Knowledge-Driving Language in Text-Based Learning: Integrated Thematic Learning Material Design

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Abstract. Based on the results of research on government-issued textbooks using the 2013 Curriculum for elementary school education levels, it can be seen that the materials in the book do not describe the integration of one material with other materials from various competencies in different fields of science, although under the same theme or sub-theme. In fact, on the cover page it is labelled "Thematic Books for Integrated Curriculum 2013". The lack of integration of these materials is due to the absence of competency material from certain fields that can become the binding thread and act as a medium of transmission from one competency to another when there is a change of discussion material. On that basis, this article provides an overview of how Bahasa materials can be used as a binder and transmission medium between various materials of competence in different fields of science or subjects. In other words, this article presents the conceptual design of an integrated thematic learning material design model based on the role of language as a fetcher of knowledge.

Keywords: Integrated Thematic · Competence · Transmission · Conceptual Design · Knowledge Driver

1 Introduction

Integrated thematic learning is learning that uses a theme to link several subjects so that it can provide meaningful experiences to students [1]. In a relatively similar editorial, Humaidah et al. [2] define thematic/integrated learning as a learning model that combines/integrates various competencies from various subject matters into a theme. Web and Pearson [3] state that the first activity in thematic-based learning is analyzing the chosen theme. The thematic model is considered as a unit of various themes that contain learning ideas and integrate them into some topics. Aside from that, model learning was integrated thematically with a greater emphasis on student-centered learning. In a sense, the teacher provides opportunities for students to connect between experiences and knowledge possessed by students to make it easier for them to solve problems and fulfill their knowledge needs [4]. Furthermore, Randle [5] adds that integrated thematic-based learning emphasizes the integration of all disciplines to provide students with learning experiences that are based on real-world applications and are structured to encourage

higher-level learning. In other words, integrated thematic-based learning encourages students to learn not only to know but also to learn to "be", learn to live together, and be holistic and authentic [6].

Based on the description above, the basic principles in integrated thematic learning materials are that the material is composed of various competencies from various subjects; materials from various subject competencies are unified in a structured and systematic way in one theme or sub-theme. As a unit, among these competencies, there must be competence from one particular subject that becomes the driver who will transmit from one competency to another subject/subject competency at the time of the transfer of learning material. As a characteristic of the 2013 Curriculum, studies of integrated thematic learning concepts and materials have been carried out, including Asnawi et al. [7], Assingkily et al. [8], Hidayah [9], Majid [1], Murfiah [10], and Sungkono [11].

The study conducted by the expert above is a study of the concept of integrated thematic learning. They only discuss the understanding, basic principles, objectives, and steps taken in conceptually integrated thematic learning. They are not yet in the form of a study of the standard content (material) of student textbooks used for integrated thematic learning. Have the materials in the field of science been unified into one theme so that they no longer recognize the boundaries of the field of science as the basic principle of integrated thematic material? instead of developing integrated thematic learning materials. This is different from the study conducted by Nasution et al. [12] and Hamidah et al. [2]. The study conducted by Nasution et al. is more of a study of the implementation of learning one of the themes, namely the theme of yourself, and that was also carried out in TK A PAUD Khairin Kids Medan Tembung, not elementary school material as will be done in this study. As a result, Nasution et al.'s study made no distinction between whether the material presented is an integrated thematic material or not.

A study similar to that conducted in this study is the study of Hamidah et al. [2]. The goal of this research is to create integrated thematic learning support materials for fifth grade elementary schools, in the lower theme of "Environment Friend We". It is interesting to note that in integrated thematic teaching materials that become the product of At the end of the study, the role of the Bahasa was not seen (material related to learning Bahasa, which in the 2013 Curriculum was designed based on text learning). As a result, the materials compiled as the final product of the research, in terms of the arrangement of the material, are not much different from the arrangement of the material presented in student textbooks published by the Ministry of Education and Culture. There is no certain material that can unite various basic competencies into one theme. In other words, the material does not have the means to transmit (transfer) from one basic competence in a particular subject area to the basic competence in other learning areas that are integrated into the theme. In fact, if it is associated with language as a means of communication, it should be able to play a role in that.

Another feature of the 2013 Curriculum is to place language as the driver of knowledge [13]. The role of language as a source of knowledge is certainly not a coincidence if the Bahasa learning paradigm in the 2013 Curriculum is oriented towards learning-based text, as could be seen in the formulation of the basic competence of the Bahasa substance from basic education to higher education. In the Big Indonesian Dictionary

[14], the word "penghela", which means to draw, is formed from the affixing of the affix {pen-an} to the root word hela, which means to pull. The word "pull" is systemically related to verbs that start with {meN-}: "menarik" or to pull in English. The word "pull" in the context of learning can have two meanings, namely first as an entry point to gain knowledge, and secondly as a means to change (distribute) one topic (basic competence) to another topic (basic competence). As a means of gaining knowledge, mastering Bahasa allows students to learn other sciences using Bahasa as a medium. In this, Bahasa becomes a means to absorb, develop, and transmit knowledge. As for the collector (distributor) of one material (basic competence) to another (basic competence), it means that Bahasa learning materials can be used to transfer one topic to another in the substance of different subjects. This last definition has something to do with integrated thematic learning.

As a driver, the language subject matter must first be presented, and then, through the main words of the other subject topics contained in the text, they are used to start the transfer of certain topics/materials to other topics/learning materials. There are several principles used in structuring the material in integrated thematic learning, namely: (1) establishing a KD network that may be unified into one theme; (2) determining the theme that becomes the umbrella of inter-competency connectivity base; (3) determining the type of text (through the selection of the Bahasa basic competence) that will be the material to draw from one basic competency to another; (4) placing keywords in other KD fields that you want to be integrated into the theme; (5) placing Bahasa learning materials in the form of certain texts (according to KD) which were selected as material for beginner. The fifth principle is very important to underline because it is only through the role of Bahasa as a driver of knowledge that the distribution (distribution) of one KD to another in integrated thematic learning can be carried out properly. In other words, placing Bahasa materials in the opening/beginner position in the arrangement of learning materials is a major requirement for the development of integrated thematic materials to be possible [15, 16].

2   Methods

This study is the first stage of a series of research plans carried out within the framework of development research. Starting from the initial study with the results achieved in the form of a concept model for the arrangement of integrated thematic textbook materials based on the Bahasa as a source of knowledge, followed by a product development study in the form of a prototype of the arrangement of integrated thematic learning materials based on Bahasa as a driver of knowledge, then continued with a trial study of the acceptability of the material in the learning process, and finally producing examples of language-based integrated thematic learning materials in Bahasa as a knowledge driver for the final result. For the purposes of this initial study, the data was sourced from an integrated thematic learning textbook for elementary schools published by the government. The form of the data is in the form of an arrangement of students' textbooks in grades I-VI. For the purposes of this study, for each level of education (grade), only one theme book was selected as a sample, so there were six student textbooks representing each level. For grade I, the theme of Myself was chosen; for grade II, the theme was Living in

Harmony; for grade III, the textbook was selected with the theme of My Obligations and Rights; for grade IV, the theme of the Beauty of Togetherness was chosen; for grade V, the theme of Animal and Human Movement Organs was chosen; and the theme for Grade VI was Saved Living Creatures.

Based on the source and form of the data, the methods to be used both in the data provision stage and in the data analysis stage can be explained as follows. The Simak method is used for the provision of data. The Simak method is carried out on data sourced from student textbooks. The data that was already available was then analyzed using the Matching Method with the Comparison Technique. More about the use of those methods at the preparation stage and data analysis can be seen in Mahsun [17].

3   Results and Discussion

3.1   Themes That Do Not Integrate Learning Materials

It is suggested that the 2013 Curriculum uses a material structuring approach using the principle of developing human thinking abilities. It means that humans are naturally destined to have knowledge ranging from general, non-specific, and deep, to specific and deep abilities. Departing from the basic character of the human thinking ability, the arrangement of learning materials attempts to start from something general in nature, not recognizing the division of knowledge in the fields of science to the arrangement based on the division of fields of science. That is also why the arrangement of learning materials, in this case competency standards and learning content standards from the most basic level, elementary school to university, is designed by following the basic characteristics of human thinking ability. At the elementary school level, students are not introduced to the name of the field of science that is reflected in the name of the subject, but to the term theme, which combines various competencies of knowledge fields. As students continue to the next level in junior high school, students are introduced to the field of science, but some are still familiar with integrated thematic materials, such as Integrated Science and Integrated Social Studies, in addition to knowing their own subjects, such as Bahasa subjects, Mathematics, etc. At this level, learning material arrangement is semi-subject or semi-thematic integrated thematic lessons. At the intermediate level, learning materials have begun to be divided based on the field of science. It This is why, known as the subject matter, there is no more integrated concept. Furthermore, at the university level, the field of science is considered more general, so it is realized in the form of specialization. The junior high school curriculum is a transitional level from the arrangement of general materials at the elementary school level to a more comprehensive arrangement based on the field of science at the high school level and the specification level at the tertiary level.

In relation to the curriculum of elementary school level material management, which is the object of this research, based on the description of the results of the study of student textbooks, there are several notes related to the concept of integrated thematic material. All student textbooks, which are known as theme books, are not structured as something that has a relationship between one basic competency in a certain field and another basic competency in another field. Each basic competency from each field of science stands alone, independent of each other, even though they are contained in the same

theme or sub-theme. This is evident from the pattern of transmission from one basic competency of a certain field to another that takes place without an introduction that connects them. There is an effort to organize the material by trying to build a pattern of interrelationships between one competence in the field of science and another through the use of competence in the field of the Bahasa, such as books for grades I, III, and IV.

3.2   Competency Material in the Language Field is not a Knowledge Driver

Based on the above analysis, it is evident that the material related to Bahasa competence is not utilized as a science driver, because most of the presentation of the material does not begin with the Bahasa competence material. Although the arrangement of the textbooks for grades I, III, and IV students begins with Bahasa competence material, the texts that are displayed as a form of Bahasa material are not optimally used as transmission media across fields of science. The key ideas or units of meaning that are formulated in the basic competencies of the field of science to be united in one theme or sub-theme do not become the content of meaning in the Bahasa learning text. As a result, when there is a transfer from one material to another in the competence of different fields of science presented independently, there is no one pattern of movement that binds to one theme or sub-theme. Learning material between one competence and competence in different fields of science seems to stand alone. The role of the theme or sub-theme to combine various competencies in the field of science becomes dysfunctional. Meanwhile, the concept of integrated thematic material becomes artificial. The material integration is only manifested in one printed book, not in one theme or sub-theme.

An interesting thing, as illustrated in the analysis above, is that the presentation of material from one competency to another is often unbalanced. As a result, there are material competencies in certain fields that are not completed. For example, the competency material in the Bahasa field is often not completed. When viewed from the stages of text-based Bahasa learning in the form of modeling stages, collaboratively constructing texts, and independent work in constructing texts [18], it can be said that all competency materials in the Bahasa field are not organized based on these learning stages. The hope that learning Bahasa competence materials can produce students who have the competence to be able to construct various types of texts independently is difficult to achieve. So, it is not surprising that students' writing skills are very weak. At the same time, the culture of plagiarism becomes vulnerable to being infected by students. In fact, by applying the stages of text-based learning in the arrangement of materials and assignments in textbooks, besides being able to make students independent in communicating their ideas in the form of texts that are structured in accordance with the thinking structure of the text, they can also be used to develop themes into sub-themes with different text topics. But the same kind. The existence of three sub-themes from each book of integrated thematic material reflects the suitability, not coincidental, between the selection of the subject matter of the learning substance and the stages of text-based Bahasa learning that places language as the barrier of knowledge. Likewise, each sub-theme in one theme can be used as a place to explore language skills but also to increase competencies in various fields of science that can be integrated into one theme. If one sub-theme contains the integration of four types of competencies from four fields

of science, it means that there are twelve fields of science whose competencies are combined in one theme.

3.3 Bahasa as the Driver of Knowledge: Towards Conceptual Design of Integrated Thematic Material Arrangements

Learning Bahasa in the 2013 Curriculum is designed based on the text-based learning paradigm. The text, as described in the Literature Review chapter, is a unit of meaning or language that is carrying out its function [19]. As an autonomous language unit made up of meaning units, it is true that the meanings that are the main elements in the formulation of basic competencies in each field of science can be introduced in the text. For example, for grade IV elementary schools, the basic competencies are found (Table 1).

The key/main meaning units in the formulation of basic competencies in each field of science are: narrative, flat/space building, force, and cooperation. By making the basic competencies of the Bahasa field as the driver of knowledge that will be the foundation of the cross-competency transmission, the material related to the Bahasa field is displayed first. The question is, what materials are related to the competence in the Bahasa field? Narrative keywords in the formulation of basic competencies lead to material in the form of one type of literary genre text of the storytelling subgenre, namely narrative text. Narrative text is a storytelling genre text that views events or events experienced by characters as unusual, which can lead to complications or problems, so it needs to be told through a thinking structure (text structure): introduction, problem, and problem solving [15, 16]. Then what is the content of the narrative text? In accordance with the understanding of the text as a unit of meaning, ideas, and thoughts, the text will contain meanings related to flat buildings or spaces, types of styles, and cooperation. For units of meaning for flat buildings or spatial buildings, semantic features related to them can be chosen in the form of: squares or objects in the form of flat buildings such as squares (squares), spheres (rounds), etc.; for the unit of meaning of the type of force, can be selected activities related to the force, for example: pushing, etc.; for the unit meaning of cooperation, for example: helping, helping, etc. The text contains units of meaning related to the theme and sub-themes. As an explanatory example, it is assumed that

Table 1. Basic Competence Formulas in Each Subject

No.	Subjects	Basic Competence Formulas
1.	*Bahasa*	3.2 Get to know the text of a simple narrative story of activities and to play in the environment with the help of a teacher or friend in Bahasa, spoken and written.
2.	Mathematics	3.2 Getting to know building flat and building room by using object-things around, home, school, or playground.
3.	Science	3.2 Know various kind of forces
4.	Social	2.4 Displaying a cooperative attitude in various forms
		4.3 Bringing out the benefits of diversity of individual characteristics in everyday life

the theme used as a reference in organizing the material is the theme of the Beauty of Togetherness, which is then divided into three sub-themes: (1) Togetherness with the Family, (2) Community Togetherness Around the Home, and (3) Togetherness at School. In terms of learning Bahasa competence material, sub-theme (1) is used as a modeling stage, sub-theme (2) is used for collaborative text construction, and sub-theme (3) is used for independent work in constructing the text. Each sub-theme, although in the same text, namely narrative text, but competence in the field of science can involve competencies in different fields of science or different competencies in the field of science that are combined at other stages of learning. Based on the explanation above, as an example, at the modeling learning stage with the sub-theme Togetherness with the Family, it can be exemplified by a narrative text material that contains the key meaning units of basic competencies in the following combined fields of science.

Cleaning the House Together

Introduction	: On Sunday Aminah and families work together to clean the house. Each family member gets a different task. Aminah got an assignment to clean the floor.
Problem	: The whole family works happily. Aminah cheerfully mops the whole room. When he cleans the dirt under the table, Aminah finds it difficult. He tried to put his broom in the under the desk. However, the broom too big so dirt is difficult to reach.
Solution to problem	: Father and mother came to help Aminah. They pushed the desk. After the table shifted, Aminah found the used toy box. Dad asked that the used toy box is not thrown away. He suggested it to be used as a tissue box. Aminah immediately cleaned under the table and put away her toy box. After they finished working together to clean the house, they had breakfast together.

The example of the text above in the field of competence is that the unit of meaning related to science combined in the sub-theme has become part of the unit of meaning of the text as a whole. When material related to competence in mathematics can be started by inviting students to re-explain sentences containing the word box, which is used as the basis for describing material about data/space structures. Likewise, when taking mathematics material to science material, it is done by inviting students to mention sentences in the text where the meaning of "push" is found, which can lead to the subject of force. The same thing, if there is a transfer from science material to social studies material, about cooperation can be done by asking students to mention sentences in the text that do not help the meaning that leads to the subject of the form of cooperation. That is, the text as a unit of meaning becomes a foothold for transmitting a competency with interdisciplinary competence and becomes a place for integrating these competencies. This is possible because elementary school teachers are classroom teachers, not subject teachers. In this way, students want to think about always finding patterns of relationships and interrelationships between parts and the whole.

A way of thinking that is actually in accordance with the results of the latest research on the brain and underlies the theory of Brain-based Learning R Caine and G. Caine
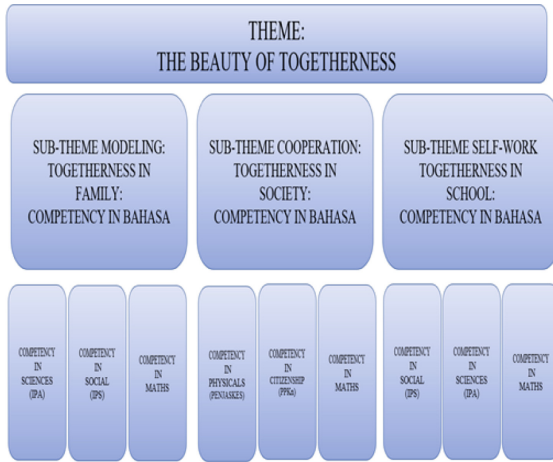
Fig. 1. Conceptual Model Design for Structuring Integrated Thematic Learning Materials Based on Bahasa Materials as Knowledge Drivers

[20] which states that the natural work of the brain is always looking for patterns of relationships and attachments between parts and the whole. The brain will work optimally if there is a concrete experience and all the senses are involved, because the brain will always look for meaning and context. Feelings or emotions have a huge influence on how the brain works. In this context, subject-based curricula that are independent from each other and dry (without the enthusiasm of students) are seen as not in accordance with the natural workings of the brain. Meanwhile, the learning process is not optimal. As a result, the subject matter is only stored in short-memory, which is only remembered for a short time [21]. The integrated curriculum is theme-based and circulated by competencies that are capable of being a transmission between various cross-field competitions, in this case, making language as a source of knowledge seen as in accordance with the work of the brain. Therefore, through language competence material, one competency can be transmitted to other competencies from various fields of science. To be clearer, conceptually, the building arrangement of integrated thematic learning materials based on the Bahasa as a driver of knowledge is described in Fig. 1.

4   Conclusion

Based on the description above, several things can be stated as the following conclusions. Books of learning materials at the elementary school level are designed as materials that are arranged using an integrated thematic model, which combines competencies between fields of science in one theme or sub-theme. The integrated thematic structuring model is in accordance with the latest research on the brain, which states that the brain's natural work is to always look for patterns of relationships and attachments between parts and the whole. The brain will work optimally if there is a concrete experience and all the senses are involved, because the brain will always look for meaning and context. In this

context, subject-based curricula that are independent of one another are seen as less in line with the natural workings of the brain.

In the arrangement of learning materials for elementary school books starting from grades I to VI, there is no integration between one competency and another in cross-fields. This is illustrated by the release of one material from another. Every material ends just like that, without the material being a medium of transmission between competencies across fields. There are efforts to bind all competencies in several fields of science that are designed to be integrated into one theme or sub-theme by utilizing competency material in the Bahasa field, but the text used does not contain the main meaning units contained in the formulation of basic competencies from various fields of science to be integrated. As a result, language competence material has not become a place for cross-field competence to be circulated. In fact, a text, which is a unit of meaning, can contain any unit of meaning, including the main meaning unit, which is formulated in the basic competence of the field of science.

By departing from the paradigm of text-based language learning, the material of language competence can be a driver that can be the foundation of changing material from one competency to another in a different field. That role can be played by making the basic meaning units in the basic competencies of various fields of science into one of the meaning units that fill the text to be studied. Text can be a configuration that can give meaning and become a context in which the main meanings of the basic competencies are integrated. Thus, the text can provide concrete experiences and involve all the senses, which are needed by the human brain to think correlationally between the whole and its parts (holistic-integrative thinking).

Elementary school learning books for grades I to VI do seem to be integrated into themes or sub-themes that utilize Bahasa competency material, but they stand independently within one competency material in different fields without a binding thread to each other. Text-based Bahasa learning, in addition to being a binder of various cross-disciplinary competencies, also with three stages of learning: modelling, collaboration, and independent work in constructing texts, can be a medium to accommodate more diverse competencies across disciplines arranged in one theme book material. However, it was not utilized optimally. Even with the occurrence of imbalances in the content of competency material in certain scientific fields with other fields of science combined into one theme or sub-theme, and there are several theme books that sometimes use Bahasa competency material as a transmission medium between cross-disciplinary competencies, such as grade I, III, IV, and other class theme books, does not represent that the theme books were written by different authors without qualitative control by qualified experts. It is different from the pattern of developing integrated thematic book materials in the first printing of the 2013 Curriculum. The development of textbook materials at the beginning of the implementation of the 2013 Curriculum is controlled for quality by a steering team at the Ministry of Education and Culture, which is currently led by the Deputy Minister of Education. When there was a revision, such a team no longer existed, because the writing of books was no longer carried out by the government but left to the market mechanism.

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