

## PERCEPTIONS OF ELEMENTARY SCHOOL TEACHERS IN BANTEN PROVINCE ON ELEMENTARY SCHOOL MATHEMATICS TEACHING BOOK GAKKO TOSHO

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### Abstract

*This study aims to determine the perception of elementary school teachers towards mathematics textbooks published by GAKKO TOSHO Japan which will be used by elementary schools through the Sekolah Penggerak program from The Ministry of Education, Culture, Research, and Technology, Republic of Indonesia. The aspects assessed by the teachers include content, presentation, language, students, and teachers. A total of 20 teachers from eight districts/cities in Banten Province were involved in this study. Research data were obtained through questionnaires and structured interviews. The results showed that 70% said very well and 25% said good, while the rest said it was good enough. From the presentation aspect, 55% said very well, 40% said good, and 5% said sufficient. From the linguistic aspect, 40% said very well, 45% said good, and 15% said sufficient. From the students' perspective, 75% said very well and 25% said good. Finally, from the teacher's perspective, 60% said very good, 30% said good, 5% said less, and 5% said very poorly. Of the five aspects, the lowest perception is the language and teacher aspect. The teacher finds it difficult to learn the book plots (learning trajectories) in the teacher's book.*

**Keywords:** mathematics textbook, sekolah penggerak, elementary school, learning trajectory

### 1. INTRODUCTION

The Ministry of Education, Culture, Research, and Technology, Republic of Indonesia launched a *Sekolah Penggerak* (Pioneering Schools) program in 2021. This program focuses on developing student learning outcomes holistically which includes competence (literacy and numeracy) and character. The *Sekolah Penggerak* program is a refinement of the previous school transformation program. The *Sekolah Penggerak* program will accelerate public and private schools, in any conditions, to move 1-2 stages further. The program is carried out in stages and is integrated with the ecosystem until all schools in Indonesia become the *Sekolah Penggerak* (Kemendikbudristek, 2020). One of the focuses to support this program is reforming the textbooks.

Textbooks are crucial in the learning process in the classroom. Quality books will certainly determine the success of the learning process. Teachers can provide classroom learning based

on learning scenarios in the teacher's book. The teacher's book is used as a guide to manage the learning process and develop learning tools. Nurmita (2017) states that a good teacher's book can directly help students construct the knowledge instead of merely receiving the knowledge, improving students' attitudes, and increasing aptitude.

To support this program, the government (PUSKURBUK department) prepares books used for *Sekolah Penggerak* as the main teaching materials, one of which is mathematics books. Mathematics books for *Sekolah Penggerak* are translated and adapted from books published by Gakko Tosho Co., Ltd. The book consists of a teacher's book and a student's book. This book is simultaneously used in driving schools and will gradually be implemented in all schools in Indonesia.

Of course, every new thing requires adaptation. The book published by Gakko Tosho needs to be reviewed by teachers before its implementation. Teachers will be introduced to the new book and expected to understand well the characteristics of these books. Furthermore, teachers need to create supporting learning tools in teaching. If necessary, modifications need to be made (Rishor, 2018).

In this study, the books studied were the teacher and student books for elementary school grades I and IV. The teachers were asked to conduct a content analysis of the contents of the book, write it down in the form of learning scenarios, and try it out on a limited basis. Next, the teachers gave responses to the books they were studying.

## **2. LITERATURE REVIEW**

### **2.1 Content Analysis**

Content analysis is a technique used to analyze and understand the text. In this study, what will be analyzed are textbooks. The selection of the right textbook (teaching) is one of the things that can determine success in the learning process (Risma et al., 2019). So that content analysis is necessary for teacher and student books to be implemented (Novianto & Mustadi, 2015). The content analysis contains several aspects, namely: prerequisites (prerequisites), apperceptions and reviews, learning objectives/targets, activities, descriptions of activities/learning paths, and didactic-pedagogical anticipation. In essence, in the learning process, there must be a relationship between teachers and students, teachers and teaching materials, and students and teaching materials (Suryadi, 2010).

### **2.2 Learning Scenario**

One of the lesson planning tools is the lesson plans (*Rencana Pelaksanaan Pembelajaran* (RPP)). Before making lesson plans, it is best to develop a learning scenario. The development of this learning scenario is based on the stages of learning that will be applied. The learning stages in the learning scenario can be based on textbooks or worksheets (*Lembar Kerja Peserta Didik* (LKPD)). One of the learning scenarios can be developed from required textbooks, for example, Japanese books that have been translated. As we know that Japanese language books have certain characteristics, such as prioritizing thinking and problem-solving skills. However, if you want to apply a learning scenario based on Japanese books, you should study the content and thinking skills that will be developed (for those who do not use Japanese as the main language).

However, in Indonesia, there have not been many studies related to the development of Japanese book-based learning scenarios, especially at the elementary level. The format for developing scenarios usually uses identity, learning objectives, initial activities, core activities, closures, and class and time management.

### 2.3 The Study of Perception

Perception is the primary form of human contact with the surrounding world (Efron, 1969). This form of conceptual knowledge has always been based on this form. The study of perception has always had a unique meaning for philosophy and science. Perception can capture the phenomenon of what happens to humans. By knowing perceptions, the causes, impacts, and solutions to the identified problems can be identified.

Perception is formed based on what is sensed by humans (Goldstone & Hendrickson, 2010). With perception, humans can build attitudes towards what they experience and reflect and then follow up on what they perceive. Thus, perception is very important to reveal.

### 3. RESEARCH METHODS

This research applied a survey method. The survey method is a means to collect information regarding the characteristics, actions, or opinions of a large group of people (Cohen et al., 2007; Pinsonneault & Kraemer. A., 1993). Surveys can also be used to assess needs, evaluate, demand, and examine impacts (Best & Kahn, 2006). Furthermore, surveys can obtain information from the population through samples and are suitable for obtaining information about attitudes that are difficult to measure (Glasow, 2005).

This study involved 20 public and private elementary school teachers spread across Banten Province. These teachers represent each district in Banten Province which consists of 8 districts. The sampling technique used is clustered-random sampling. This technique can be used when the population is divided into clusters (Cormack et al., 2006; Jamil, 2007; Wishart & Deming, 2007) as in this study. Table 1 shows the topics studied by each teacher:

Table 1. Research sample

Subject	Name of Districts	Level (High/Low)	Topic
Teacher 1	Kota Serang	High	Large Whole Numbers
Teacher 2		Low	Numbers 1-10
Teacher 3	Kabupaten Serang	High	Thinking Skills about How to Count
Teacher 4		Low	Outlining and Arranging Numbers
Teacher 5	Kota Cilegon	Low	Numbers that Show Order
Teacher 6		Low	Addition (1)
Teacher 7		High	Angles
Teacher 8		High	Division with a 1-digit Divisor
Teacher 9	Kabupaten Lebak	High	4 Sided Shapes - Quadrilaterals
Teacher 10		Low	Subtraction (1)
Teacher 11	Kabupaten Pandeglang	High	Division with a 2-digit Divisor
Teacher 12		Low	Shapes (1)
Teacher 13	Kabupaten Tangerang	High	Line Graphs
Teacher 14		Low	Numbers Greater than 10
Teacher 15		High	Rounding Numbers
Teacher 16		Low	Waktu
Teacher 17	Kota Tangerang	High	Japanese Abacus (Soroban)
Teacher 18		Low	Exploring Many Objects
Teacher 19	Kota Tangerang Selatan	Low	Addition (2)
Teacher 20		High	Mathematics Sentences and Calculations

High Level: grade 1 to 3; Low Level: grade 4 to 6

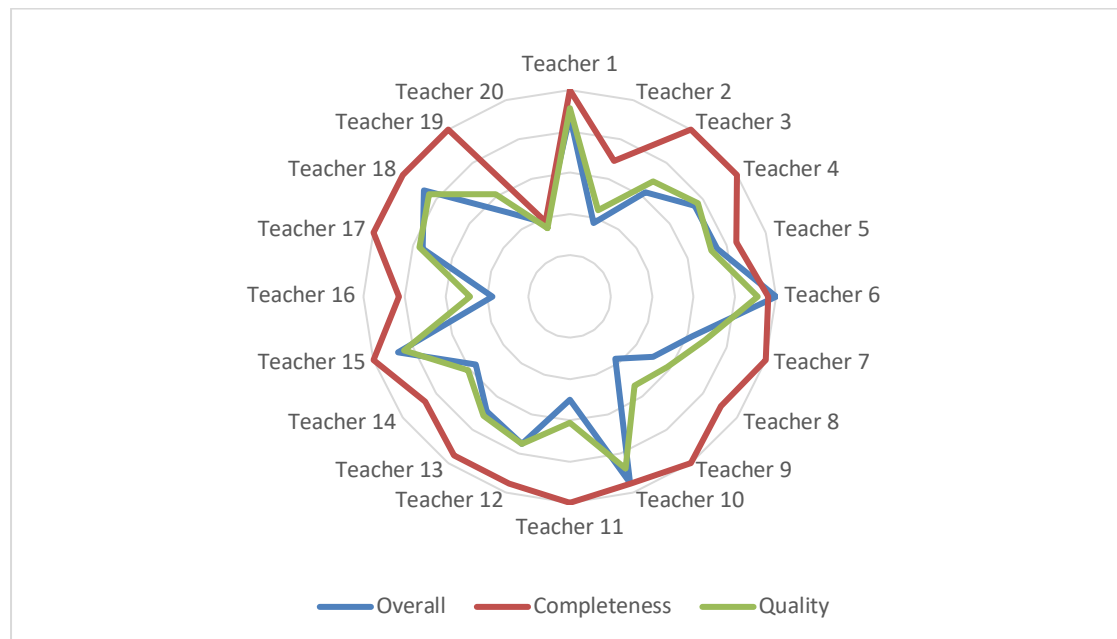
Based on Table 1, each teacher learned the topics that have been provided. Then they were asked to create a learning scenario and try it out on a limited basis to students in their

respective schools. After the teachers developed learning scenarios and piloted them, they were asked to fill out questionnaires and interviews. The results of both questionnaires and interviews will be analyzed to become the results of the research.

#### 4. RESULTS AND DISCUSSION

##### 4.1. Teacher Performance

From the series of research conducted by the teacher and the research team, the following is a recapitulation of the implementation of these stages:

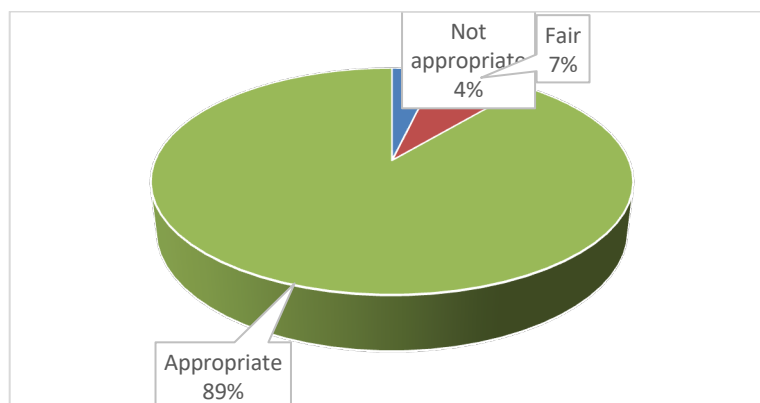


**Figure 1. Teacher performance in research**

Figure 1 describes the teacher performance in research including completeness, quality, and overall performance. The completeness aspect means the participation of the entire series of research activities while the quality aspect means the results produced by the teacher based on reports from monitors. Based on that description, the completeness aspect is 91.7% while the quality aspect is 68.5%.

##### 4.2. Teacher's Perception of Learning Practices

Teachers' perceptions of learning practices are shown in Figure 2. Based on this figure, 89% said they were appropriate, while the rest stated that they were less appropriate and not appropriate. Furthermore, Figure 2 explains teachers' beliefs in adjusting between learning scenarios and their implementation in the classroom.

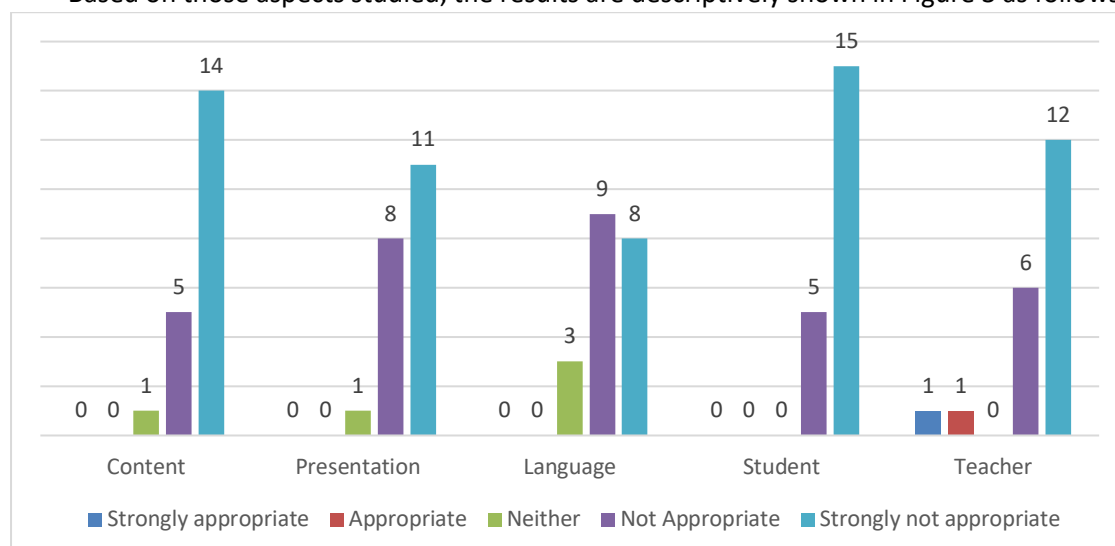


**Figure 2. The suitability of the learning scenario and implementation in the classroom at the preliminary teaching stage**

#### 4.3. Teacher's Perception of The Book Aspects

Five aspects are assessed by the teacher on the book, namely aspects of content, presentation, language, students, and teachers. Content aspects include; 1) the suitability of the material with the learning objectives, 2) the accuracy, completeness, breadth, and depth of the material, 3) the accuracy of concepts and definitions, 4) the accuracy of the examples. Presentation aspects include; 1) book presentation techniques, 2) book presentation support, 3) coherence and conformity in the flow of thought/learning flow. Linguistic aspects include; 1) straightforward and communicative books, 2) dialogical and interactivity of books, 3) conformity to the students' development, 4) conformity to language rules. Aspects of learners include; 1) the ability of books to attract interest, 2) the ability of books to foster motivation, 3) the ability of books to stimulate activity, 4) the ability of books to encourage curiosity. Lastly, the teacher aspect includes; 1) conformity with the curriculum, 2) understanding integrity, 3) practicality, and 4) clarity.

Based on those aspects studied, the results are descriptively shown in Figure 3 as follows:



**Figure 3. Teacher's perception of the book aspects**

Teachers' perceptions of learning practices are shown in Figure 2. Based on this figure, 89% said they were appropriate, while the rest stated that they were less appropriate and not appropriate. Furthermore, Figure 2 explains teachers' beliefs in adjusting between learning scenarios and their implementation in the classroom.

In the content aspect shown in Figure 3, 70% said very well, 25% said good, and the rest said good enough. From the presentation aspect, 55% said very well, 40% said good, and 5% said sufficient. From the linguistic aspect, 40% said very well, 45% said good, and 15% said sufficient. From the students' perspective, 75% said very well and 25% said good. From the teacher's perspective, 60% said very well, 30% said good, 5% said less, and 5% said very poorly. Based on the description for each aspect, the aspects that show good results were aspects of the book content, presentation, and students. Meanwhile, the aspects that are not good enough are the linguistic and teacher aspects.

Regarding the linguistic aspect, according to the teacher, there are several problems in this aspect, namely the presence of inappropriate word selection, its presentation, and sample accuracy. Some of the teacher's notes regarding this aspect are shown in Table 1 and Table 2. In those tables, the teacher gives several examples of errors from the linguistic aspect. This linguistic aspect is considered by the teacher to be very important to improve because it will interfere with the process of understanding the content of the book.

Table 2. The teacher's findings from the linguistic aspect

<p>2 Mendiskusikan jenis buku bergambar yang ingin dibuat.</p> <p><input type="checkbox"/> Jika soal sudah selesai, pastikan kembali jawabannya. Siswa boleh mempresentasikan sambil menggunakan balok di depan perwakilan siswa dalam membuat cerita</p> <p>3</p> <p>8 Mempertimbangkan soal yang cocok dengan rumus</p> <p><input type="checkbox"/> Kegiatan aritmatika (1) a. "Kegiatan yang menghubungkan rumus pada konteks konkret dan menunjukkan konteks konkret dalam angka pada rumus."</p> <p>■ Menuliskan soal dan gambar pada buku catatan.</p> <p><input type="checkbox"/> Meminta siswa membuat soal dan mengingatkan mereka tentang berbagai peristiwa dalam hidup mereka.</p> <p><input type="checkbox"/> Siswa diharapkan dapat mengekspresikan secara sederhana seperti lingkaran agar tidak menghabiskan terlalu banyak waktu pada gambar.</p> <p><input type="checkbox"/> Jika sulit untuk mengungkapkan dalam sebuah kalimat, dengarkan dan jadikan sebagai poin.</p> <p>■ Mari kita umumkan soal yang dipikirkan.</p> <p><input type="checkbox"/> Memperkenalkan soal yang telah dibuat salah satu siswa dengan cepat sebagai contoh. Guru boleh menyebarkannya.</p> <p><input type="checkbox"/> Mendengarkan presentasi temannya, lalu jika ada siswa yang ingin mempresentasikan soal buatan mereka sendiri, lalu perkenalkan.</p>	<p>Menyiapkan potongan gambar bermacam-macam konteks, kemudian memastikan bahwa konteks tersebut cukup dipahami siswa dan aktivitas selanjutnya dijamin dengan memanfaatkan sesuai kebutuhan melalui bimbingan individu dan bimbingan keseluruhan.</p> <p>Typing error:</p> <p>The word "cerit" should be "cerita".</p> <p>The words "salahs atu" should be "salah satu".</p> <p>The word " dengn" should be "dengan".</p> <p>The word "seusai" should be "sesuai".</p> <p>The word " mendiskusikan" should be "mendiskusikan".</p>
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Table 3. The teacher's findings from the presentation aspect

<p>1 Mendiskusikan tentang anak-anak yang sedang naik jet coaster</p> <ul style="list-style-type: none"> <li>■ Ada berapa orang yang naik jet coaster itu?</li> <li>o 4 orang</li> <li>■ Siapa anak yang pertama naik ke jet coaster?</li> <li>o Siswa menlingkari anak keempat dari depan</li> <li>■ Lalu, siapakah anak-anak yang dapat naik ke jet coaster pertama?</li> <li>o 4 anak paling depan yang diberi lingkaran orang ke-4-&gt; angka urutan, 4 orang-&gt; angka hitung siswa memahami perbedaannya</li> </ul> <p>2 mewarnai jet coaster</p>	<p>"Siapa nama anak (what is the name of the child)" is not appropriate because students do not know the names in the books.</p> <p>Should be:</p> <p>"Siapakah anak-anak yang dapat naik ke jet coaster pertama?" (Which kids can get on the first coaster jet?)</p> <p>Typing error:</p> <p>The word "Menlingkari" should be "Melingkari".</p>
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Meanwhile, from the teacher aspect, some notes from teachers are shown in Table 4.

Table 4. Teacher's brief notes on teacher aspect

Subjects	Notes
Teacher 1	<i>Beberapa tujuan pembelajaran tidak lengkap dan urut, sehingga menyulitkan guru dalam memahami buku.</i> (Some learning objectives are incomplete nor in sequence, making it difficult for teachers to understand the books.)
Teacher 2	<i>Kejelasan tahapan di buku guru perlu diperbaiki.</i> (The clarity of the stages in the teacher's book needs to be improved.) <i>Materi ini tidak ada di kurikulum kelas I yang sekarang digunakan.</i> (This material is not in the current grade 1 curriculum.)
Teacher 3	<i>Struktur kalimat bahasa pada alur pembelajaran sulit dimengerti.</i> (The sentence structure in the learning flow is difficult to understand.)
Teacher 4	<i>Pada poin kepraktisan, kejelasan, buku siswa sudah sesuai kriteria, sedangkan buku guru tidak praktis dalam penggunaannya. Perlu berulang dalam memahaminya.</i> (On the point of practicality, clarity, the student books have met the criteria, while teacher books are not practical in their use. It takes time to understand it.)
Teacher 5	<i>Alur pembelajaran dan kaitannya dengan permasalahan konteks perlu ditelaah guru dengan baik, berbeda dengan buku tematik.</i> (The learning flow and its relation to contextual problems need to be well studied by the teacher, in contrast to thematic books.)
Teacher 6	<i>Sepertinya aspek kebahasaan, sajian, dan alur buku memerlukan pendalaman tersendiri oleh guru. Perlu waktu untuk memahaminya.</i> (It seems that the aspects of language, presentation, and book plots need to be understood more deeply by the teacher. It takes time to understand.)
Teacher 7	<i>Buku guru agak sulit dipahami karena alurnya sangat padat dan sedikit kompleks.</i> (The teacher's book is a bit difficult to understand because the plot is very dense and a little complex.)
Teacher 8	<i>Saya termasuk yang mengajarkan dengan daring, sehingga agak sulit menerapkan alur buku yang sangat eksploratif.</i> (I'm one of those who teach online, so it's a bit difficult to apply the book plots, which is very exploratory.)
Teacher 9	<i>Alur buku menarik, namun perlu waktu untuk memahaminya.</i> (The book plots is interesting, but it takes time to understand it.)
Teacher 10	<i>Saya menilai buku ini kurang praktis untuk dipahami alurnya.</i> (I think this book is not practical to understand the plot.)

Subjects	Notes
Teacher 11	<i>Saya agak sulit memahami buku guru. Sepertinya kurang praktis dan jelas. Perlu dibaca berulang-ulang untuk memahaminya.</i> (I find it difficult to understand the teacher's book. It seems less practical and clear. It needs to be read over and over again to understand it.)
Teacher 12	<i>Beberapa alur buku sulit diinterpretasi dan dipahami.</i> (Some of the plots of the book are difficult to interpret and understand.)
Teacher 13	<i>Saya merasa penjelasan perintah di buku menyulitkan guru memahami konten pembelajaran.</i> (I think the explanation of the commands in the book makes it difficult for the teacher to understand the learning content.)
Teacher 14	<i>Sulit dalam memahami alur buku guru.</i> (It is difficult to understand the plots of the teacher's book.)
Teacher 15	<i>Buku guru disajikan sangat berbeda dengan buku yang biasa dipelajari. Perlu waktu untuk memahaminya dan perlu panduan lebih jauh.</i> (The presentation of the teacher's book is very different from the books that are commonly used. It takes time to understand it and requires further guidance.)
Teacher 16	<i>Konsep-konsep di buku dengan sajiannya perlu dikaji lebih keras oleh guru.</i> (The concepts in the book with its presentation need to be studied harder by the teacher.)
Teacher 17	<i>Kesulitan mengikuti alur buku guru.</i> (It is difficult to adjust the plots of the teacher's book.)
Teacher 18	<i>Struktur bahasa dan sajian alur buku membuat guru berpikir keras untuk memahaminya.</i> (The structure of the language and the presentation of the book plots make the teacher need more effort to understand it.)
Teacher 19	<i>Keutuhan pemahaman guru dalam membaca buku guru kurang karena alur buku berbeda dengan buku yang biasa digunakan.</i> (The wholeness of the teacher's understanding in reading the teacher's book is lacking because the book plots are different from the books commonly used.)
Teacher 20	<i>Penyampaian materi di buku guru terkesan berulang, sehingga saya sulit memahaminya.</i> (The material in the teacher's book seemed repetitive, so it was difficult for me to understand it.)

As shown in Table 3, the teacher has difficulty understanding the book's plot. These difficulties are caused by technical and non-technical aspects. The technical aspect is caused by the process of translating books from Japanese to English then translating into Indonesian. Meanwhile, the non-technical aspects are the aspects related to the teacher's understanding of the book, especially from the learning flow. The learning flow in Gakko Tosho's book is very explosive, presenting concepts with repeated connections to get the formal aspects. That is what makes this book different from the books commonly used by teachers in Indonesia.

## CONCLUSION

Based on the results of the study, it can be concluded that there is a need for assistance to teachers in understanding the plots of Gakko Tosho's teacher's books before the book is widely implemented in schools. This is because the Gakko Tosho book contains a variety of learning experiences (literacy, role-playing, arithmetic). Moreover, The Gakko Tosho book does not apply specific models or approaches but applies meaningful learning to enactive (contextual), iconic (visual), symbolic (formal), flexible and repetitive until achieving students' knowledge and understanding. The Gakko Tosho book also has a very close linkage between topics and within the topics themselves.



## **Acknowledgement**

The author would like to express his great thanks to Curriculum and Book Affair, Ministry of Education, Culture, Research and Technology (Pusat Kurikulum dan Perbukuan, Kemendikbudristek) in giving funding this research.

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