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ANALYSIS OF THE QUALITY OF PHYSICS TEXTBOOKS IN THE 2013 CURRICULUM AND THE INDEPENDENT CURRICULUM

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Abstract:
Similar things have also been done to support the implementation of the previous curriculum, namely the School Unit Level Curriculum and the 2023 Curriculum. This study aims to compare the quality of physics textbooks recognized by the Government in the 2013 Curriculum and the Independent Curriculum. The textbooks used as samples in this study are the 11th grade physics textbooks based on the 2013 Curriculum written by Sunardi, Paramitha Retno P., and Andreas B. Dermawan in 2016 published by Yrama Widya and the physics textbooks based on the Independent Curriculum written by Marianna Magdalena Radjawane, Alvius Tinambunan and, Suntar Jono in 2022 published by the Ministry of Education, Culture, Research, and Technology. This study uses a qualitative research approach, through literature studies. Data collection was carried out by tracing various library sources related to physics teaching materials for class XI semester I. Data processing was carried out using a comparative descriptive method which includes the method of presenting material, depth of material, novelty of content and evaluation instruments. From the results of the analysis, it was found that the physics textbook for class XI of the 2013 curriculum had better quality compared to the physics textbook for class XI of the Merdeka Curriculum both in terms of indicators of material presentation, depth of material, novelty of content and evaluation instruments.

Keywords: Analysis, quality, textbooks, curriculum

INTRODUCTION

Law Number 20 of 2003 Article 1 paragraph 19 defines the curriculum as a set of plans and arrangements regarding the objectives, content, and learning materials as well as the methods used as guidelines for organizing learning activities to achieve certain educational goals (Putra, Simbolon, et al., 2023; Ilyas et al., 2023; Mansyuarna et al., 2023). Currently, the Government is implementing the Merdeka curriculum in all elementary and secondary education units in Indonesia (Prakoso et al., 2023; Asmororini et al., 2024) . The Merdeka Curriculum is an educational curriculum designed to replace the 2013 curriculum which has been in effect for approximately 9 years (Jusmaniar et al., 2024;

Oktaviani, 2020; Syahputra & Edwads, 2024). At the launching of the Merdeka curriculum on February 11, 2022, the Minister of Education, Culture, Research, Technology and Higher Education said that the Merdeka curriculum is a curriculum that is much more concise, simpler and more flexible to be able to support learning loss recovery due to the Covid-19 pandemic (Simbolon et al., 2023; Habibi et al., 2024; Fernande et al., 2024). In addition, the Merdeka Curriculum is also an instrument to catch up on the lag in Indonesian Education from other countries (Ardianti, 2021; Jamo, 2023; Kamil, 2022). After launching, the Independent Curriculum could not be implemented 100% in schools due to considerations of many factors related to the readiness of schools to fully adopt this curriculum, such as the readiness of teaching materials, the readiness of teachers and education personnel, the readiness of facilities and infrastructure, and others (Fadhilah, 2024. So schools that are not ready need time to adjust to the new curriculum (Putra & Rahman, 2019; Rizaldi et al., 2023; Romadhonsyah, 2024).

There are several significant differences between the Independent Curriculum and the 2013 Curriculum. Among these differences are seen in the basic framework, the intended competencies, the curriculum structure, learning activities, assessments and the curriculum tools themselves (Juwita & Mateha, 2024; Yusipa, 2024; Syamsiah, 2024). In the learning section, the differences between the Independent Curriculum and the 2013 Curriculum are very visible in the presentation of teaching materials reflected in the textbooks (Anggara, 2021; Angraini, 2021; Beemt et al., 2020). Quality textbooks greatly determine the success of curriculum implementation at the Education Unit Level (Putra, et al., 2023; Aizinsh et al., 2023; Jusmaniar et al., 2024)).

This study is in line with previous research conducted by Sebastian et al. (2023) which focused on examining the characteristics of critical thinking and cognitive elements in HOTS category questions in grade X Physics textbooks, focusing on the Quantity and Measurement material. Previous research focused on one specific topic in the textbook, while the current study is broader by comparing the overall quality of textbooks from two different curricula. Both studies have similarities in general objectives and methodological approaches, namely the evaluation of physics textbooks in the context of the high school curriculum to support the development of students' thinking skills. However, there are significant gaps in the focus of analysis, methods, and curriculum contexts used (Jusmaniar et al., 2024; Winda & Shofiardin, 2023; Pangestu, 2024). Previous research focused more on cognitive analysis of HOTS questions in one specific topic, while the current study is broader in comparing the overall quality of textbooks in two different curricula.

This study offers novelty by conducting a comprehensive comparison of the quality of grade XI Physics textbooks based on the Merdeka Curriculum (2022) and the 2013 Curriculum (2016), which are recognized and distributed by the government. Unlike previous studies that only focused on analyzing cognitive elements and HOTS questions in one topic, this study evaluates broader aspects such as curriculum structure, material presentation, content depth, and evaluation instruments. This study provides new insights into the impact of the transition from the 2013 Curriculum to the Merdeka Curriculum on the quality of teaching materials in Indonesia. In this study, the author analyzed the differences in the presentation of teaching materials and the quality of physics textbooks for grade XI of senior high schools and Madrasah Aliyah (Fatimah, 2024; Islaihah, 2024). This analysis took samples of physics textbooks published by the Ministry of Education, Culture, Research, Technology and Higher Education in 2022 based on the Merdeka curriculum and physics textbooks in 2016 based on the 2013 Curriculum (Marwiyah, 2021).

RESEARCH METHOD

This study uses a qualitative approach with a focus on literature studies to conduct a comprehensive comparison of grade XI Physics textbooks used in Senior High School and Madrasah Aliyah based on the 2013 Curriculum and the Merdeka Curriculum. This method was chosen to deeply understand the differences and similarities in the presentation of teaching materials, depth of content, novelty of content, and evaluation instruments between the two curricula. The objects of this study are as follows:

- Physics Textbook 2013 Curriculum: The book analyzed in this study is "Physics for Senior High School Students of Grade XI Mathematics and Natural Sciences Interest Group," written by Sunardi, Paramitha Retno P., and Andreas B. Dermawan and published by Yrama Widya in 2016.
- Physics Textbook Merdeka Curriculum: The book analyzed is "Physics," published by the Ministry of Education, Culture, Research, and Technology in 2022, and written by Marianna Magdalena Radjawane, Alvius Tinambunan, and Suntar Jono.

Data collection was carried out through in-depth literature searches and reviews of relevant sources (Ospankulov et al., 2023; Suantara et al., 2023; Oktasari, 2024). Steps in data collection include:

- Literature Identification: Identifying textbooks published/recognized by the Ministry of Education, Culture, Research, Technology and Higher Education that are in accordance with the 2013 Curriculum and the Independent Curriculum.
- Document Collection: Collecting textbooks that are the object of research, including other supporting materials such as curriculum guidelines and relevant evaluation documents.
- Content Review: Conducting an in-depth review of the contents of the textbooks, focusing on the presentation of the material, depth of content, novelty of the content, and evaluation instruments contained in each book.

Data processing was carried out using a comparative descriptive method involving the following steps:

- Categorization and Coding: The material from both textbooks was categorized and coded based on predetermined criteria, namely the method of presentation of the material, depth of the material, novelty of the content, and evaluation instruments.
- Systematic Comparison: Each category was analyzed systematically to identify similarities and differences between the 2013 Curriculum and Independent Curriculum textbooks.
- Contextual Analysis: The comparative results are interpreted in the context of the curriculum objectives and the challenges of its implementation, especially in terms of supporting the development of critical thinking and problem-solving skills among students.

The research results will be presented in the form of a descriptive narrative that shows a clear comparison between the 2013 Curriculum and the Merdeka Curriculum textbooks, accompanied by concrete examples of teaching materials, evaluations, and instruments used in both textbooks. This analysis is expected to provide deeper insight into the effectiveness of the two curricula in supporting the achievement of national education goals (Jamo, 2023; Ridwan et al., 2024).

RESULTS AND DISCUSSION

There are four aspects analyzed in this literature study research, namely; structure and presentation of material, depth of material, novelty of content and evaluation instruments. Based on the analysis that has been carried out, there are fundamental differences between physics textbooks in the 2013 Curriculum and the Merdeka Curriculum which can be seen in the following table 1;

Table 1. Analysis of the quality of physics textbooks

Aspects	Curriculum 2013	Independent Curriculum
CHAPTER I	Rotational Dynamics and Equilibrium of Rigid Bodies	Vector
Structure and presentation of material	At the beginning of the chapter, it is equipped with learning objectives and concept maps. The discussion is preceded by scientific facts that are relevant to this chapter. In general, this chapter discusses the rotation of rigid bodies and equilibrium. The rotation of rigid bodies includes the moment of	At the beginning of the chapter is equipped with learning objectives and concept maps. Vector material is presented in a separate chapter separate from kinematics material. Because it is presented separately, the scope of vector material in this textbook is broader and deeper. The discussion in the vector

	force, the moment of couple, the moment of inertia, angular momentum, work and rotational energy and Newton's laws of circular motion. While the discussion of equilibrium includes particle equilibrium and rigid body equilibrium.	chapter is the concept of vectors, vector representation and vector operations. The presentation of vector material that is separate from other chapters has the disadvantage that the vector concept discussed becomes less applicable to various physical phenomena that occur in nature.
Depth of material	The depth of the material is quite good. Even in the application of concepts and critical thinking, an integral method is included to obtain the magnitude of the moment of inertia for rigid objects. However, this book is not yet equipped with enrichment so that students can learn further.	In this chapter, there is material on vector operations such as addition, subtraction and multiplication (dot multiplication and cross multiplication) which are not found in the 2013 Curriculum Class XI physics textbook. The separate presentation method makes the depth of the material better.
Content update	There is no significant content renewal. However, as a complement, there are discussion materials related to science facts, practical activities, sections on applying concepts and critical thinking around physics materials and creations as a form of application of the material being discussed. At the end, there is a project assignment that allows students to explore the application of physics concepts further.	There is no significant new content in this chapter. However, the application of physics concepts in the latest technology is discussed in very limited portions in the "did you know" and "Let's Get Technology" sections.
Evaluation instruments	The presentation of evaluation questions is in the form of 15 multiple-choice questions and five fill-in-the-blank questions. The questions presented do not yet meet the HOTS criteria. In addition, this chapter is also equipped with portfolio, reflection and evaluation tasks.	The presentation of evaluation instruments is more varied, such as practical instruments, teamwork, critical thinking, understanding checks, and end-of-chapter assessments. However, the end-of-chapter assessment only provides 5 multiple-choice questions.
CHAPTER II	Elasticity of Solids and Hooke's Law	Kinematics
Structure and presentation of material	At the beginning of the chapter, it is equipped with learning objectives and concept maps. This chapter presents material on the elasticity of solids which includes, stress strain, Young's Modulus, Bulk Modulus, Shear Modulus, and Hooke's Law. The material is presented simply and systematically, equipped with examples of questions so that students can learn independently to build a better understanding of the concept.	At the beginning of the chapter, it is equipped with learning objectives and concept maps. The material presented in this chapter is quite complete, covering straight motion and circular motion. The straight motion material includes position, distance, displacement, speed, velocity and acceleration and is equipped with parabolic motion material which is a combination of regular straight motion and regular changing straight motion. While the circular motion material includes regular circular motion and regular changing circular motion.
Depth of material	The material is presented simply, concisely and solidly. However, in this chapter there is no discussion related to the potential energy of springs..	The material presented is systematic, but because the circular motion chapter is combined into the kinematics chapter, the depth of the material is reduced. In the

		2013 Curriculum, the kinematics chapter is divided into several separate chapters and taught in grade X semester I.
Content update	There is no significant content renewal. However, as a complement, there are discussion materials related to science facts, practical activities, sections on applying concepts and critical thinking around physics materials and creations as a form of application of the material being discussed and at the end, it is equipped with project assignments that allow students to explore the application of physics concepts further.	There is no significant new content in this chapter. However, the application of physics concepts in current technology is discussed in very limited portions in the "did you know" and "Let's get technological" sections".
Evaluation instruments	The presentation of evaluation questions is in the form of multiple choice questions totaling 15 questions and five fill-in questions. The questions presented do not yet meet the HOTS criteria. In addition, it is also equipped with portfolio assignments, reflections and evaluations..	The presentation of evaluation instruments is more varied, such as practical instruments, teamwork, critical thinking, understanding checks, and end-of-chapter assessments. However, the end-of-chapter assessment only provides 5 multiple-choice questions.
CHAPTER III	Static Fluid	Dynamics of Particle Motion
Structure and presentation of material	At the beginning of the chapter is equipped with learning objectives and concept maps. The presentation of fluid material is divided into two chapters, namely static fluids and dynamic fluids. The discussion on static fluids is surface tension, capillarity, laws of physics related to static fluids (Hydrostatic Law, Pascal's Law, Archimedes' Law, and Stokes' Law) and the concept of pressure. The material is presented systematically so that students can understand the material well.	At the beginning of the chapter, it is equipped with learning objectives and concept maps. The discussion of this chapter is very dense, covering; mass (action reaction, inertia, change in momentum and centripetal force), force (contact force and non-contact force), and rotational motion. In rotational motion, there is a discussion of the moment of inertia and moment of force. The presentation of force material in class XI Senior High School in the Merdeka curriculum is quite different from the 2013 curriculum. Where in the 2013 curriculum this material is included in class X Senior High School. In addition, this chapter also contains material on momentum and impulse. In the 2013 curriculum, this material is presented in a separate chapter. Similar things can be found in the preparation of the Edexcel International GCSE (9-1) Physics specification and the Edexcel International GCSE (9-1) Science Double Award specification textbooks.
Depth of material	The material is presented simply, concisely and solidly. Basic physics concepts related to basic physics can all be found in this chapter.	This chapter is a combination of several chapters in the 2013 curriculum. Because several chapters are combined into one limited topic, the depth of the material is disrupted.

Content update	There is no new content found in this chapter. All materials presented are generally the same as the previous textbook materials. However, as a complement, there are discussion materials related to science facts, practical activities, sections on the application of concepts and critical thinking around physics materials and creations as a form of application of the materials being discussed and at the end there are project assignments that allow students to explore the application of physics concepts further.	There is no significant new content in this chapter. However, the application of physics concepts in the latest technology is discussed in very limited portions in the "did you know" and "Let's Get Technology" sections.
Evaluation instruments	The presentation of evaluation questions is in the form of multiple choice questions totaling 15 questions and five fill-in questions. The questions presented do not yet meet the HOTS criteria. In addition, it is also equipped with portfolio assignments, reflections and evaluations..	The presentation of evaluation instruments is more varied, such as practical instruments, teamwork, critical thinking, understanding checks, and end-of-chapter assessments. However, the end-of-chapter assessment only provides 5 multiple-choice questions.
CHAPTER IV	Fluid Dynamics	Fluid
Structure and presentation of material	At the beginning of the chapter is equipped with learning objectives and concept maps. The material presented in this chapter is not so much. The discussion of fluid dynamics material contained are types of flow, ideal fluids, the principle of continuity and Bernaulli's principle.	At the beginning of the chapter is equipped with learning objectives and concept maps. The fluid material in this textbook combines chapters on static fluids and dynamic fluids. The material in this chapter is presented quite completely, covering static fluids, dynamic fluids, and incompressible fluid assumptions.
Depth of material	The material presented is structured and systematic and contains new content in the application of the working principles of dynamic fluids in technology, such as an explanation of how a carburetor works, which has never been found in previous physics textbooks..	Because the static and dynamic fluid chapters are combined into one chapter, the depth of the material in this chapter is disrupted and is no better than the 2013 curriculum class XI physics textbook for the same chapter.
Content update	Found some new content. However, in general the material presented is still the same as the previous physics textbook material. As a complement there is discussion material related to science facts, practical activities, sections on the application of concepts and critical thinking around physics materials and creations as a form of application of the material being discussed and at the end is equipped with a project assignment that allows students to explore the application of physics concepts further.	There has not been found any significant content innovation, but in the supplementary section, the application of physics concepts in current technology is discussed in a very limited portion in the “did you know” and “Let’s Be Technological”. In addition, the material “incompressible fluid assumption” is something new that is not found in the physics material of the 2013 curriculum.
Evaluation instruments	The presentation of evaluation questions is in the form of multiple choice	The presentation of evaluation instruments is more varied, such as

	questions totaling 15 questions and five fill-in questions. The questions presented do not yet meet the HOTS criteria. There are even several types of questions that have been widely used in other textbooks and the internet. In addition, this book is also equipped with portfolio assignments, reflections and evaluations.	practical instruments, teamwork, critical thinking, understanding checks, and end-of-chapter assessments. However, the end-of-chapter assessment only provides 5 multiple-choice questions.
CHAPTER V	Expansion and Heat Temperature	
Structure and presentation of material	The beginning of the chapter is equipped with learning objectives and concept maps. The material presented in this chapter includes heat transfer (conduction, convection and radiation), expansion, temperature changes, and changes in the state of matter.	The structure and presentation of material in the Independent Curriculum is not much different, but there is additional emphasis on the application of concepts in the context of everyday life.
Depth of material	The material is presented simply, concisely and compactly, the examples of questions included in the chapter are not too varied and tend to be the same as other similar textbooks.	The material is presented with a more contextual approach, but the depth of the material remains simple without much innovation.
Content update	In general, there is no significant material renewal and it is still the same as the discussion in previous textbooks. However, as a complement, there is discussion material related to science facts, practical activities, sections on the application of concepts and critical thinking around physics material and creations as a form of application of the material being discussed and at the end there is a project assignment that allows students to explore the application of physics concepts further.	There is no significant novelty compared to previous textbooks, but there are several examples of modern technology applications inserted.
Evaluation instruments	The presentation of evaluation questions is in the form of 15 multiple-choice questions and five fill-in questions. The questions presented do not meet the HOTS criteria. There are even several types of questions that have been widely used in other textbooks and the internet. In addition, this book is also equipped with portfolio assignments, reflections and evaluations.	The evaluation questions also did not change much, with a focus on multiple-choice and fill-in-the-blank questions similar to the 2013 Curriculum, but there were additional assignments involving critical thinking and collaboration.
CHAPTER VI	Kinetic Theory of Gases	
Structure and presentation of material	The material presented in this chapter includes gas pressure, gas kinetic energy, effective velocity of gas particles, equipartition theorem and internal energy of gases and ideal gases which include the ideal gas equation of state.	The structure of the presentation of the material is more systematic and includes practical applications, although without major changes compared to the previous curriculum.

Depth of material	The material is presented in a simple, concise and dense manner, the example questions included in the chapter are not very varied and even tend to be the same as other similar textbooks and questions on the internet.	The same approach with a focus on limited depth, emphasizing practical applications without delving into theory.
Content update	In general, there is no significant material renewal and it is still the same as the material in other textbooks. However, as a complement, there is a section on the application and development of concepts, physics treasures, and at the end, it is equipped with project assignments that allow students to explore the application of physics concepts further.	There is no significant novelty, but there are sections that emphasize the application of physics concepts in modern technology in limited portions.
Evaluation instruments	The presentation of evaluation questions is in the form of 15 multiple-choice questions and five fill-in-the-blank questions. The questions presented do not yet meet the HOTS criteria. There are even several types of questions that have been widely used in other textbooks and are spread across the internet. In addition, this book is also equipped with portfolio assignments, reflections and evaluations.	More varied assessments include teamwork, critical thinking, and understanding checks, but the number of final assessment questions remains limited to only 5 multiple choice questions.

From table I above, there are several quite significant differences between the physics textbooks for grade XI of the 2013 Curriculum and the Merdeka Curriculum. The following are the differences that can be found in the two physics textbooks;

- Structure and presentation of materials

The most fundamental difference between the physics textbooks of the 2013 Curriculum and the Merdeka Curriculum lies in the presentation of teaching materials. Referring to the physics syllabus of the 2013 Curriculum and the physics learning objectives of the Merdeka Curriculum, many new materials that are not yet in the 2013 Curriculum are then found in the physics textbooks of the Merdeka Curriculum. The materials in question include;

- Understanding the symptoms of global warming, its causes and impacts on climate change;
- Analyzing climate change and its impacts on life;
- Analyzing environmental pollution that occurs in the surrounding area;
- Implementing efforts to solve environmental pollution and global warming problems;
- Analyzing the use of various alternative energy sources;
- Analyzing various types of waste and useful natural materials and how to process them.
- The new materials above are all included in phase E or grade 10 of Senior High School

Because of the large amount of new materials included in phase E/grade X, it has consequences that physics materials that are usually included in grade X in the 2013 Curriculum such as Vectors, Kinematics, Dynamics, Work and Energy, Momentum and Impulse, Simple Harmonic Motion are included in semester I of grade XI in the Independent Curriculum plus fluid material where the Static Fluid chapter and the Dynamic Fluid chapter are combined into one learning chapter. Other chapters such as Temperature and Heat, Kinetic Theory of Gases and Thermodynamics are presented in semester II of grade XI.

- Depth of material

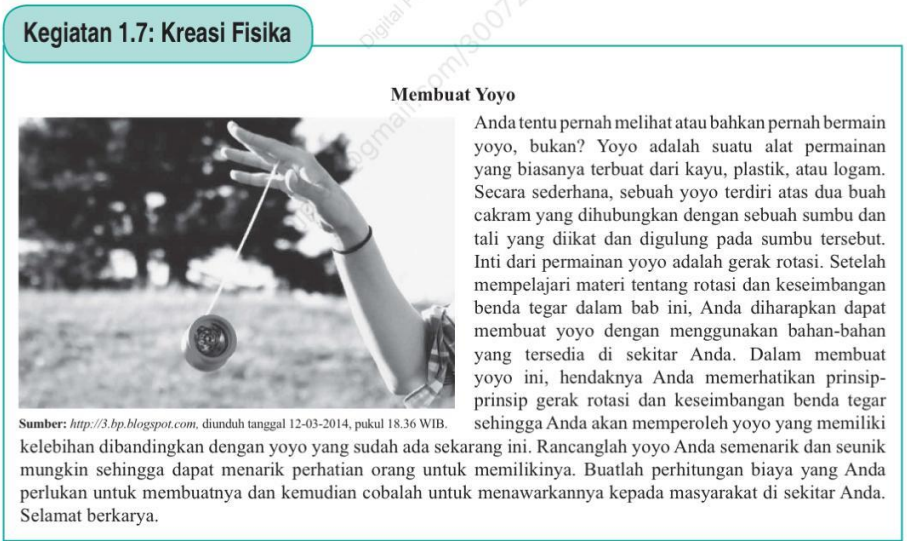
As described in the material presentation section, it can be seen that the physics material in phase F/grade XI of the Independent Curriculum is very dense. As a result, there is a merger of chapters that are presented separately in the 2013 curriculum. The chapters that are combined in the Independent Curriculum are as follows;

- Dynamics of Motion and Force, Circular Motion, Work and Energy, Momentum and Impulse, Rotation and Equilibrium of Rigid Objects are combined into the chapter on Dynamics of Particle Motion;
- The chapter on Circular Motion is combined into the chapter on Kinematics;
- The chapters on Static Fluids and Dynamic Fluids are combined into one chapter, namely the chapter on Fluids;
- The chapters on Elasticity of Solids and Hooke's Law and the chapter on Newton's Gravity are not discussed at all in the physics textbooks of the Merdeka Curriculum from grades X to XII.

The consequence of this very brutal merger is that the depth of the physics material for grade XI and XII high school students is eroded. The material presented is not deep and does not touch on the root of the physics problems that are to be achieved in the chapter. So the materials are just formalities, not sharp, and have the potential to fail to hone students' thinking skills in understanding the physics problems around them (Putra et al., 2018).

- Content novelty

The two physics textbooks that were the objects of this study did not have significant content novelty. However, in the supplementary section, each textbook has its own characteristics, such as; the 2013 Curriculum physics textbook is equipped with discussion materials related to science facts, practical activities, sections on the application of concepts and critical thinking and physics creation as a form of application of the material being discussed and at the end is equipped with project assignments . While the Merdeka Curriculum physics textbook, the supplementary section provides the application of physics concepts in the latest technology discussed in a very limited portion in the sections, do you know, and let's be technological (Putra & Ekasari, 2023).



Kegiatan 1.7: Kreasi Fisika

Membuat Yoyo

Sumber: *http://3.bp.blogspot.com,* diunduh tanggal 12-03-2014, pukul 18.36 WIB.

Anda tentu pernah melihat atau bahkan pernah bermain yoyo, bukan? Yoyo adalah suatu alat permainan yang biasanya terbuat dari kayu, plastik, atau logam. Secara sederhana, sebuah yoyo terdiri atas dua buah cakram yang dihubungkan dengan sebuah sumbu dan tali yang diikat dan digulung pada sumbu tersebut. Inti dari permainan yoyo adalah gerak rotasi. Setelah mempelajari materi tentang rotasi dan keseimbangan benda tegar dalam bab ini, Anda diharapkan dapat membuat yoyo dengan menggunakan bahan-bahan yang tersedia di sekitar Anda. Dalam membuat yoyo ini, hendaknya Anda memerhatikan prinsip-prinsip gerak rotasi dan keseimbangan benda tegar sehingga Anda akan memperoleh yoyo yang memiliki kelebihan dibandingkan dengan yoyo yang sudah ada sekarang ini. Rancanglah yoyo Anda semenarik dan seunik mungkin sehingga dapat menarik perhatian orang untuk memilikinya. Buatlah perhitungan biaya yang Anda perlukan untuk membuatnya dan kemudian cobalah untuk menawarkannya kepada masyarakat di sekitar Anda. Selamat berkarya.

Figure 1. Physics creations in the 2013 Curriculum physics textbook

- Evaluation instruments

The evaluation instruments in the 2013 Curriculum physics textbooks are quite varied. Types of evaluation instruments were found such as portfolio assignments, reflections, evaluations, 15 multiple-choice questions and 5 fill-in questions (Wati et al., 2024). However, the questions in the multiple-choice and fill-in types of instruments have not been categorized as HOTS questions (Maulidinah & Ekasari, 2023; Samijo & Romadona, 2023). Meanwhile, the Merdeka Curriculum physics textbook provides more varied evaluation instruments such as practical instruments, teamwork, critical thinking, understanding checks, and end-of-chapter assessments. However, the end-of-chapter assessment only provides 5 multiple-choice questions (Putra & Algiranto, 2023).

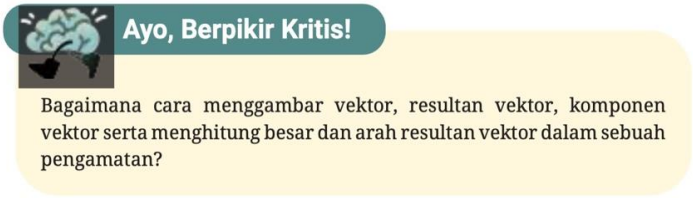


Figure 2. One form of evaluation in the Merdeka curriculum physics textbook (Radjawane et al., 2022)

This study was conducted because although the 2013 curriculum and the Merdeka curriculum have been implemented in Indonesia, studies on the quality of physics textbooks used in both curricula are still limited. Furthermore, there are still few studies that directly compare the quality of physics textbooks in the two curricula. Therefore, the gap identified is the lack of in-depth analysis of the extent to which physics textbooks used in the 2013 curriculum and the Merdeka curriculum meet educational standards and student needs.

The uniqueness or novelty of this study lies in the comparative approach used to systematically evaluate the quality of physics textbooks in two different curricula. This study will not only provide an evaluation of the quality of physics textbooks in both curricula but also provide insight into aspects that need to be improved in compiling textbooks to support the achievement of learning objectives in different contexts.

This study only covers physics textbooks used in several schools in Indonesia, so the results of the study may not fully represent the physics textbooks used nationally. Curriculum is a dynamic concept, and there may be changes in the curriculum or textbooks after this study was conducted (Farisi, 2013; Fitriana & Waswa, 2024). The results of this study may not be fully relevant to textbooks that are compiled after the changes. This study may be limited to secondary data or content analysis, without involving empirical evaluation of the effectiveness of textbooks in the classroom through direct observation or field trials. The results of this study are expected to be used as a reference by textbook developers, educators, and policy makers in selecting or compiling physics textbooks that are in accordance with student needs and curriculum objectives. In addition, the findings of this study can be the basis for improving the quality of physics textbooks in the future, both for the 2013 curriculum and the independent curriculum.

CONCLUSION

This study identified significant differences between the physics textbooks of the 2013 Curriculum and the Independent Curriculum in Indonesia, focusing on the structure and presentation of the material, the depth of the material, the novelty of the content, and the evaluation instruments. The analysis shows that the physics textbook of the Independent Curriculum presents more dense material by combining several chapters, which has an impact on reducing the depth of discussion of the material compared to the 2013 Curriculum. Although there are efforts to introduce the application of physics concepts in modern technology, both textbooks do not show significant content updates and are still

lacking in meeting the HOTS (Higher Order Thinking Skills) question standards. In addition, the evaluation instruments in the Independent Curriculum are more varied compared to the 2013 Curriculum, although the number of end-of-chapter evaluation questions is limited. This study highlights the need to improve the quality and depth of material in physics textbooks to be more effective in supporting the achievement of learning objectives and the development of students' critical thinking skills.

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