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Content Analysis of Higher Order Thinking Skills (HOTS) in Grade V Student Books Elementary School

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Abstract

Learning outcomes in the learning independence curriculum is that students must have Higher-Order Thinking Skills (HOTS) including for grade V elementary school. So, books must contain HOTS content to support students' HOTS thinking skills. This research aims to analyse the HOTS content in theme 9 student books and describe the amount of HOTS content in theme 9 student books. The research approach used qualitative analysis. The analysis instrument used a checklist sheet according to HOTS indicators. The data analysis technique included 4 stages: data collection; data reduction; data presentation; and conclusion drawing. The results showed HOTS content in theme 9 student books contains HOTS cognitive level 4 (analyzing) containing conceptual and metacognitive knowledge; cognitive level 5 (evaluating) containing conceptual, procedural, and metacognitive knowledge; and cognitive level 6 (creating) containing procedural and metacognitive knowledge. The amount of HOTS content in theme 9 student books are cognitive dimension level C4 (analyzing) by 27.37%, level C5 (evaluating) by 22.11%, and level C6 (creating) by 26.32%. Based on this context, the absorption of all HOTS content in the fifth-grade student book theme 9 amounted to 75.78%.

Keywords: *higher order thinking skills, student books, elementary school.*

Abstrak

Capaian pembelajaran dalam kurikulum merdeka belajar salah satunya adalah siswa harus memiliki keterampilan berpikir Higher-Order Thinking Skills (HOTS), termasuk untuk kelas V Sekolah Dasar. Maka perlu buku siswa memuat konten HOTS untuk menunjang kemampuan berpikir HOTS siswa. Penelitian ini bertujuan untuk menganalisis konten HOTS pada buku siswa tema 9 dan mendeskripsikan jumlah konten HOTS pada buku siswa tema 9. Pendekatan penelitian menggunakan kualitatif analisis isi (*content analysis*). Instrumen analisis menggunakan lembar cheklist sesuai indikator HOTS. Teknik analisis data mencakup 4 tahap yaitu pengumpulan data; reduksi data; penyajian data; dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa muatan HOTS pada buku siswa tema 9 terdapat konten HOTS kognitif level 4 (*analyzing*) memuat pengetahuan konseptual dan metakognitif; kognitif level 5 (*evaluating*) memuat pengetahuan konseptual, prosedural, dan metakognitif; dan kognitif level 6 (creating) memuat pengetahuan prosedural dan metakognitif. 2) Jumlah konten HOTS pada buku siswa tema 9 terdapat dimensi kognitif level C4 (Menganalisis) sebesar 27.37%, level C5 (Mengevaluasi) sebesar 22.11%, level C6 (mencipta) sebesar 26.32%. Berdasarkan konteks ini keterserapan seluruh konten HOTS pada buku siswa kelas V tema 9 sebesar 75.78%.

Kata kunci: *keterampilan berpikir tingkat tinggi, buku siswa, sekolah dasar.*

INTRODUCTION

As the pace of development of knowledge, technology, and art continues to grow, humans must be prepared to face the challenges of these changes. The pattern of education through an independent curriculum continues to undergo development to adjust to the learning experience of students. The curriculum has implications for shaping students' experiences and understanding as a whole in the learning process. One of the demands of independent learning is that students have High Order Thinking Skills (HOTS). Therefore, to realize this implementation, it must be supported by teaching materials to improve students' HOTS both in the content aspect and the questions presented in learning.

One of the supporting factors for student success in achieving a learning outcome is student book teaching materials. Books are learning media that can connect students, teachers and curriculum (Umam, 2018). Books that contain higher-order thinking skills can improve students' ability to think critically, and creatively, and solve problems. The results of the study (Bailin et al. 2017), explain that increasing students' critical thinking is done through the activities of analyzing, observing, and solving problems assisted by teaching materials integrated with daily activities. In the book there are learning activities that are systematically arranged, demand student activeness sharpen reasoning power, and improve higher-order thinking skills with material activities integrated into everyday life (Erdiana & Panjaitan 2023).

The existence of learning resources in the form of books makes the learning process coherent and makes it easier for students to master each learning material. The book is one of the effective learning resources consisting of material, syntax of reference sources and continuously used by teachers during classroom learning. Of course, the book contains themes that have been selected by the government. According to AndrawanaSiti Halidjah (2022) state that in the book there is a reference for learning activities and is equipped with content that

will be taught to students during learning. Based on this context, it can be understood that student books have different themes in each grade level.

In line with the competency standards of SD/MI graduates, students must be given HOTS learning activities. Students can develop the ability to apply knowledge to learning activities, which refers to the cognitive level consisting of analyzing (C4), evaluating (C5), and creating (C6*)*. According to Facione (1990) strengthening HOTS is carried out on students since basic education by giving a simple problem and paying attention to students' critical and creative thinking skills. According to Usmaedi (2017) grade V elementary school students are in the *operational concrete* phase, where students can illustrate and predict things that are concrete through meaningful learning experiences.

HOTS are self-regulation in presenting decisions (*judging*) as a result of interpretation, analysis, evaluation, and inference in determining decisions taken (Facione Peter, 2015). Ennis's (1989) HOTS-laden learning activities aim to improve students' competence in critical thinking, analyzing, and solving problems and their ability to deal with changes in the learning revolution. Critical thinking is the ability of students to present arguments rationally to obtain the truth and the best decision in dealing with problems that occur. Sihotang (2012) critical thinking is a high-level thinking construction that requires students to process in totality in illustrating ideas, creating and elaborating *real-life* learning activities. Liyod and Bahr (2010) explain that students who are accustomed to critical thinking have a systematic view in finding the truth and determining the decisions taken.

The process of forming HOTS early on is also beneficial for students in finding a solution to a problem in everyday life and increases student motivation and learning outcomes. Referring to the results of research by Syafi'i stated that there is a significant effect of critical thinking skills on student learning motivation (Ma'ruf, 2019). The results of the research by Miguel and L´opez (2016), found that students who are accustomed to being invited to think critically have a significant increase in learning outcomes compared to those who do not experience these conditions. Therefore, the ability to think critically for students is useful for positioning the truth and clarity of thinking in determining wise decisions from the problems outlined in learning.

In addition to motivation and learning outcomes, HOTS is also useful for improving student literacy. The results of the *Program for International Student Assessment* (PISA) survey revealed that Indonesia has a low literacy level (Pratiwi 2019) . People estimate that the Indonesian government has not facilitated the right education system for the nation's children. Whereas learning that integrates HOTS is one of the alternatives to improve student literacy, teaching materials with HOTS content need to be developed to meet these needs in learning (Erdiana & Panjaitan 2023) .

In addition to learning activities, HOTS content can also be illustrated in learning assessment. HOTS-based learning and questions must use teaching materials that contain these skills. One of the strategies to achieve HOTS cognitive domain is through teaching materials, one of which is books. This is in line with the opinion of (Pratama & Retnawati, 2018) "*One of the things that can familiarize students with HOTS activities is the textbook used in the learning process in the classroom".* Textbooks can be used as a guide to the learning process in strengthening higher-order thinking skills. The student books used should contain HOTS so that students can improve these higher-order thinking skills.

The basic foundation used to measure HOTS contained in student book teaching materials is the Bloom Taxonomy by Anderson and Krathwohl in 2001. According to (Jailani 2018) HOTS consists of three components of the highest cognitive process, namely "analyzing (C4), evaluating (C5), and creating (C6)", as well as three aspects of the highest dimensions of knowledge, namely "conceptual dimensions, procedural dimensions and metacognitive dimensions" (Bahri 2019) so that a combination of knowledge dimensions and dimensions of cognitive processes is formed in which each dimension has a sub-type of knowledge and part of the cognitive process that goes hand in hand. The results of research Uswah and Wardani (2021) confirm that the highest cognitive level in the revised edition of Bloom's Taxonomy by Anderson includes analyzing (C4); evaluating (C5); and creating (C6). Therefore, HOTS are at the C4, C5 and C6 level indicators and are integrated in learning.

Based on previous studies by Widodo, Indrasti, Radiusman, Umar, and Nursaptini (2019) found that HOTS content in Class V Theme 6 student books most of the learning activities in the book have implemented the development of students' higher order thinking skills. Tasya Andrawana's research found that there is HOTS Content in Thematic Textbooks for Grade V Theme 1 Students (Andrawana & Halidjah 2022). Nurhayati's research shows that grade V students' science and social studies textbooks contain higher-order thinking skills in the context and question components. Nurhayati and Fairuz (2023) said that Usmaedi focuses on outlining activities that make students familiar with critical thinking as learning at the next level of education (Usmaedi 2017). Bahri's research (2019) focuses on revealing students' critical thinking activities in learning such as students being able to convey argumentative, logical, and confident ideas, both written, oral, and action.

Based on the above problems, the focus of this research is: 1) Analyzing the content of HOTS in theme 9 student books; 2) Describe the amount of HOTS content in theme 9 student books. Therefore, content analysis is needed to reveal how much HOTS content is contained in student books. This is the basis for the importance of tracking HOTS content in student books. The high absorption of HOTS content in student books can be a modality for teachers to; 1) present learning innovations based on strengthening HOTS to students; 2) Answer the reconstruction of 21st-century learning where students must be able to face the changes of the 4 C era revolution, namely; (a) able to communicate; (b) collaborate; (c) think critically; (d) creative and innovative; 3) Creating digitally literate students; 4) Changing the learning process from *teacher-centered learning* to student-centered *learning*; and 5) Presenting a challenging, active and fun learning process. Specifically, this study will analyze the HOTS content in the Theme 9 student book and describe the amount of HOTS content in the book to determine how much HOTS content is included in the book as one of the teaching materials used by teachers.

This research uses a qualitative approach. Qualitative research is research that focuses on understanding the symptoms of phenomena about what is experienced by utilizing descriptive methods in the form of words, and language in a natural context. This research uses content analysis, namely research that is an in-depth discussion of the content of written or printed information in the mass media (Burhan Bungin 2007). The qualitative type used in this research is *content analysis* (Hardani 2020). Qualitative *content analysis* shows a method of data analysis that is integrative and conceptually more directed to find, identify, process, and analyze documents to understand their meaning and significance.

Content analysis can also be used in analyzing all documented forms of communication such as books, newspapers, recordings, and manuscripts. Therefore, content analysis qualitative research focuses on searching for certain documents or records as data sources. Content analysis can also be applied to analyze textbooks both theoretical and empirical (Creswell 2015). In this study, the qualitative analysis process was carried out by researchers through tracing sources in the form of teaching material documents to be analyzed specifically. Content details are used as one of the techniques used to and are carried out objectively and systematically so that the characteristics of a particular message can be found.

The subject and object of research is the place where data related to the research is obtained (Bungin, 2007). The subject of this research is the content of the student book of Class V Elementary School Theme 9. While the object of his research is the material in the theme 9 student book: *"Objects Around Us"*. The research data sources consist of primary data, namely documents in the form of grade V student books on theme 9 of elementary school, including text information in the book, supporting illustrations and images. Second data sources in this study were obtained indirectly consisting of various kinds of reading literature have relevance such as Theses, journals, books and internet sites and have a relationship with the focus of this research.

The data collection methods used in this research are documentation and observation (Creswell 2015). The documentation method contains information that is an important record based on both individuals and institutional organizations. Documentation also contains written message information used in identifying and analyzing data. The documentation technique was used by the researcher to obtain accurate and clear information from the search and interpretation of HOTS content in student books The conceptual framework of this study is as shown in the following figure:

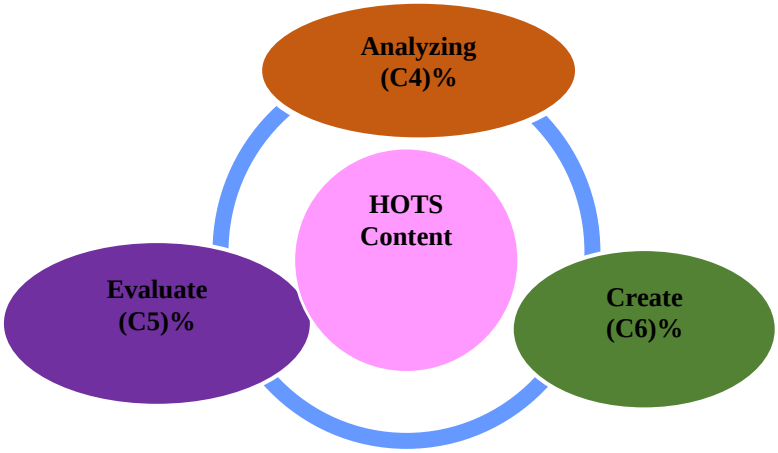


Figure 1. Research Conceptual Framework

The figure 1 explains that HOTS identification is carried out by identifying theme 9 student books together covering HOTS aspects of thinking level C4 (*analyzing*), cognitive level C5 (*evaluating*), and cognitive level C6 (*creating*) using operational COWs that include *knowledge*, *procedural* and *metacognitive* dimensions. Then the identification results are grouped based on the classification of cognitive domains and then the percentage (%) of HOTS content of each Subtheme is determined.

Instrument as a measuring tool to identify HOTS content in this study uses a HOTS analysis checklist sheet based on the *Taxonomy Bloom* cognitive domain level version (Krathwohl 2002) as follows:

Table 1. Cognitive Domain HOTS Analysis Instrument

Cognitive Level (HOTS)	**Indicator**	**Sub-Indicators**	
(C4)	Analyzing	1.	C4-1 Analyze
		2.	C4-2 Selecting
		3.	C4-3 Critique
		4.	C4-4 Classify/organize
		5.	C4-5 Distinguish
		6.	C4-6 Solve
		7.	C4-7 Find
		8.	C4-8 Review
		9.	C4-9
		10.	C4-10 Summarize
		11.	Etc
(C5)	Evaluate	1.	C5-1 Comparing
		2.	C5-2 Categorize
		3.	C5-3 Assess
		4.	C5-4 Interpret
		5.	C5-5 Measuring
		6.	C5-6 Summarize
		7.	C5-7 Select
		8.	C5-8 Detailing
		9.	C5-9 Check
		10.	C5-10 Summarize
		11.	Etc
(C6)	Create	1.	C6-1 Display
		2.	C6-2 Create
		3.	C6-3 Composing
		4.	C6-4 Design
		5.	C6-5 Formulate
		6.	C6-6 Producing
		7.	C6-7 Compile
		8.	Etc

Table 2. *Cheklist* Sheet for HOTS Content Analysis in Student Books

Theme	:				
Sub Theme	:				
Learning	:				
HOTS *(Higher Other Thinking Skill)* level	C4	C5	C6	HOTS-based Learning Activities	Page

RESULTS AND DISCUSSION

The data generated from this research is the percentage comparison of HOTS content in the theme 9 student book *"Objects Around Us"* which consists of 4 subthemes. The HOTS content identification process was carried out on Subtheme 1 *"Single and Mixed Objects"*; Subtheme 2 *"Objects in Economic Activities*", and subtheme; 3 *"Humans and Objects in their Environment*" based on the classification of cognitive domain level C4 (*analyze*), level C5 *(assess/evaluate);* and level C6 *(create*).

The determination of HOTS-level classification is guided by the operational verbs and activities presented. The cross-checking was done gradually from HOTS level C4 (*analyze*), C5 *assess/evaluate*, and C6 (*create*) in each Subtheme. The HOTS content that has been identified is then coded with its cognitive dimension level and then the *conceptual*, *procedural*, and *metacognitive* knowledge aspects of each Subtheme are analyzed. The flow of the process of identifying and analyzing HOTS content in student books is as described below:

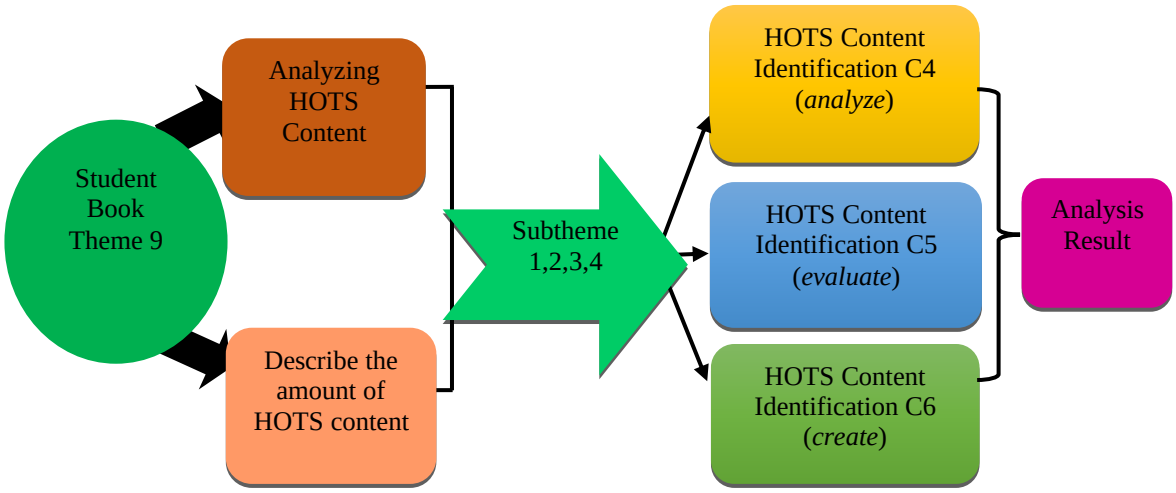


Figure 2. The Process of Analyzing HOTS in the Theme 9 Student Book for Grade V Elementary School

Subtheme 1 (*Single and Mixed Objects)*

Description of the content of HOTS Subtheme 1 "Single and Mixed Objects" based on the identification that has been done known cognitive dimension C4 (*analyze*) amounted to 10 content or 33.33%; C5 (*evaluate*) amounted to 8 content or 26.67% and C6 (*create*) amounted to 7 content or 23.33%. Specifically, cognitive dimension C4 (*analyze*) contains aspects of *conceptual* and *metacognitive* knowledge; cognitive dimension C5 (*evaluate*) contains aspects of *conceptual*, *procedural*, and *metacognitive* knowledge; and cognitive dimension C6 (*create*) contains aspects of *procedural* knowledge. The average amount of HOTS content in subtheme 1 is 83.33%.

Then clear evidence related to HOTS content aspects in subtheme 1 based on the operational verbs used can be detailed as follows:

1) In Subtheme 1 student book, HOTS content identified cognitive process dimension C4 (*analyze*) using operational verbs *analyze*, *classify/collect*, and *organize.*

2) In Subtheme 1 student book, HOTS content identified process dimension C5 (*evaluate*) using operational verbs *conclude, examine* and *assess*.
3) In the Subtheme 1 student book, the HOTS content of the cognitive process dimension identified is C6 (*creating)* using operational verbs *of making*, *producing* and *designing*. Examples of C4, C5 and C6 cognitive HOTS content in Subtheme 1 can be seen in the following figure.

Theme Subtheme	: 9 : 1 Single and Mixed Objects		
Learning	: 1		
KKO	HOTS Activity in Learning	HOTS Level	Page
Classify	Students, through observing objects at home, then classify the types of objects and their uses in the observation table provided. 	C4	2

Figure 3. Example of HOTS C4 *(classifying)* in subtheme 1

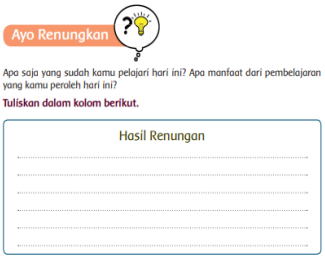
Theme Subtheme	: 9 : 1 Single and Mixed Objects		
Learning	: 4		
KKO	HOTS Activity in Learning	HOTS Level	Page
Distinguishing	Students differentiate about the appearance of the surrounding nature based on the type and the identification results are loaded on the student worksheet as a critical thinking reflection. 	C5	33

Figure 4. Example of HOTS C5 (*giving arguments)* in subtheme 1

Theme Subtheme	: 9 : 2 Objects in Economic Activity		
Learning	: 1		
KKO	HOTS Activity in Learning	Level *HOTS*	Page
Create		Students create an example of an electronic advertisement by writing the script and illustrating the story in the advertisement.	C6	59

Figure 5. Example of HOTS C6 *(create)* in subtheme 1

Subtheme 2 "Objects in Economic Activities"

Description of HOTS content Subtheme 2 "*Objects in Economic Activities"* based on the identification that has been done, it is known that the cognitive process dimension C4 (*analyze*) amounts to 9 contents or 30.00%; C5 (*evaluate*) amounts to 7 contents or 23.33% and C6 (*create*) amounts to 9 contents or 30.00%. Specifically, cognitive C4 (*analyze*) contains aspects of *conceptual*, *procedural*, and *metacognitive* knowledge; cognitive dimension C5 (*evaluate*) contains aspects of *conceptual*, *procedural*, and *metacognitive* knowledge; and cognitive dimension C6 (*create*) contains aspects of *procedural* knowledge. The average amount of HOTS content in subtheme 2 is 86.66%.

Then clear evidence related to HOTS content aspects in subtheme 2 based on the operational verbs used can be detailed as follows:

1) In Subtheme 2 book, HOTS content identified cognitive process dimension C4 (*analyze*) using operational verbs *classify/collect, compare* and *organize.*
2) In the Subtheme 2 student book, HOTS content identified cognitive process dimension C5 (*evaluate*) using operational verbs *concludes, interpret,* and *assess*.
3) In the Subtheme 2 student book, the HOTS content in the cognitive process dimension identified is C6 (*creating)* using KKOs of *making, producing* and *designing*. Examples of HOTS content in cognitive dimensions C4, C5 and C6 of Subtheme 2 can be seen in the figure.

Theme Subtheme	: 9 : 2 Objects in Economic Activity		
Learning	: 5		
KKO	HOTS Activity in Learning	Leve HOTS	Page

Analyzing	Students analyze television advertising media and then identify the benefits of these advertisements for everyday life. The results of student work are made on the LKS that has been provided.		C4	104

Figure 6. Example of HOTS C4 *(analyzing)* in subtheme 2

Theme Subtheme	: 9 : 2 Objects in Economic Activity			
Learning	: 5			
KKO	HOTS Activity in Learning		Level HOTS	Page
Summarize		After learning the functions of objects, students are assigned to make a conclusion about the use of these objects using their own language and the results are left on the student worksheet.	C5	104

Figure 7. Example of HOTS C5 *(inferring)* in subtheme 2

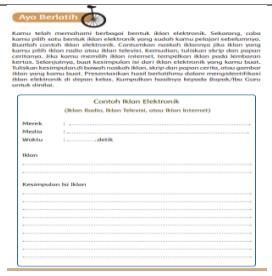
Theme Subtheme	: 9 : 2 Objects in Economic Activity			
Learning	: 1			
KKO	HOTS Activity in Learning		Level HOTS	Page
Create		students create electronic advertising creations based on the types and selections that have been determined by the group and the results are presented on the student worksheet.	C6	59

Figure 8. Example of HOTS C-6 *(creating)* in subtheme 2

Subtheme 3 "People and Things in their Environment"

Description of HOTS content Subtheme 3 *"Humans and Objects in their Environment"* based on the identification that has been done, it is known that the cognitive process dimension C4 (*analyze*) amounts to 7 contents or 23.33%; C5 (*evaluate*) amounts to 6 contents or 20.00% and C6 (*create*) amounts to 9 contents or 30.00%. Specifically, cognitive dimension C4 (*analyze*) contains aspects of *conceptual*, and *metacognitive* knowledge;

cognitive dimension C5 (*evaluate*) contains aspects of *conceptual*, *procedural*, and *metacognitive* knowledge; and cognitive dimension C6 (*create*) contains aspects of *procedural* knowledge. The average amount of HOTS content in subtheme 3 is 73.33%.

Then clear evidence related to HOTS content aspects in Subtheme 3 based on the operational verbs used can be detailed as follows:

1) In the Subtheme 3 book, HOTS content identified cognitive process dimension C4 (*analyzing*) using operational verbs *Analyzing*, *Concluding*, and *Differentiating.*
2) In the Subtheme 3 student book, HOTS content identified cognitive process dimension C5 (*evaluate*) using operational verbs *conclude, compare*, and *assess.*
3) In the Subtheme 3 student book, the HOTS content in the cognitive process dimension identified is C6 (*creating)* using the operational verbs of *designing and making*. Examples of HOTS content on cognitive C4, C5, and C6 in Subtheme 3 can be seen in the picture.

Theme Subtheme	: 9 : 3 People and Things in their Environment		
Learning	: 1		
KKO	HOTS Activity in Learning	Level HOTS	Page
Distinguishing	 Students in this activity are assigned to distinguish single substances and mixed substances through experiments with groups and pour the results in the student worksheet.	C4	127

Figure 9. Example of HOTS C4 *(differentiating)* in Subtheme 3

Theme Subtheme	: 9 : 3 People and Things in their Environment		
Learning	: 1		
KKO	HOTS Activity in Learning	HOTS Level	Page
Assess	 Students are told to reflect on the objects around them and make an assessment of how much single substances and mixed substances are used in everyday life.	C5	127

Figure 10. Example of HOTS C5 *(judging)* in Subtheme 3

Theme	: 9		
Subtheme	: 3 People and Things in their Environment		
Learning	: 3		
KKO	HOTS Activity in Learning	Level HOTS	Page
Design	students design a *mind map* about economic activities and their effects on society using materials as desired by the students. The result displays a *Mind Map* of the economic activities of the local community. 	C6	148

Figure 11. Example of HOTS C6 *(designing)* in Subtheme 3

Description of the Number of HOTS in Student Book Theme 9

Based on the data analysis, it is known that the number of learning activities in the Theme 9 student book is 95 activities. 72 HOTS contents contain HOTS at the cognitive level (C4, C5, and C6), and 23 contents that do not contain HOTS at the cognitive level (C1, C2 and C3). Meanwhile, the distribution of HOTS content represents all HOTS cognitive levels from different learning activities and consists of a combination of *conceptual*, *procedural*, and *metacognitive* knowledge dimensions.

In detail about the content of the sub-type of knowledge and the cognitive process of HOTS C4 (*analyzing*) in the theme 9 student book is 26. The Operational Verbs used include *analyzing, distinguishing, categorizing/grouping, concluding, and comparing* as presented in the following table:

Table 3. Results of HOTS Content Identification Level C4 (*Analyzing*) Theme 9

No.	Operational Verbs (OWVs)	Student hots activit	Total
1	C4-1 Analyze	a. Students analyze the differences between single substances and mixtures (p.5). b. Students analyze the different contents of advertisements (p.31). c. Students analyze the text to obtain information about the components of an advertisement (p.122). d. Students analyze the types of language communication used in advertisements (p.128).	4
2	C4-2 Selecting	a. Students select the types of economic activities in the surrounding community (p.93). b. Students select art works found in the area where they live (p.133).	2
3	C4-3 Critique	a. Students criticize the creation of advertisements on television (p.60) b. Students criticize the information contained in the advertising text (p.131).	2

4	C4-4 Classify/organize	a. Students classify/contain advertisements based on their type (p.7). b. Students organize the types of syrupy water and coffee through a simple experiment (p.29). c. Students categorize the types of economic society (p.75). d. Students Classify types of single substances, homogeneous mixed substances, and heterogeneous mixed substances (p.123).	4
5	C4-5 Distinguish	a. Students differentiate about natural features (p.28). b. Students distinguish efforts made by families to maintain unity in society (p.43) c. Students distinguish between types of electronic advertisements, information, and notices (p.59).	3
6	C4-6 Solve	a. Students find problem solving in dealing with cultural differences (p.33). b. Students can solve the characteristics of mixed substances in Mom's cooking dough (p.39).	2
7	C4-7 Find	a. Students find an explanation of the concept of harmony (p.45) b. Students find examples of harmonious behavior (p.47). c. Students discover the types of economic activities of parents (p.79). d. Students discover the ways in which parents fulfill their family's needs (p.102).	4
8	C4-8 Analyze	a. Students examine the objects around them (p.2). b. Students examine the natural appearance of land and water areas (p.66)	2
9	C4-10 Summarize	a. Students summarize the differences between seawater and mountain water to reach a conclusion (p.30). b. Students conclude about the message contained in dance (p.103) c. Students summarize the benefits of advertising (p.104)	3
	Total-Content C4 (*Analyzing*)		**26**

In detail about the content of the subtype of knowledge and the cognitive process of HOTS C5 (*evaluate*) in the theme 9 student book is 21. The Operational Verbs used include *comparing, categorizing, concluding and assessing* as clearly presented in the table 4:

Table 4. HOTS Content Identification Results C5 (*Evaluate*) Theme 9

No.	Operational Verbs (OWVs)	Student Activity	Total
1	C5-1 Comparing	a. Students compare the benefits of environmental care to a healthy lifestyle (p. 137) b. Students compare the consequences of not prioritizing unity in the school environment (p. 145).	2
2	C5-2 Categorize	a. Students categorize domestic products or imported products. 9p.160) b. Categorize the types of batik based on their patterns. (p.172)	2
3	C5-3 Assess	a. Students assess the work of other groups on the benefits of the observed plants. (p.26) b. Students assess the benefits of plantation processing as an economic resource (p.100)	2
4	C5-4 Interpret	a. Students interpret the profitability of a small industrial business in the form of a home industry. (p.98) b. Students create a mapping of the interpretation of data needed to be related to the impact of a healthy environment on society. (p.119)	2
5	C5-5 Measuring	a. Students measure batik cloth using a length measuring device (p. 132). b. Students take measurements in making *slime* (p.196).	2
6	C5-6 Summarize	a. Students summarize the data on family roles in a table (p.53). b. Students summarize the types of commercial, company, and public service advertisements (p.175).	2
7	C5-7 Choose	*a.* Students choose the types of harmonious living behaviors to create a *Mind Map* (p. 47). b. Students choose materials in making batik cloth (p. 182).	2
8	C5-8 Detailing	a. Students detail the benefits of the economy to life in a growing society (p.93). b. Students Detail the consequences of not taking good care of the environment (p.176).	2
9	C5-9 Check	a. Students examine a reading text by identifying the use of language from the results of the search that has been done (p.6) b. Students examine the advantages of the product offered by the advertisement in the newspaper (p.8)	2
10	C5-10 Summarize	a. Students summarize the function of advertisements in obtaining information (p.139). b. Students summarize the benefits of learning about Indonesian culture and unity (p.160). c. Students conclude the consequences of not living	3

in harmony in society (p.177)	
Number of Content C5 (*Evaluate*)	**21**

In detail about the content of knowledge subtypes and HOTS cognitive processes that contain C6 include activities to *create, design, produce, compile,* and *display*. The results of the analysis amounted to 25 as presented in the following table:

Table 5. Results of HOTS C6 (*Creating*) Content Analysis for Theme 9

No.	Operational Verbs	Student Activity	Total
1	C6-1 Display	a. Students perform major scale songs in writing and orally (p. 11) b. Students perform the minor scale song appropriately in writing and orally. (p. 14). c. Students present the content of print media advertisements obtained oraly, the advertisements are pasted in the column provided (p.25). d. Students perform the song in writing and orally (p.39). e. Students perform scales with a recorder or pianist (p.51). f. Students perform the melody of the song *Air Sumber Hidup* on a recorder or pianist (p.52). g. Students perform the drawn dance floor patterns in groups (p.78). h. Students perform vertical, horizontal, diagonal, curved line dance floor patterns (p.110) i. Students perform the floor patterns of a regional creation dance (p.110)	9
2	C6-2 Create	a. Students make, mix water, turmeric powder, and tamarind fruit, whether the mixture is completely mixed or not (p.38) b. Students create a drawing of an electronic advertisement sourced from a real advertisement from television (p.63) c. Students make homogeneous and heterogeneous mixtures (p.100). d. Students create together the mixing of some substances p.168) e. Students make *Jumputan Batik* with the guidelines of the steps provided (p.171)	5
3	C6-3 Composing	a. Students make up examples of electronic advertisements (p.59). b. Students make up pictures of electronic advertisements sourced from real advertisements on television (p.60).	2
4	C6-4 Design	a. Students conceptualize single substances and mixtures (p.63). b. Students conceptually design a mind map of economic activities and their effects on society	3

		(p.148). c. Students design a batik *Jumputan* (p.170).	
5	C6-5 Formulate	a. Students formulate the classification of elements and compounds, the results are described in the column provided (p.119). b. Students formulate combinations of dance floor patterns (p.126).	2
6	C6-6 Producing	a. Students produce batik from the results of the experiment with *Jumputan Batik* (p.170). b. Students produce *Batik* with simple interlocking techniques (p.179).	2
7	C6-7 Compile	a. Students compile group clippings on the types of businesses that are self-managed and group-managed (p.131) b. Students develop a role-play script about the importance of upholding a sense of unity (p.155).	2
	Total-Content C6 (*Creating*)		**25**

Based on the HOTS content analysis that has been carried out on the theme 9 student book, it can be concluded that the description of HOTS content is found in the dimensions of cognitive process C4 (*analyze*); C5 (*evaluate*) and C6 (*create*) aspects of *conceptual*, *procedural*, and *metacognitive* knowledge. C4 cognitive HOTS content (*analyze*) consists of activities to *distinguish* the characteristics of advertisements and *classify/organize the* types of objects found around the students' environment. According to Anderson and Krathwohl (2001) *classification* and *organization*, knowledge is specific knowledge about class categories, arrangement and division of a subject matter. While Ennis (1989) argues that the ability to *distinguish* is the activity of relevant and irrelevant information in a problem. Then according to Facione (1990) the ability to *organize* requires the activity of forming integrated and orderly relationships related to information, so as to get a conclusion that is in accordance with the theory presented.

C5 cognitive HOTS content is seen in the *comparing* activity. The activity *compares* (the benefits of environmental care to a healthy lifestyle). *Comparing* activity is the activity of predicting a process in an operation or an identified product. In line with the expression Widodo, Indrasti, Radiusman, Umar, and Nursaptini (2019) that *comparing* activities requires analytical, reflective and critical thinking skills. Likewise, the activity of *categorizing* (about domestic or imported products) in its completion requires concentration and processing speed for students. According to Hair et al. (2014), *category knowledge* is knowledge about categorizing specific classes, divisions, and arrangements in a subject matter. So that the HOTS C5 content is in accordance with what is described in the theory. Furthermore, the activity of *inferring* knowledge requires creative ideas and experiment-based activities in solving the problem.

HOTS C6 content is seen in the activity of *making (*making pictures of electronic advertisements sourced from real advertisements on television). In addition, the knowledge activity of *producing* (producing *Batik* from the results of experiments with *Jumputan Batik*). Anderson and Krathwohl (2017) argue that *making* includes the process of making choices based on certain criteria for a problem. In addition, *producing* activities are the process of

carrying out plans in order to solve problems. Anderson and Krathwohl (2017) argue that *producing* includes the activity of making a list of activities by presenting innovations from a developed product process.

The results of the HOTS content analysis identification in the overall Theme 9 student book are presented in the following table:

Table 6. Results of HOTS Content Analysis on All Subthemes of Student Book Theme 9

No.	Subtheme	C4 (Analyzing)	C5 (Evaluate)	C6 (Creating)	Total
1	Subtheme 1	10	8	7	25
2	Subtheme 2	9	7	9	25
3	Subtheme 3	7	6	9	22
	Total	26	21	25	72
	Percentage (%)	**27.37%**	**22.11%**	**26.32%**	**75.78%**

Based on Table 6 above, there are 10 contents of HOTS Cognitive C4 (*analyzing*) in Subtheme 1, 9 contents in Subtheme 2, and 7 contents in Subtheme 3, so the total number of HOTS C4 contents is 26. Meanwhile, HOTS Cognitive C5 (*evaluating*) content in Subtheme 1 has 8 contents, Subtheme 2 has 7 contents, and Subtheme 3 has 6 contents, so the total number of HOTS C5 contents is 21. Furthermore, cognitive HOTS content C6 (creating) in Subtheme 1 has 7 contents, Subtheme 2 has 9 contents, and Subtheme 3 has 9 contents, so the total number of HOTS content C6 is 25. The graph of the number and percentage (%) of HOTS content in theme 9 student books can be seen as follows:

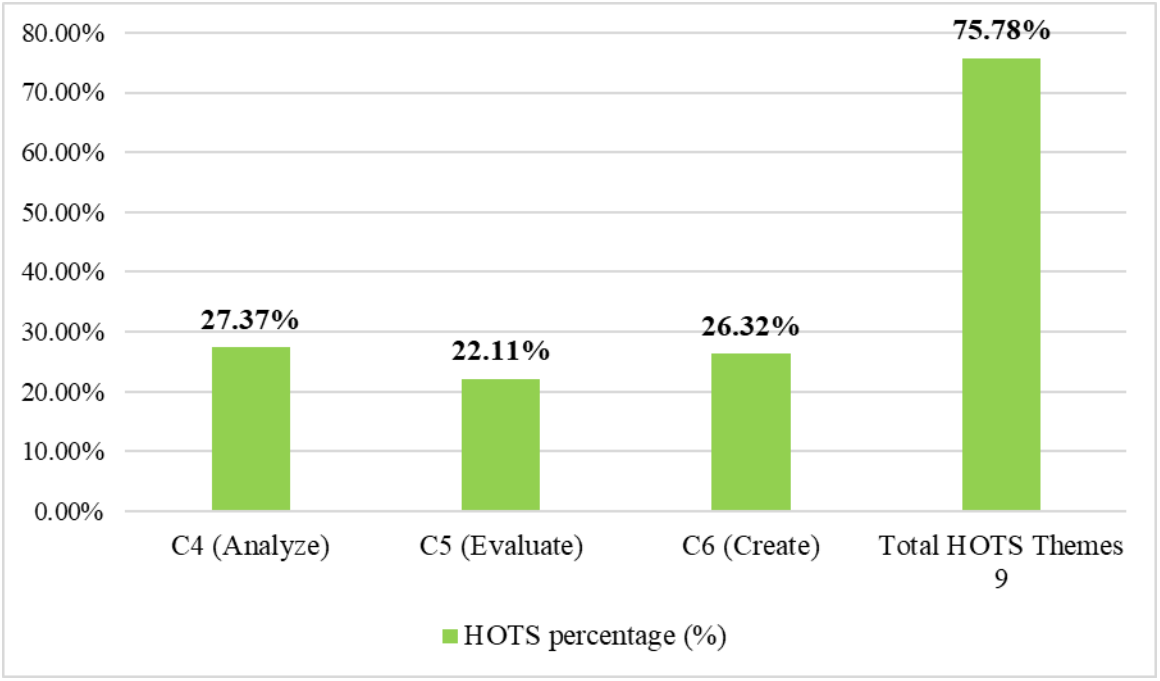


Figure 12. Graph of HOTS Content Analysis on Student Book Theme 9

Based on the graph above, it can be seen that the percentage of HOTS content in theme 9 student books for C4 (*analyze*) is 27.37%, C5 (*evaluate)* is 22.11%, and C6 (*create*) is 26.32%. Based on the data found in this study, the realization of HOTS content in theme 9 student books is sufficient to represent the need to improve students' critical thinking skills.

CONCLUSION

Based on all stages of the research process that have been carried out, this study concludes that the HOTS content in the student book theme 9 contains HOTS content at cognitive level 4 (analyzing) which contains conceptual and metacognitive knowledge; cognitive level 5 (evaluating) which contains conceptual, procedural, and metacognitive knowledge; and cognitive level 6 (creating) which contains procedural and metacognitive knowledge. In general, the content of the student book theme 9 for grade V of elementary school has met the HOTS content.

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