomes, in general, have aspects of constraints. Still, according to what is stated in each learning achievement, some learning outcomes contain aspects of limitations. These points are not explicitly described in the learning achievement points, so they do not meet the criteria in the category of limitations aspects.

Based on the table of results of the analysis of aspects of knowledge influenced by socio-cultural in phase A, phase B, and phase C is in the less category, with the percentage of phase A at 28.57%, phase B at 29.41%, and phase C 25.00%. Socio-cultural aspects influence student learning. Still, in some learning outcomes, only a few learning achievement points contain material with aspects influenced by socio-cultural aspects. Some are only seen implicitly or implicitly, so they are not included in the socio-cultural controlled knowledge aspect. Aspects of knowledge influenced by socio-cultural are only found in some learning outcomes, proving that knowledge influenced by socio-culture is still shallow.

Table 4. Results of Analysis of the Nature of Science in Five Countries (Products, Processes, Attitudes)

Country	The Nature of Science		
	Product (%)	Process (%)	Attitude (%)
Indonesia	94.12	100	0
Australia	100	100	0
US	100	100	0
Singapore	100	94.44	100
German	95.56	73.91	0

Based on Table 4, it can be seen that of the five countries, only Singapore has created the three essences of science, while other countries have only created science as a product and science as a process. The five countries gave rise to science as a product and a process, albeit with different percentages. In the aspect of science as a product, Australia, the US, and Singapore have the highest percentage of 100%, followed by Germany with a percentage of 95.56% and finally Indonesia at 94.12%, while for the aspect of science as a process, Indonesia, Australia, and the US respectively -each 100% followed by Singapore with 94.44% and finally Germany with 73.91%.

Table 5. Results of Analysis of the Nature of Science in Five Countries

Country	Nature								
	Tentative %	Subjective %	Empirical %	Scientific Method %	Limitations %	Knowledge is influenced by Socio-cultural %	Science is developed through the scientific method %	The scientific method has limitations %	The scientific process demands a scientific attitude %
Indonesia	0	0	26.84	100	0	27.66	100	0	0
Australia	0	0	15.63	100	0	15.63	100	0	0
US	0	0	100	100	0	0	100	0	0
Singapore	0	0	94.44	94.44	0	38.89	94.44	0	100
German	0	0	30.43	56.52	0	0	56.52	0	0

Based on table 5 the curricula of the five countries, there are no explicit tentative, subjective limitations and limitations of the scientific method. The empirical nature of Science is found in the curricula of the five countries, with the US as the country with the highest percentage, which is 100%, then Singapore in the second position with a percentage of 94.44%, Germany in the third position with a percentage of 30.43%, Indonesia in the fourth position with 26.84% and Australia in the last position with a percentage of 15.63%. The nature of the scientific method and Science developed through the scientific method in the curriculum of the five countries, in general, has a high percentage, except for Germany, which only has a percentage of 56.52%, this is because the scientific method is not explicitly stated as in the other four countries.

The nature of Science influenced by socio-culture is only found in Indonesia, Australia, and Singapore curricula with a relatively low percentage. In contrast, it is not found explicitly in the US and Germany. Socio-cultural aspects influence student learning, but in some content, only a few learning achievement points contain material with aspects influenced by socio-cultural aspects. Some are only seen implicitly or implicitly, so they are not included in the socio-cultural controlled knowledge aspect. Aspects of knowledge are influenced by socio-cultural only in some learning outcomes, which proves that knowledge is influenced by socio-culture is still very low. The nature of Science developed by the scientific method of Science in the curriculum of the five countries, in general, has a high percentage, except for Germany which only has a percentage of 56.52%, which is in the good category, this is because the scientific method is not explicitly stated as in the other four countries.

Meanwhile, the scientific process that demands a scientific attitude is only found in the Singapore curriculum, with a percentage of 100% being in the very good category. Whereas in other state curricula, it is not explicitly presented. Meanwhile, the scientific process that demands a scientific attitude is only found in the Singapore curriculum, with a percentage of 100% being in the very good category. Whereas in other state curricula, it is not explicitly presented. Meanwhile, the scientific process that demands a scientific attitude is only found in the Singapore curriculum, with a percentage of 100% being in the very good category. Whereas in other state curricula, it is not explicitly presented.

The results of the researcher's analysis, referring to Table 3, show that the curriculum in Singapore is more complete in the appearance of the nature of Science and the Nature Science compared to the other four countries with a relatively high percentage. The researchers concluded that this was one of the reasons Singapore was able to rank 2nd out of 78 countries in PISA 2018 (OECD, 2019). According to the researcher's analysis, one of the things that cause Singapore, Australia, Germany, and America to be in the top 20 of PISA is because science learning is contextually linked (OECD, 2019). For example, in Singapore, presenting science learning based on knowledge, problems, and questions related to the role of Science in people's daily lives and the environment.

In Australia, there is Science as a human endeavor that studies the relationship between nature and the

development of Science and the influence and use of Science in everyday life. Then in the US, apart from checking the science content, we also learn how the interrelationships between these components are. Besides that, the US is also influential in the element of engineering. Then in Germany, science learning is integrated with scientific facts, engineering, space and nature, social and cultural sciences, history, and economics presented in a theme. Besides that, the US is also influential in engineering elements.

The Emergence of Inquiry in the Curriculum

Inquiry in the Indonesian curriculum is explicitly stated in the competence of process skills which consists of 6 activities, namely 1) observing, 2) questioning and predicting, 3) planning and conducting investigations, 4) processing, analyzing data and information, 5) evaluating and reflecting, and 6) communicate. Competence is spread evenly in each phase but with an increasing level in the next phase. In Australia, the inquiry process is almost the same as in Indonesia (Australia, 2015). They are presented clearly in the Science inquiry skills section. In Science inquiry skills, they are divided into 3 class groups: classes 1-2, 3-4, and 5-6, with higher types having higher levels. In Australia itself, there are five inquiry activities, namely, 1) asking and predicting, 2) planning and implementing, 3) processing and analyzing data and information, 4) evaluating, and 5) communicating. The difference between inquiry in Indonesia and Australia is that there is no observation activity in Australia, while in Indonesia, observing is the first activity.

Inquiry in the Singapore state curriculum is explained explicitly in the domain of science as an inquiry (Ministry of Education Singapore, 2013). This country welcomes education to prepare 21st-century skills with three main focuses: knowledge, understanding, application; skills and processes; and ethics and attitudes (Maulana & Sopandi, 2022). Singapore provides opportunities for students to use concepts and integrate skills and processes to ask questions and phenomena around students.

The inquiry learning strategy used in the learning system in Singapore is to fulfill the learning style requirements and direct learning, from concrete to abstract. The inquiry in the Singapore curriculum consists of 5 activities, 1) question, 2) evidence, 3) explanation, 4) connection, and 5) communication strategies used by teachers in facilitating the inquiry process are planned and conveyed by involving students' learning experiences so that they can be meaningful and develop students' interest and curiosity about science.

The inquiry process in science learning in Singapore through various strategies such as cartoon concepts, concept mapping, cooperative learning, demonstrations, field trips, games, investigations, and projects through asking questions, dramas, and stories.

In the US curriculum Next et al., (2013), the inquiry stage is presented explicitly on science and engineering practices, namely are developing and using models, analyzing and interpreting data, engaging in argument from evidence, obtaining, evaluating, and communicating information, and scientific knowledge is based on empirical evidence. However, not all of the five steps of inquiry are raised in each material. There are only 3 or 4, depending on the fabric.

The stages of inquiry in the German curriculum are not explicitly presented as in the Indonesian (Barton, 2009), Australian, US, and Singapore curricula. In the German curriculum, the inquiry activities offered can be seen in competence expectations. It is not found in all competencies, as in these competencies, there are words explore, document, compare, and explain.

Table 6. Analysis of the Nature of Science as a Product in Student Books

Aspect	Percentage %
Fact	35
Draft	65
Generalization	29
Law	18
Theory	0

Based on Table 6 in the science book for elementary school students, Chapter 1, topic A is as follows: 1) Facts can be seen in observable statements such as a) Like roots that function to absorb water from the soil, b) Carrot plants have a taproot type, c) Plants it stores its food reserves in the roots, d) The experiment on the side proves that plants move to follow the sunlight. 2) Concepts appear in statements which are mental abstractions of objects or phenomena such as leaves, fruits, flowers, roots, stems, tubers, plants, photosynthesis, pollination, reproduction, and vegetative propagation in plants, 3) Generalizations are statements that summarize several explanations or phenomena, such as a) Each member of the body has its function which aims to meet the needs of plants to survive.

Chapter 2 looks at 1) Facts: a) The universe we live in is made up of a lot of matter, b) water does not have a fixed form and c) Gases have a variable shape. 2) Concepts: matter, mass, melting, heat, freezing, condensation, sublimation, deposition 3) generalization; Usually, the larger the volume of a liquid, the more the amount of substance; solids have a specific shape that does not change even though they are placed in different containers, 4) the law: scales (When nothing is placed on the scales, both scales will be balanced. However, when an object such as gravel is placed on one of the scales, the scale will tilt to one side)

Chapter 3 looks at 1) Facts: a) The ends of this magnet will always point to the south and north, and b) The strength of the magnet is greatest at the north and south poles of the Earth. 2) Concepts: force, muscle force, friction, magnet, elastic object, spring. 3) Generalization: a) Force can make a stationary object move. 3) Generalizations: a) Elastic objects will lengthen if they are given a pulling force, 4) Law: The broader and broader the surface area of the frictional object, the greater the frictional force, the law of gravity, Bernoulli's law (lifting plane).

Chapter 4 looks at 1) Facts: a) Humans cannot create energy. 2) Concept: energy, potential energy. 3) Generalization: Everything that moves will have kinetic energy. b) Although it is in heat, electricity, light, and sound energy, kinetic energy cannot be separated from this energy. From this description, it can be seen that the "Merdeka" curriculum student book contains and introduces science concepts to students more than facts, generalizations, laws, and theories.

The Nature of Science as a Process

The nature of science as a process is a process to explore and understand knowledge about nature because science is not only a collection of facts and concepts but requires a process of finding facts and theories that will be generalized by scientists. The method of understanding science is called science process skills, namely the skills carried out by scientists. Science process skills are divided into basic process skills and integrated process skills. Elementary school-age students are still instilled in aspects of fundamental science process skills.

Referring to the Head of the Agency for Research and Development and Books (2021), the basic process skills of science are observing, questioning and predicting, planning and conducting investigations, processing and analyzing data and information, evaluate and reflect, and communicate results. Table 7 below is the result of the analysis of students' science books in the aspect of the nature of science as a process.

Table 7. Results of Analysis of the Nature of Science as a Process in Students' Science Books

Aspect	Percentage %
Observe	59
Questioning and Predicting	35
Planning and Conducting Investigations	88
Processing, Analyzing Data and Information	53
Evaluating and Reflecting	18
Communicating Results	76

Based on the analysis of students' books on the nature of science as a process, the sequence of science process skills starting from observing to the final stage of communicating, the researchers found that not all methods in the students' books were systematically sequenced. Some topics only bring up the scientific process with the stages of observing and conducting investigations, not communicating. It is better if the process skills in each case are contained thoroughly and systematically, starting from a) observing; b) questioning and predicting; c) planning and conducting investigations; d) processing, analyzing data and information; e) evaluation and reflection, and f) communicating the results. Embedding the nature of science as a process can be seen in 4 chapters of the science book. In the aspect of the nature of science as a process, the following aspects are shown: a) observing, b) questioning and predicting, c) planning and conducting investigations, d) processing, analyzing data and information, and e) communicating results. The aspect of process skills that do not appear in topic A is evaluating and reflecting.

The nature of science as attitudes, commonly known as scientific attitudes, is attitudes that underlie the science learning process, such as being curious, honest, objective, critical, open, particular discipline, and so on (Sayekti, 2019). Scientific attitudes must be developed in science learning to be internalized in students' lives to grow student character. In this discussion, the nature of science as an attitude studied are: honesty, openness to new ideas, responsible, objectivity, cooperative, creative thinking, curiosity, introspection, discipline, and awareness or care for the environment.

Table 8. Results of Analysis of the Nature of Science as Attitudes in Students' Science Books

Aspect	Percentage %
Honest	12
Open To New Ideas	59
Responsible	6
Objective	35
Cooperation	47
Creative Thinking	18
Introspection (Careful)	29
Never give up	0
Curiosity	6

Based on the analysis of the science character cultivation book, there are empirical aspects of knowledge, knowledge is subjective, and knowledge is influenced by social culture. In the aspect of knowledge influenced by socio-culture, the students' books are not emphasized too much, as evidenced by the lack of knowledge that is shown explicitly. The chapter separation between science and social studies material is separated. So in our opinion, the statement on the "Merdeka" curriculum stating that the science and social studies material has been simplified and integrated into science and technology is still not appropriate.

Conclusion

Based on the results of the science analysis research on the "Merdeka" elementary science curriculum and the student book, it can be concluded that, in general, the "Merdeka" curriculum in science subjects and elementary school students' books has raised aspects of the nature of science. However, there are still some aspects such as attitudes, tentatives, and limitations. The scientific method has limits, and the scientific process demands a scientific attitude that has not been raised explicitly in the curriculum. Meanwhile, the student book does not explicitly contain the theory and unyielding attitude. And based on comparisons with other countries, the Singapore curriculum is the complete curriculum incorporating the nature of science from the point of view of its components. Whereas in terms of the nature of the five countries, it is not found explicitly tentative, subjective, limitations, and the scientific method has limitations. Each aspect of the nature of science has a different proportion and percentage in the "Merdeka" curriculum with student books. This shows a discrepancy between the curriculum and student books.

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