Conference Paper

Metacognition Strategy for the Development of Basic Thinking Competency in Preliminary School Textbooks

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Abstract

For humans, thinking and producing language are two inseparable activities. They often take place together, such as in language production or in speaking. Furthermore, thinking has different levels, from basic level thinking (literal) to higher-order thinking (critical-creative). A basic level of thinking competencies can be improved to higher-order thinking competencies. Besides, metacognition is essential as it becomes the controller to improve the achievement of basic level competencies. Nevertheless, the metacognition element of literal competence has not yet been known until today, especially in elementary school (sd) thematic textbooks. Therefore, this study aims to describe the metacognition strategies of developing literal thinking competencies in elementary school textbooks at the beginning level (grades 1 and 2). This qualitative study employs the content analysis method. The research data is in the form of a discourse that represents a strategy for developing literal thinking competencies in an elementary thematic textbook based on the 2013 curriculum published by the ministry of education and culture, the 2017 revision. The data were collected using a documentation technique with a key instrument designed by the researcher complemented with other instruments: the blueprints of research implementation, data collection guidelines, and data analysis guidelines. The data were analyzed in the following sequence: presenting raw data, data reduction, data analysis, concluding the results, interpreting the results, and presenting the results. The validity of the data and the results of the study were checked through triangulation and re-analysis. The results revealed that literal competencies of observing, identifying, remembering, imitating, and composing were developed through metacognition strategies in the form of (1) invitations, (2) invitations followed by orders, and (3) invitations followed by orders—questions/questions—orders.

Keywords: Metacognition strategy, literal thinking competence, textbooks, elementary school
1. Introduction

An advantage that is possessed by humans is thinking (Nurchasanah, Suyono, Lestari, and Habsari. 2018). Thinking always accompanies every human behavior, including language (Eanes, R. 1997; Suyono, 2012; and Nurchasanah, 2015). What distinguishes human thinking behavior is its quality (Nurchasanah and Habsari, 2018). They have a basic level of thinking competencies to higher-order thinking. Besides, human thinking competencies are graded from literal, critical, to creative thinking related to the language (Nurchasanah, 2015; Nurhadi, 2009). In language learning, literal thinking is shown by the ability to recognize and remember things. Besides, critical thinking is revealed by reorganizing, interpreting, assessing, and appreciating things. The last, creative thinking, is represented by creating somethings (Nurchasanah, 2015).

The quality of thinking becomes one of the centers of attention in the learning study, including textbooks’ preparation as a learning medium. The textbook has several functions. It can be the source, materials, and learning media (Nurchasanah, Suyitno, dan Suyono. 2017). The multifunction textbook becomes a tool for students to develop their thinking skills. However, it is unknown how the metacognition strategy for developing literal level thinking is imposed on students through textbooks, especially elementary school textbooks, because literal competency development becomes the foundation for achieving higher-order thinking competencies.

For elementary students, the development of thinking competencies is needed, and character development (Kemdikbud, 2016). Developing literal thinking competencies for students requires distinctive exercises that can lead them to achieve higher-order thinking competencies, for example, problem-solving. Therefore, a strategy to monitor learning is needed so that learning can be maximized. According to Sholihah, U. (2016), monitoring learning activity is a part of metacognition activities in addition to designing and measuring learning outcomes.

Dunlosky & Metcalfe stated that cognition is a mental process or representation that manifests something in self, such as problem-solving, the memory of knowledge, and the reasoning. Students’ success in solving problems depends on their awareness of what they know and how they apply it or do metacognition. It can also be explained that metacognition is a word related to what he knows as a learning individual and how he controls and adjusts his behavior (Shahbari A.J., Daher W, & Rassian, 2015). Based on the explanation above, metacognition has an important role in regulating and controlling students’ cognitive processes in learning and thinking so that learning and thinking students do that become more effective and efficient (Sholihah, U., 2016).
In general, Bruning, R.H., G.J. Schraw & R.R. Ronning (1995) stated that metacognition is related to two dimensions of thinking: (1) the awareness of a person about its thinking (self-awareness of cognition) and (2) a person’s ability to use his consciousness to regulate his thought processes (self-regulation of cognition). In other words, metacognition is related to the awareness of thinking and the ability to utilize consciousness to regulate the thinking processes.

The thinking awareness and the ability to utilize the awareness in the thinking process (Metacognition) need to be grown through elementary school textbooks. Since elementary school, students need to be trained to think through problem-solving exercises (Sholohah, U., 2016) to achieve higher-order thinking competencies. However, higher-order thinking competencies can only be achieved if basic-level thinking competencies are mastered. Thus, this study aimed to describe the metacognition strategy of developing literal thinking competencies in elementary school using thematic textbooks to know the book’s feasibility as a learning tool for students.

The research objectives were determined with the consideration that (1) the development of metacognition in textbooks should start from the basic level because the basic education has a big influence on students’ competence and the framework of thinking in further education; (2) the thinking competence is one of the determinants of all student actions to be able to solve problems faced in life so that monitoring their metacognition elements is needed, and (3) mapping of metacognition domains in elementary school textbooks published by the Ministry of Education and Culture based on the 2013 Curriculum has never been done. Hence, this study aimed to describe the metacognition strategy of developing literal thinking competencies in elementary school textbooks’ basic level.

2. Method

This study used a qualitative design (Bogdan, RC, and Biklen, 1982) because (1) trying to find data on metacognitive strategies for developing literal thinking competencies in elementary thematic textbooks with actual settings, (2) the researcher as a key instrument: the researcher tried to find data then result; (3) descriptive data: it is in the form of verbal data described metacognitive strategies for developing literal thinking competencies in textbooks; (4) emphasizing the process besides the results: using an accountable method to find accurate results; (5) the researcher tries to get an understanding to find the theory of metacognition strategy development of literal thinking competencies in elementary school textbooks so that the results are in-depth and accurate. With these
characteristics, this research is classified as qualitative research. This research is classified as content analysis research. The researcher tried to objectively explore the content and variations of metacognition strategies for developing literal thinking competencies in elementary school textbooks. The data obtained were selected, analyzed, concluded, and interpreted to produce an in-depth theory. The concluded research results were presented in the form of a research result chart.

The research data was in the form of discourse representing metacognition strategies for literal thinking competency development in elementary school textbooks. The data was taken from thematic textbooks for elementary school grades 1 and 2 based on the 2013 Curriculum published by the Ministry of Education and Culture's 2017 revision.

The researcher was the key research instrument who collected the data to produce a theory. Besides, instruments were assisted in the form of (1) research implementation matrix, (2) data collection guidelines, and (3) data analysis guidelines.

The research data was taken using documentation techniques, and it was represented in a documented textbook as a learning tool in elementary school. The data were collected by (1) reading the textbook accurately and repeatedly by three researchers, (2) identifying data, (3) marking data with a specified code, and (4) tabulating the data.

Researchers conducted triangulated to ensure the validity of the data and the results of the analysis. It was conducted by collecting and analyzing the same data by three researchers. Additionally, researchers reviewed the data and the results of the analysis to ensure accuracy.

The obtained data were analyzed using the qualitative method. Researchers used the steps proposed by Miles and Huberman (1992) consisting of (1) presenting data in a data presentation table; (2) reducing data: selection, classification, and coding; (3) analyzing data: identification and presentation of the results in the results presentation table; (4) concluding the temporary result to the conclusion after triangulation and review; and (5) interpreting results: interpretation of results to find the meaning based on theory and similar research results. The qualitative paradigm flowchart is shown in Figure 1.

3. Findings

The results showed that in the SD Textbook, there were five categories of literal competency development, namely (1) observing, (2) identifying, (3) remembering, (4) imitating, and (5) composing those developed with the following metacognition strategies.
3.1. Metacognition Strategies for Developing Competency in Observing

According to Kamus Besar Bahasa Indonesia (Balai Pustaka, 2016), the word observation is reviewing accurately. Based on the meaning of the word, the metacognition strategy for developing the observation's competence means "the activity of monitoring learning in observing an object accurately." Data analysis results in the 1st and 2nd grades of elementary school textbooks showed that there are two strategic activities to monitor observation activities that are observation of pictures, texts, and listened to text. The evidence can be seen in the following 1-a, 1-b, and 1-c data.

Asking for Observing Pictures
Data 1-a

Ayo mengamati!

Amatilah gambar di bawah ini!

Apakah kamu suka bermain?
Permainan apa yang kamu suka?
Tahukah kamu permainan lain yang menyehatkan?

Data 1-a asks students to observe several pictures of children playing with various kinds of games followed by commands and some critical questions. Observing activities are classified as basic thinking competencies, but they are followed by appreciative critical questions like Apakah kamu suka bermain? and Permainan apa yang kamu suka?. Besides, they are followed by synthesis questions like Tahukah kamu permainan lain yang menyehatkan?.

Asking for Reading

Data 1-b

Ayo mengamati!

Teman Baru
Siti senang sekali.
 Ini hari pertama Siti bersekolah
Siti akan bertemu dengan teman baru.
Siti siap pergi ke sekolah.
Siti memberi salam kepada orang tuanya.

Data 1-b asks for students to read text or reading materials together assisted by pictures.

**Asking for Listening**

**Data 1-c**

Ayo mengamati!
Dengarkan cerita gurumu!

Siti dan teman-teman senang bersepeda.
Mereka bersepeda di hari Minggu.
Bersepeda bersama menyenangkan.
Bersepeda juga menyehatkan.

Data 1-c asks for students to follow the instructions to listen to the teacher's story, assisted by pictures.

**3.2. Metacognition Strategy for Identifying Competency Development**

According to Kamus Besar Bahasa Indonesia (Balai Bahasa, 2016), the word ‘identify’ comes from the word identification, which means (1) self-identification, self-proof, (2) determining the identity of a person, object, and so on, (3) unconsciously imagined himself like everyone else he admired. The metacognition strategy for identifying competency development is the method used to determine or establish identity (people, things, etc.). The elementary textbook represents identifying competency development strategies shown in the following 2-a-2-e Data.
Asking for Identifying Number

Data 2-a

Ayo mencoba!
Mengenal Bilangan Bersama Teman Baru
Di kelas banyak teman baru.
Ajak teman baru mengenal bilangan. Membilang gambar, lalu menyebut banyaknya.

Data 2-a asks for students to recognize numbers based on the number of pictures followed by instructions to recognize them with friends.

Asking for Identifying Movements

Data 2-b

Ayo mencoba!
Perhatikan gambar Lani dan teman-teman dibawah ini!
Beri tanda centang (gambar kegiatan yang menyehatkan!
Beri tanda silang (X) gambar kegiatan yang tidak menyehatkan!
Data 2-b asks for students to identify movements based on pictures and followed by an instruction that gives certain signs to healthy and unhealthy movements.

Asking for Practising Recognising Voices
Data 2-c

Ayo berlatih!
Mengenal Warna Suara Teman Baru

Siti berkenalan dengan teman baru.
Siti berkenalan sambil bernyanyi.
Ayo, dengarkan suara mereka!
Suara teman-teman berbeda.
Itulah warna suara.

Data 2-c asks for students to practice recognizing new friends’ voices assisted by pictures and introduction sentences.

Asking for Singing to Recognize Letters

Data 2-d

Ayo bernyanyi!
Bernyanyi sambil Mengenal Huruf
Ayo, mengenal huruf.
Ayo, berlatih membaca.
Nyanyikanlah bersama temanmu!

Data 2-d asks students to sing the songs together with their friends, followed by instructions to recognize the letters from a to z.
Asking for Singing to Recognize Parts of Body

Data 2-e

Ayo bernyanyi!
Mengenal Anggota Tubuh

Lihatlah tubuh kita!
Tubuh kita memiliki bagian-bagian.
Ada kepala, tangan, dan kaki.
Mari mengenal anggota tubuh sambil bernyanyi

Data asks for students to sing the songs followed by instructions to identify parts of the body, such as the head, hands, and feet, followed by 2-e pictures.

3.3. Metacognition Strategies for Developing Competency in Remembering

Kamus Besar Bahasa Indonesia (Balai Pustaka, 2016) stated that the word remembering comes from the word remember, which means(1) is in mind, does not escape, (2) comes back in mind, (3) is aware, is awake, (4) puts attention, thought of. Based on that definition, the metacognition strategy for developing competency in remembering has the meaning that is the method used to recall what is on people’s minds”. Elementary school textbooks represent metacognition strategies for developing memory competencies, as seen in Data 3-a-3b.

Asking for Remembering Names

Data 3-a
Ayo mencoba!
Sudahkah kamu memiliki teman baru?
Siapa nama teman barumu?
Ayo, sebutkan nama teman barumu!
Data 3-a asks for students to remember new friends’ names in the pictorial text based on the questions and instructions.

Asking for Remembering Details of The Content

Data 3-b

Ayo berlatih!

Amati foto keluarga Udin!
Sebutkan namaayah Udin!
Sebutkan nama ibu Udin!
Sebutkan nama kakak Udin!
Data 3-b asks for students to practice remembering the content’s details in a pictorial text about Udin’s family names, followed by instructions.

Asking for Remembering Voices
Data 3-c

Ayo berlatih!

Mengenal Warna Suara Teman Baru

Siti berkenalan dengan teman baru.
Siti berkenalan sambil bernyanyi.
Ayo, dengarkan suara mereka!
Suara teman-teman berbeda.
Itulah warna suara.

Data 3-c asks for students to practice remembering the color of new friends’ voices written in the introduced pictorial text.

3.4. Metacognition Strategies for Developing Competency in Imitating

The word imitating comes from the word imitate based on Kamus Besar Bahasa Indonesia (Balai Pustaka, 2016). It means the following examples. The metacognition strategy for developing competency in imitating is the way someone can follow something that is exemplified. Elementary school textbooks represent metacognition strategies for imitating competency development, as shown in the following 4-a-4c data.

Asking for Imitating Utterance

Data 4-a

Ayo mencoba!

Bagian-bagian tubuh kita
Dengarkan ucapan gurumu!
Tirukan nama bagian-bagian tubuh dari gambar ini!
Tubuh kita pemberian Tuhan.
Kita harus bersyukur kepada Tuhan

Data 4-a asks for students to imitate the words of the parts of the body that the teacher speaks based on pictorial text followed by the instruction.

**Asking for Imitating the Attitude based on Pictures**

**Data 4-b**

Ayo Mencoba!
Cara membaca yang tepat
Dayu sedang membaca buku di kelas.
Cahaya di kelas terang.
Dayu bisa membaca dengan baik.
Amati gambar di bawah ini!

Data 4-b asks for students to imitate reading activities and be good at reading related to the pictures.

**Asking for Imitating Writing**
Data 4-c

Ayo Menulis!
Coba ikuti petunjuk ini!
Duduklah dengan tepat!
Pegang pensil dengan benar!
Letakkan buku di depanmu!
Bacalah buku di tempat yang terang!
Salinlah tulisan di bawah ini!
Atur jarak matamu saat menulis!

Data 4-c asks for students to write by imitating writing samples with the correct writing attitude.

3.5. Metacognition Strategy for Developing Competencies in Composing

According to Kamus Besar Bahasa Indonesia (Balai Pustaka, 2016), the word composing comes from the verb compose, which means (1) arranging by stacking one another, laying it in layers; (2) arranging well (flower arrangement); (3) putting in order; (4) forming management; (5) planning; and (6) writing books. The meaning of metacognition strategy for developing competencies in composing is the way that someone can arrange something so that it has a good and correct arrangement”. Elementary school textbooks represent metacognition strategies for developing competency in composing. Those are shown in 5-a-5-b Data.

Asking for Composing the Letters into the Words

Data 5-a

Ayo Berlatih!
Data 5-a tries to invite students to be followed by orders to arrange the letters arranged in the order into words preceded by letter identification training.

**Asking for Composing The Words into The Sentences**

**Data 5-b**

**Ayo Berlatih!**

Susunlah kata-kata berikut menjadi kalimat!

Tulislah kalimat yang kamu susun pada titik-titik berikut!

<table>
<thead>
<tr>
<th>di pasar-membeli-Siti-wortel</th>
<th>belanja-membantu-Siti-Ibu</th>
</tr>
</thead>
<tbody>
<tr>
<td>membeli-Ibu-buah-di pasar-mangga</td>
<td>garam-Siti-di toko-membeli</td>
</tr>
<tr>
<td>di toko-membeli-beras-Ibu</td>
<td>gula-Ibu-di toko-membeli</td>
</tr>
</tbody>
</table>

Data 5-b asks for students to arrange the specified words into the correct sentences followed by instructions.

Based on the description above, it can be concluded that there are five categories of metacognition strategies for developing literal thinking competencies. Each of the categories has a variety of learning metacognition strategies, as illustrated in Figure 2.
4. Discussions

The quality of human thinking is different (Nurchasanah and Habsari, 2018). The quality of thinking appears in the language used (Eanes, R. 1997; Suyono, 2012; and Nurchasanah, 2015), including the language in elementary school textbooks. Language in textbooks requires students to have graded thinking behavior, from the basic level thinking to higher-order thinking (Nurchasanah, Suyono, and Habsari, 2019; Nurchasanah, 2015; and Nurhadi, 2009). Additionally, basic level thinking is important because the quality of basic level thinking will determine the quality of higher-order thinking. To think at an adequate basic level, learning metacognition is one of the determinants because metacognition becomes the controller (Sholihah, U., 2016).

The basic level of elementary textbooks represents five categories of literal thinking competencies (1) observing, (2) identifying, (3) remembering, (4) imitating, and (5) composing. This is also proven by the research results of Nurchasanah, Suyono, and Habsari (2019). The five categories of thinking were developed through metacognition strategies in the form of (1) invitations, (2) invitations followed by instructions, and (3) invitations followed by questions/questions—instructions. The three metacognition strategies are discussed below.
4.1. Invitation

The lexical invitation means 'advice (requests, and so on) to do, invitations, thick floating mud' (Balai Pustaka, 2016). In elementary school textbooks, solicitation is used as a strategy to ask students to do activities in the form of (1) observing: on pictures, reading pictorial text, and listening to text; (2) identifying: try and practice recognizing numbers, movements, sounds, letters, and object parts; (3) remembering: trying and practicing remembering people's names, detailed reading content, and voices; (4) imitating: trying and writing the name of the body part that is heard, behavior/attitude, and writing; and (5) composing: practicing arranging letters into words and arranging words into sentences. In a functional language theory (Ellis, 1986; Ellis, 1994; and Ghazali, 2013), inviting has the function of asking other people to do something the invitees want. In this case, the invitee is involved in doing something as desired to the person being invited. In learning theory, it can be equated with 'learning assistance.' According to Fatwa, A.M. (n.d.), learning assistance is the interaction between educators and students until changes occur. The results of his research proved that through learning assistance, students' independence grows well. The enthusiasm for learning also grows well through mentoring (Akbar, 2011). This is also proven by the research results of Prasety, F.A.D. (2018).

According to metacognition theory, solicitation attempts to monitor children in learning (Sholihah, U., 2016). In this case, efforts to raise children's awareness of learning have not been seen. He has not shown what he has done and has gained in learning as the metacognition concept expressed by Shahbari A.J., Daher W, & Rassian (2015). However, it is necessary to know that it is important to regulate and control student cognitive processes (through invitations to study) to learn more effectively and efficiently (Sholihah, U., 2016). The effort to invite children to learn is an initial process carried out to feel supported and guided in learning. Through this effort, it is hoped that children will have the awareness to learn and know what has been mastered in learning.

4.2. Invitation Followed by Instructions

Invitations followed by instructions are two continuous activities to ask students to do something involving the teacher as a companion. The invitation is followed by instructions for students to do an activity independently. In elementary school textbooks, invitations followed by commands are used as a strategy to ask students to carry out activities in the form of observing, identifying, remembering, imitating, and composing.
The two activities in terms of functional language theory (Ellis, 1986; Ellis, 1994; and Ghazali, 2013) seem contradictory. The invitation has the implicature that the teacher will assist students in learning; in contrast to orders, the teacher seems not to be involved in learning. Therefore, metacognition strategies like this appear “contradictory.” Judging from Ellis’s (2016) speech act theory, orders imply that students know what to do; students are aware of what to do.

Metacognition theory (Bruning, R.H., G.J. Schraw & R.R. Ronning, 1995) assumes that students’ awareness of learning is expected to grow in students. Through commands, this means that the teacher assumes that students will learn. Students are aware of what is being learned. The question that arises is it true that this will happen to students? Therefore, monitoring in stages must be followed so that students feel accompanied in learning, considering that grades 1 and 2 of SD are still in the early stages of learning.

4.3. Invitation Followed by Instructions---Questions/Questions---Instructions

Invitations followed by instructions and questions are represented in elementary school textbook learning so that students carry out activities to observe pictures. Invitations always start learning in elementary school textbooks at the beginning level because Ellis’s speech act theory (2016) has the implicature of ‘learning assistance’ by the teacher. There are invitations followed by orders and followed by asking some questions or vice versa, followed by questions, then orders. It is just that the questions raised were in the form of critical questions (Nurchasanah, 2015). According to the theory of Barret, T.J. (1972), the critical question is in the form of appreciative questions, such as the statement, ‘Do you like to play? Moreover, What games do you like? Moreover, is synthetic (Bloom, B.S., 1956), such as the statement, Do you know another healthy game? Appreciative questions like that require students to answer questions with explicit answers by involving intuitive feelings and impressions. Meanwhile, synthesis questions require students to answer questions by connecting the topic to new knowledge with other experiences that students have previously had.

Judging from the metacognition (Bruning, R.H., G.J. Schraw & R.R. Ronning, 1995), the questions asked to demand the emergence of students’ awareness of what to answer, and through these answers, students can automatically reflect on their ability to answer questions. Therefore, it can be said that “questions are the key to learning success.” Mastery of knowledge in learning is determined by the quality of the questions asked (Arifin, Faizah, and Utomo, 2018). Francis Bacon, French philosopher and statesman
1561-1628, said, “A wise question is half of wisdom.” Francis Bacon’s statement, if it is related to the theory of learning and speech acts, Ellis (2016) implies that textbooks require wise questions, guiding students in achieving learning success according to their competence.

5. Conclusions

Learning in elementary school textbooks at the initial level represents three metacognition strategies in the form of (1) invitations, (2) invitations followed by instructions, and (3) invitations followed by instructions—questions/questions—instructions. The three of them are used as a means to monitor the development of literal thinking competencies, starting from thinking activities (1) observing: to pictures, reading pictorial texts, and listening to texts; (2) identify: try and practice recognizing numbers, movements, sounds, letters, and object parts; (3) remembering: trying and practicing remembering people’s names, detailed reading content, and voices; (4) imitating: trying and writing the name of the body part that is heard, behavior/attitude, and writing; and (5) composing: practicing arranging letters into words and arranging words into sentences.

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