

## **An Analysis of Psychomotor Assessment Levels Based on Anderson and Krathwohl's Taxonomy in Integrated Thematic Books**

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### **ABSTRACT**

*An Analysis of Psychomotor Assessment Levels Based on Anderson and Krathwohl's Taxonomy in Integrated Thematic Books.* Objectives: This study aims to analyze the psychomotor assessment levels based on Anderson and Krathwohl's taxonomy in the integrated thematic book for grade VI, theme 5, entrepreneurship. Methods: This content analysis research used a descriptive qualitative approach. The form of research data was a distribution of psychomotor assessments, categorized according to Anderson and Krathwohl's taxonomy. The instrument validity used was the Gregory formula. Data validity employed was increased persistence and source triangulation. Sources were obtained from the teacher's book and coursebook. Data collection techniques utilized were document studies. The data analysis technique in this study applied an interactive analysis model from Miles and Huberman. Findings: The results showed that the distribution of psychomotor assessment levels at the imitation level (P1) was 23.33%, the manipulation level (P2) was 6.67%, the precision level (P3) was 36.67%, the articulation level (P4) was 30%, and the naturalization level (P5) was 3.33%. Conclusion: Therefore, it can be concluded that the precision level of psychomotor assessment is the most common because it follows the motor development of elementary school students who are expected to do things independently.

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## 1. INTRODUCTION

The 2013 curriculum applies an authentic assessment that does not only focus on learning outcomes but also views it from the process. In the authentic assessments, authentic tasks are needed to be completed by students and can provide evidence of some of the information that students have collected (Arigiyati, 2015). Through authentic assessment, it is also expected that the learning process can be clearly understood by students (Makhroji, Isda, & Bania, 2022). According to Köksal & Ulum (2018), assessment is an indispensable part of the learning process to measure student learning processes. According to the Regulation of the Minister of Education and Culture Number 23 of 2016, the scope of the assessment consists of three aspects: cognitive, affective, and psychomotor.

Moreover, Benjamin S. Bloom initiated a classification based on the order of thinking skills in a process that is getting higher in its level. Originally, Bloom's taxonomy only consisted of two aspects: cognitive and affective. Then, some experts attempted to expand the aspects of Bloom's taxonomy. In 1966, Simpson complemented Bloom's proposal by adding psychomotor aspects, consisting of seven main categories: perception, set, guided response, mechanism, complex overt response, adaptation, and origination (Effendi, 2017). Thus, it became three aspects: cognitive, affective, and psychomotor. Furthermore, Dave (1967) classified these psychomotor aspects into five levels: imitation, manipulation, precision, articulation, and naturalization (Rachmawati, 2018). Meanwhile, Dyer (2011) suggested an abstract psychomotor domain that includes five levels: observing, questioning, experimenting, associating, and communicating (Nafiati, 2021). Psychomotor taxonomy frequently used in education is Dave's theory because it is the most appropriate hierarchy in structure and purpose (Cooper & Higgins, 2014).

Based on the times and science and technology, Bloom's taxonomy was revised by Anderson and Krathwohl in 2001. In this latest revision, the main issue was the cognitive domain, which was developed more complexly into dimensions of cognitive processes and knowledge (Anderson et al., 2015). The result of this revision is called Anderson and Krathwohl's taxonomy. The psychomotor taxonomy still consists of five levels, including imitation (P1), manipulation (P2), precision (P3), articulation (P4), and naturalization (P5).

However, the implementation of psychomotor assessment in learning is still often neglected (Yuberti, 2015). A further statement from Baharom, Khoiry, Hamid, Mutalib, & Hamzah (2015) mentioned that the majority of students had received the best grades but did not correspond with the psychomotor domain, so several improvements were needed to be made to increase students' awareness of the importance of the psychomotor aspect. In line with the research results from Setiawan & Sa'dijah, Sa'dun Akbar (2017), the teachers still experienced difficulties planning and implementing assessments in elementary schools, especially in skill competencies; thus, the implementation has not been maximized.

Based on a preliminary research interview conducted at SD Negeri Mernek 03 on Monday, November 8, 2021, it was revealed that the sixth-grade teacher admitted that it was difficult to perform psychomotor assessments. In this case, the COVID-19 pandemic was the main factor, but the sixth-grade teacher also stated another factor, namely school facilities and limited time. Related to that, psychomotor assessment requires much time in its implementation, while grade VI prioritizes pursuing material. Teachers also emphasized cognitive aspects, which were easier and considered essential. In fact, the assessment should give sufficient attention to the cognitive, affective, and psychomotor aspects in a balanced manner (Hermawan, Amri, & Sodik, 2021).

The research results obtained from the students by Munandar & Junita (2020) on "Development of Peer Assessment-Based Psychomotor Assessment Instruments in Science Practicum Activities" showed that all the students involved found it easier to carry out the assessment process with the peer assessment technique.

On the other hand, textbooks can facilitate learning assessments in elementary schools. The quality of textbooks can also affect the effectiveness of learning by teachers in presenting material and student performance in understanding and solving problems (Fan, Zhu, & Miao, 2013; Yang & Sianturi, 2022).

The textbook here referred to integrated thematic books. Integrated thematic books become a minimum standard in learning in the 2013 curriculum; this book will encourage students to achieve the competency standards that have been set (Kurniawan, Winarni, & Surya, 2021). These books consist of a teacher's book and a coursebook. In addition, textbooks have a crucial role in learning activities, but every teacher has a different technique of teaching (Alim et al., 2022). Therefore, teachers need to consider students' needs in designing assessments (Ginting, Hasnah, Hasibuan, & Batubara, 2021). Specifically, psychomotor assessment needs to be adjusted to the characteristics of students according to their age because the psychomotor aspect is constantly related and cooperates with other developmental aspects in doing something (Sofia & Fatmawati, 2016). One of them is that it must be adjusted to the level of student knowledge so that, in practice, students can absorb the task well (Bissaco et al., 2020).

According to Piaget, the elementary school-age belongs to the concrete operational period, where students think logically about concrete objects. At this period, students are around 7 to 12 years old. Based on their age, elementary school students are divided into lower grades, ranging from grade I to III and upper grades, ranging from grade IV to VI (Surya, Sularmi, Istiyati, & Prakoso, 2018). The students in the highest grade in elementary school have started to think abstractly, namely at the age of 11 or 12, when they are normally in grade VI.

Furthermore, the integrated thematic book for grade VI already contains an abstract theme, covering nine themes. One of them is theme 5, entrepreneurship. Learning in theme 5 entrepreneurship encourages students to be creative and innovative. With creative learning, students will try to discover differences in perceptions, concepts, and perspectives to use different methods to solve problems (Lestari, Fadiawati, & Jalmo, 2018). The ultimate goal of learning is to give students the knowledge and skills to solve a problem they will face later in society (Rudibyani, 2020). Students also learn about entrepreneurship with skills that can be used in everyday life to develop their psychomotor aspects through psychomotor assessments in integrated thematic books. Therefore, this theme is suitable for analyzing the psychomotor assessment.

Research related to the analysis of assessments in the integrated thematic book with the 2013 Curriculum for grade VI published by the Ministry of Education and Culture has been conducted by Maryati (2019). The study results indicated that the content of authentic assessment consisted of three aspects: affective assessment contained social and spiritual attitudes, the psychomotor assessment covered practices, products, and projects, and cognitive assessment encompassed non-verbal assessment and assignments (Maryati, Zubaidah, & Mustadi, 2019). The novelty of the study is in the analysis point of view. While the previous research analyzed integrated thematic books from the authentic assessment, this study analyzed integrated thematic books from the psychomotor assessment level.

Furthermore, the integrated thematic book for grade VI in theme 5 entrepreneurship published by the 2018 revised edition of the Ministry of Education and Culture has no published description of the assessment levels, especially in the psychomotor aspect. Thus, the teacher should know it to be used as a consideration in choosing and/or developing an appropriate assessment for the school and its students. Teachers as assessment implementers must also be careful in choosing assessment techniques (Yatimah, 2020). Aside from improving the achievement of instructional goals by students, the purpose of measuring the psychomotor domain is to improve especially at the imitation, precision, manipulation, articulation, and naturalization levels; thus, it can also improve reflexes, basic movements, perceptual skills, physical skills, skilled motion, and communication in non-discursive students (Nurbudiyani, 2013).

Psychomotor assessment is also needed to determine each student's ability to learn and apply the learning outcomes to life-related skills or the ability to act (Dahlia et al., 2020). After students learn the theory and have a good attitude, students can apply and demonstrate their skills (Fauzi et al., 2021). It aligns with Yatimah's (2020) statement that psychomotor learning outcomes are a continuation of cognitive and affective learning outcomes. These learning outcomes will become psychomotor learning outcomes if students have shown certain behaviors or actions in accordance with the meanings

contained in the cognitive and affective aspects (Juanda, 2019). In addition, the assessment will be meaningful if a teacher does not only do an assessment once but several times to monitor student learning progress in a structured and continuous manner while at the same time seeing the extent to which a goal in the learning process is achieved (Nurjanah, 2021). Therefore, to get maximum results, it is necessary to be proficient in ongoing psychomotor assessments. Besides, ideally, the psychomotor assessment implementation is carried out the same as other aspects, such as affective and psychomotor.

Based on the elucidation above, this study aims to analyze the psychomotor assessment levels based on Anderson and Krathwohl's taxonomy in the integrated thematic book for grade VI in theme 5 entrepreneurship. This research is significant because teachers and/or schools can use it to consider selecting and or developing assessments. Furthermore, the results of this study can also be utilized as evaluation material by the book development team in developing the next revised edition.

So far, there has never been a study to analyze student psychomotor assessments in elementary school thematic books. Thus, it is hoped that schools and/or teachers can use this research to consider developing psychomotor assessments. Teachers are also expected to select or develop psychomotor assessments and learning activities that facilitate students' psychomotor development. In addition, teachers are expected to carry out psychomotor assessments at all levels in stages.

## 2. METHODS

This content analysis research used a descriptive qualitative approach. This research was conducted at SD Negeri Mernek 03 only to collect preliminary data. The subject of this research was the integrated thematic book for grade VI in theme 5 entrepreneurship. The thematic book analyzed was the 2018 revised edition of the Ministry of Education and Culture through Puskurbuk. The book was selected because it was compiled on a national scale based on the characteristics of students in Indonesia in general, so it needed to be adapted to the characteristics of the school and its students in its use as the main guide in implementing integrated thematic learning in the 2013 curriculum. Meanwhile, the object studied was a psychomotor assessment. In this case, psychomotor assessment could be used and developed based on the needs.

Furthermore, the data validity was completed by increasing the bending and source triangulation. Increasing persistence means making careful and detailed observations on an ongoing basis on prominent factors (Moleong, 2019). Meanwhile, source triangulation means getting data from different sources with a similar technique (Sugiyono, 2020). The sources in this study came from the teacher's book and coursebook. The instrument used was a document analysis sheet, which was validated using the Gregory formula with the assessment of two experts in the field of measurement. The following is the result of the tabulation of the Gregory formula:

**Table 3.** Percentage Distribution of Psychomotor Assessment Levels

Tabulation 2 x 2		Expert 1	
		Less Relevant	Relevant
Expert 2	Less Relevant	A = 8	B = 2
	Relevant	C = 2	D = 58

$$\begin{aligned} \text{Content Validity} &= \frac{D}{A+B+C+D} \\ &= \frac{60}{8+2+2+58} \\ &= 0.83 \text{ (HIGH)} \end{aligned}$$

The coefficient criteria from 0 – 1 are as follows: (Source: Retnawati, 2016)

0.9 – 1.0 : Very high

0.6 – 0.89 : High

0.4 – 0.59 : Moderate

0.2 – 0.39 : Low

0.0 – 0.19 : Very low

The content validity result was 0.83, which indicated high validity so that the research indicators instrument were valid to be used properly. The indicators are as follows:

**Table 2.** Psychomotor Assessment Indicators

Psychomotor Levels					
No.	Imitation (P1)	Manipulation (P2)	Precision (P3)	Articulation (P4)	Naturalization (P5)
1.	Containing instructions for imitating skills visualized in books	Containing instructions for performing skills with verbal assistance	Containing instructions to perform skills accurately	Containing instructions for performing complex skills	Containing instructions to perform strategic skills
2.	Containing instructions to imitate the skills exemplified by the teacher	Containing instructions to perform skills by relying on memory	Containing instructions to perform skills independently	Containing instructions to modify skills according to new situations	Containing instructions to perform automatic skills
3.	Using imitative-level operational verbs	Using manipulation-level operational verbs	Using precision-level operational verbs	Using articulation-level operational verbs	Using naturalized level operational verbs

(Source: Directorate General of Teachers and Education Personnel, 2018; Haristo Rahman et al., 2020; Nunung Nuriyah, 2014)

Data analysis was completed using an interactive model by (Miles & Huberman, 2014), consisting of four stages:

#### 1. Data Collection

The data were collected by analyzing the psychomotor assessment in the integrated thematic book for grade VI in theme 5 entrepreneurship. The data were compared between the teacher's book and the coursebook. The research data were the descriptions of psychomotor assessment in the integrated thematic book for grade VI in theme 5 entrepreneurship, covering five levels according to Anderson and Krathwohl's taxonomy. The five levels were imitation (P1), manipulation (P2), precision (P3), articulation (P4), and naturalization (P5).

#### 2. Data Reduction

The data obtained from the book analysis were relatively massive, so they needed to be documented carefully and in detail. For this reason, it was necessary to analyze the data by reducing the data first immediately. The reduced data were in the form of not valid indicator items, so they did not need to be used in the analysis process. Other reduced data were in the form of assessments in books that did not meet the indicators, meaning that the assessment did not include psychomotor aspects.

### 3. Data Presentation

The data were presented in tabular form, and the explanation description was in the form of a narrative. The data presented in tabular form were processed using descriptive statistics. In this case, descriptive statistics are used if the researcher only needs to describe the data collected as it is, and the conclusions cannot be generalized, or it means that conducting the research does not require a research population (Sugiyono, 2020). The following formula calculates the percentage of categories:

$$\text{Percentage of Assessment Distribution} = \frac{\text{number of assessments in certain categories}}{\text{total assessment}}$$

### 4. Conclusion

The conclusion was the distribution of psychomotor assessment levels based on Anderson and Krathwohl's taxonomy in the integrated thematic book for grade VI in theme 5 entrepreneurship.

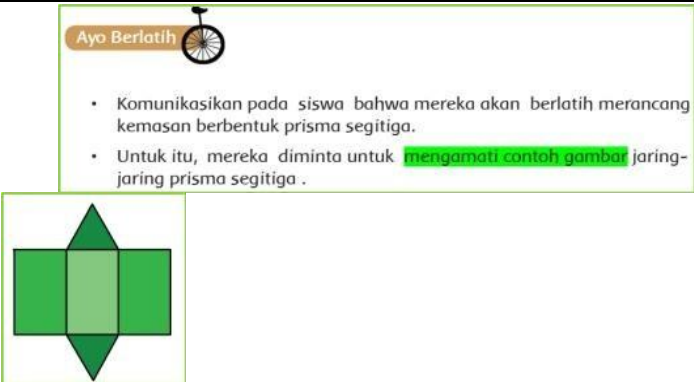
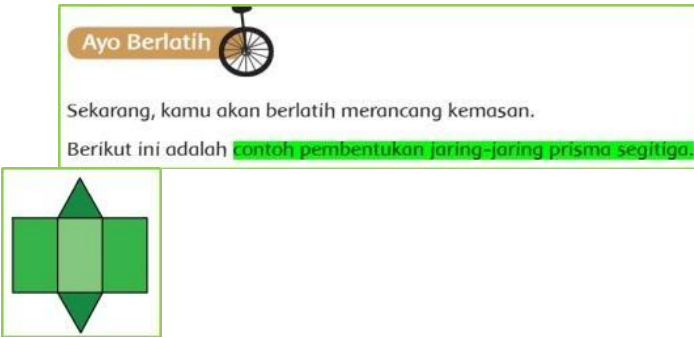
## 3. FINDINGS AND DISCUSSION

The book under study was the integrated thematic book for grade VI in theme 5 entrepreneurship, with the 2013 revised 2018 edition of the curriculum published by the Ministry of Education and Culture through Pusurbuk. The authors of the book are Anggi St. Anggari et al. The book was analyzed for its psychomotor assessment level based on Anderson and Krathwohl's taxonomy, which consisted of five levels including imitation (P1), manipulation (P2), precision (P3), articulation (P4), and naturalization (P5). The study results revealed 30 psychomotor assessments from a total of 54 assessments in the integrated thematic book for grade VI in theme 5 entrepreneurship, so the percentage of psychomotor assessments was 55.56%. Then, the psychomotor assessment was categorized based on its level. The percentage of distribution analysis results is presented in the following table:

Percentage Distribution of Psychomotor Assessment Levels							
Subtheme	P1	P2	P3	P4	P5	Total <sub>e</sub>	Percentag
Subtheme 1	3	1	1	3	0	11	36.67%
Subtheme 2	3	1	3	1	0	10	33.33%
Subtheme 3	1	0	2	5	1	9	30%
Total	7	2	11	9	1	30	100%
Percentage	23.33%	6.67%	36.67%	30%	3.33%	100%	-

Based on Table 3, the highest number of psychomotor assessments was at the precision level (P3), with 36.67% of the total number of psychomotor assessments. Meanwhile, the least number of psychomotor assessments was at the naturalization level (P5) with 3.33%. Based on its position, it was mostly revealed in sub-theme 1 with 36.67% of the total number of psychomotor assessments. The least was in sub-theme 3 with a percentage of 30%. The following are the analysis results of psychomotor assessment at each level:

**Table 4.** Psychomotor Assessment Level Analysis Results

	Figure	Indicator
<p>Imitation (P1)</p>	 <p>Teacher's book Let's practice Communicate to students that they will have a practice in designing a triangular prism-shaped package. To do this, they are asked to observe an example of a grid of triangles of prisms.</p>	<p>Containing instructions for making one work according to the sample image</p>
<p>Manipulation (P2)</p>	 <p>Coursebook Let's practice Now, you will practice designing packaging. The following is an example of forming a rectangular prism net.</p>	<p>Containing instructions to perform skills with the support of hints</p>

Langkah-langkah percobaan
<p><b>Langkah-langkah percobaan</b></p> <ol style="list-style-type: none"> <li>1. Ambil magnet</li> <li>2. Dekatkan magnet ke benda-benda yang tersedia secara bergiliran</li> <li>3. Amati apa yang terjadi</li> <li>4. Catat hasil pengamatan pada tabel</li> </ol>

Coursebook

Experimental steps

Take a magnet.

Hold the magnet close to the available objects in turn.

Observe what happens.

Note the observations in the table.

- Siswa kemudian **menampilkan kreasi rencana wirausaha** dibuat secara bergiliran.

Using precision-level operational verbs

Teacher's book

Students then display the creations of entrepreneurial plans that have been made in turn.

Precision  
(P3)

Sekarang, saatnya kamu dan kelompokmu **menampilkan permainan** yang telah disiapkan.

Ketika kelompok lain tampil, kamu dapat membuat catatan penting yang disampaikan.

Coursebook

Now, it is time for you and your group to perform the role-play that has been prepared.

When another group is presenting, you can make important notes about the content presented.

- Siswa kemudian berkreasi **membuat kemasan produk beserta embalasenya** dengan langkah-langkah:
  - Membuat kemasan berbentuk tabung atau kerucut (siswa dapat memilih salah satu) menggunakan kertas karton berwarna putih dengan ukuran A4 sebanyak dua lembar yang telah dipersiapkan guru.
  - Siswa dapat menentukan sendiri ukuran tabung dan kerucut yang harus sesuai dengan ukuran kertas yang diberikan.
  - Siswa mengamati jaring-jaring tabung dan kerucut di buku teks untuk membantu mereka dalam membuat kemasan.
  - Siswa menghiasi bagian luar selimut yang merupakan ciri khas produk (*embalase*).
  - Kemudian, siswa diminta membentuk jaring-jaring tersebut menjadi tabung atau kerucut (sesuai bentuk yang mereka pilih) menggunakan perekat.

Containing instructions for performing a complex set of skills.

Articulation (P4)

Teacher's book

Students are then creative in making product packaging and *embalase* (visual advertisement in packaging) with the following steps.

Make a package in the form of a tube or a cone (students can choose one) using two sheets of white paper with A4 size that the teacher has prepared.

Students can determine the size of the tube and cone that must match the size of the paper given.

Students observe the nets of tubes and cones in textbooks to assist them in making packages.

Students decorate the outside of the blanket, which is the product's signature (*embalase*).

Then, students are asked to form the nets into tubes or cones (according to the shape they choose) using adhesive.

Sekarang kamu akan membuat kemasan produk beserta *embalase* kreasin  
Buatlah kemasan berbentuk tabung atau kerucut. Kamu dapat memilih sa  
satu.  
Setiap siswa mendapatkan kertas karton berwarna putih dengan ukuran  
sebanyak dua lembar.  
Kamu dapat menentukan sendiri ukuran tabung dan kerucut yang kamu b  
selama sesuai dengan ukuran kertas yang diberikan.

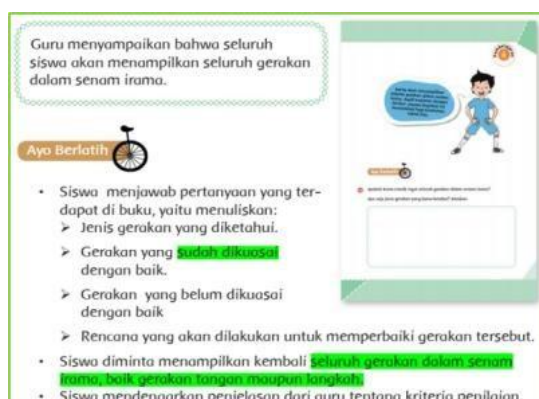
#### Coursebook

Now you will make product packaging along with your *embalase* creation.

Make the packaging in the form of a tube or a cone. You can choose one.

Each student obtains two pieces of white cardboard of A4 size.

You can determine the size of the tube and cone that you make as long as it is in accordance with the paper size given.



Containing instructions for performing an automated skillset

Teacher's book

The teacher conveys that all students will display all movements in rhythmic gymnastics.

Let's practice

Students answer the questions contained in the book, namely writing:

Known movement types.

Well mastered movements.

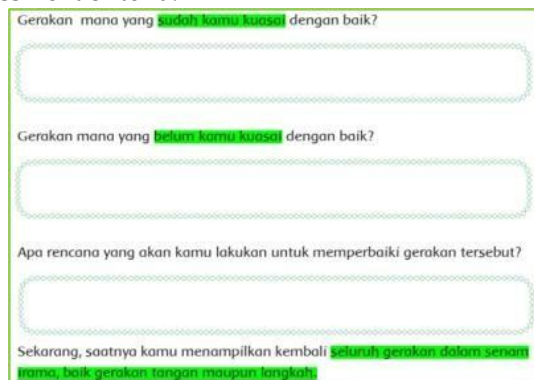
Movements that have not been mastered well.

Plans to be made to improve the movement.

Students are asked to re-display all movements in rhythmic gymnastics, both hand movements and steps.

Students listen to the teacher's explanation of the assessment criteria.

Naturalization (P5)



Coursebook

Which moves have you done well?

Which moves have you not done well?

What are you planning to do to improve the movement?

Now, it is time for you to rediscover all the movements in imaginary gymnastics, both hand movements and steps.

### 1. Imitation Level (P1)

There were seven assessments of the psychomotor imitation level in the integrated thematic book for grade VI in theme 5 entrepreneurship. The amount was 23.33% of the total number of psychomotor assessments. The imitation level of psychomotor assessment was spread over three assessments in sub-theme 1, three in sub-theme 2, and only one assessment in sub-theme 3. One example of the analysis results of psychomotor assessment at the level of imitation contained in Table 3 was a psychomotor assessment of the content of mathematics. In this regard, assessment of

mathematics learning is not only limited to knowledge but also related to affective and psychomotor assessments (Sherlyane Hendri, Hendri, Kiswanto Kenedi, Helsa, & Anita, 2019). Students were asked to construct a triangular prism by imitating the images of the nets found in the coursebook. The difference between the assessment in the teacher's book and the coursebook was the sentence structure of the instructions. In the teacher's book, it is an indirect sentence, while in the coursebook, it is a direct sentence, which is more communicative and engages students to respond actively.

Moreover, the imitation level of psychomotor assessment in the integrated thematic book for grade VI in theme 5 entrepreneurship has raised three indicators. The indicator that appeared the most was the first indicator, which contained instructions for imitating the skills visualized in the book. Meanwhile, the indicator that appeared the least was the second indicator, which contained instructions to imitate the skills exemplified by the teacher.

Based on the number of occurrences of the three indicators, the imitation level of psychomotor assessment has been revealed in the integrated thematic book for grade VI in theme 5 entrepreneurship. At the imitation level, students are expected to imitate the movements and styles that they have observed correctly; even if students can do it, this behavior is not automatic, and it is still possible for errors to occur (Hakim & Kholis, 2017). It is in line with Istiqomah & Suyadi's (2019) statement, which explained that the motor development of elementary school-age corresponds with their physical development. According to Seifert and Hoffnung (1994), physical development includes changes in the body, such as the growth of the brain, nervous system, and senses, increased height and weight, hormones, changes in the way individuals use their bodies, and changes in physical abilities (Murti, 2018). Then, it is associated with the cognitive development of elementary school age that are still in the stage of concrete operational thinking, which means they can think logically about concrete objects. Therefore, concrete assistance is still needed in performing skills, so a psychomotor assessment at the imitation level is needed.

## 2. Manipulating Level (P2)

There were two manipulation levels of psychomotor assessment in the integrated thematic book for grade VI in theme 5 entrepreneurship. The amount was 6.67% of the total number of psychomotor assessments. The psychomotor assessment of the manipulation level was spread out in sub-theme 1, with only one assessment, sub-theme 2 also only one assessment, and in sub-theme 3, there was no psychomotor assessment of the manipulation level. One example of the analysis results of the manipulation level psychomotor assessment contained in Table 3 was a psychomotor assessment of the content of science lessons. Students conducted experiments to identify magnetic and non-magnetic objects, and then the results were presented in the form of reports. This assessment in the teacher's book did not meet the indicators because the steps were unavailable. However, there were four written steps in the coursebook, but step number four was not a step in the experimental process but referred to the results, so the experimental step only consisted of three steps.

In addition, the psychomotor assessment of the manipulation level contained in the integrated thematic book for grade VI in theme 5 entrepreneurship has raised three indicators. The first indicator contained instructions for performing skills with verbal assistance that appeared once in the assessment in the student book but did not appear in the same assessment in the teacher's book. The second indicator contained instructions for performing skills by relying on memories that appeared once in teacher and student books assessment. The third indicator was the use of manipulation-level operational verbs that appeared once in the assessment in the teacher and course books.

Based on the number of occurrences of the three indicators, the frequency was only one each. Thus, psychomotor assessment at the manipulation level was only slightly revealed in the integrated thematic book for grade VI in theme 5 entrepreneurship. It is consistent with a statement (Hakim & Kholis, 2017) that, basically, manipulation and imitation are the same; the difference is that students no longer see examples but are only given written or verbal instructions. The psychomotor goal of the manipulation level in learning is that students are expected to do something without visual assistance as at the imitation level (Asrul, Ananda, & Rosinta, 2015). According to Dave (1967), the manipulation

level is categorized as a skill obtained after performing certain actions by remembering and following commands (Haristo Rahman et al., 2020). Therefore, students will be confused at the manipulation level, relying only on verbal assistance. Thus, it is more at the imitation level, equipped with visual aids to make it clearer.

### 3. Precision Level (P3)

The precision level of psychomotor assessment in the integrated thematic book for grade VI in theme 5 entrepreneurship was uncovered to be eleven. The number was 36.67% of the total psychomotor assessments. The precision psychomotor assessment level was divided into four assessments in sub-theme 1, five assessments in sub-theme 2, and two assessments in sub-theme 3. One example of the analysis results of the psychomotor assessment at the level of precision contained in Table 3 was a psychomotor assessment of the Pancasila and Civic Education content. Students showed a role-play about creating an entrepreneurial plan that had been prepared in groups. Pancasila and Civic Education applying the role-play method is student-centered learning; hence, it can develop students' affective and psychomotor skills (Eli Marni).

Further, the precision level of psychomotor assessment in the integrated thematic book for grade VI in theme 5 entrepreneurship raised two indicators with similar occurrences. These indicators were the first and third indicators. The first indicator contained instructions to perform skills independently. The third indicator used operational verbs of precision level. Meanwhile, the second indicator was the indicator that appeared the least. It contained instructions to perform skills accurately.

Based on the number of occurrences of the three indicators, the precision level psychomotor assessment was the most common psychomotor assessment found in the integrated thematic book for grade VI in theme 5 entrepreneurship. With increased body weight and strength during middle and late childhood, motor development becomes more refined and coordinated in body control (Desmita, 2013). In line with the psychomotor objectives of the precision level in learning, students are expected to perform a behavior without using visual examples or written instructions and do it smoothly and precisely (Asrul et al., 2015). It is because teachers not only need to guide their students but also need to train students' independence in learning. It is also congruent with the constructivist learning principles, stating that learning is more emphasized to be student-centered; then, students are practiced and encouraged to perform skills independently (Nupita, 2013). With the role of the teacher as a facilitator, students are guided to get themselves involved in a constructive way of learning (Noviyenti, 2021). Hence, the teacher does not provide assistance but remains a facilitator in learning even though students are not learning alone but in a group.

### 4. Articulation Level (P4)

The articulation level of psychomotor assessment in the integrated thematic book for grade VI in theme 5 entrepreneurship was discovered to be nine assessments. The amount was 30% of the total number of psychomotor assessments. The articulation level psychomotor assessment was divided into three assessments in sub-theme 1, one assessment in sub-theme 2, and five assessments in sub-theme 3. One example of the psychomotor assessment analysis results at the articulation level in Table 3 was a psychomotor assessment of the Cultural Arts and Craft Education content. The psychomotor aspect of students was reflected in the ability of students to work when producing quality work, not only the product being assessed but also the process (Yatimah, 2020). Students were also asked to make two works at once: making packaging and its *embalase*.

However, the articulation level of psychomotor assessment in the integrated thematic book for grade VI in theme 5 entrepreneurship only showed one indicator. The first indicator contained instructions to perform a complex set of skills, while the second and third indicators were not found in the results of the psychomotor assessment analysis in the integrated thematic book for grade VI in theme 5 entrepreneurship.

Based on the number of occurrences of indicators, the articulation level of psychomotor assessment has been revealed in the integrated thematic book for grade VI in theme 5

entrepreneurship. However, the indicator that appeared was only the first indicator by bringing up three items that had much frequency. It is in accordance with a statement (Suyadi, Calista, & Puspita, 2018), which explains that at the age of 10-12 years, students activated to have skills like adults; they begin to display complex, complicated movements. Articulation means modifying a skill or product to suit a new situation or combining more than one skill in a harmonious and consistent order (Ditjen GTK, 2018). The articulation level competence of students is expected to show a series of movements properly, structured, correctly, and quickly (Hakim & Kholis, 2017). Therefore, an articulation level of psychomotor assessment is needed to practice students in complex coordination skills.

#### 5. Naturalization level (P5)

The naturalization level of psychomotor assessment in the integrated thematic book for grade VI in theme 5 entrepreneurship was only found to be one or 3.33% of the total psychomotor assessments. In sub-theme 1 *Kerja Keras Berbuah Kesuksesan* and sub-theme 2 *Usaha di Sekitarku*, naturalization level of psychomotor assessment was not found. One psychomotor assessment was at the naturalization level in sub-theme 3, *Ayo Belajar Berwirausaha*. One example of the psychomotor assessment results at the naturalization level in Table 3 was a psychomotor assessment of the Physical Education, Sport, and Health (PJOK) content. Here, students are expected to have mastered all the rhythmic gymnastics movements studied from sub-theme 1. Rhythmic gymnastics is a physical activity or body movement carried out rhythmically (Alifiana, 2019). This assessment consisted of footwork movement and hand swing movement skills.

Based on the naturalization level of psychomotor assessment, the indicator that appeared in the assessment was only one. It was the second indicator, stating that it contained instructions to perform a series of automatic skills. Meanwhile, the first and third indicators were not found in the analysis results. Therefore, psychomotor assessment at this level was the least found in the integrated thematic book for grade VI in theme 5 entrepreneurship. As stated by Dave (1967), naturalization is included in the category of mastery of skills with high levels of performance (Haristo Rahman et al., 2020). Naturalization is also the ability to automate and master strategic actions and activities (Ditjen GTK, 2018; Nuriyah, 2014). In line with Sapudjo (2021), the elementary school age still requires guidance and supervision in learning. Therefore, it is still rare in elementary schools to perform psychomotor assessments at the naturalization level; at this level, the psychomotor assessments were at least found in the integrated thematic book for grade VI in theme 5 entrepreneurship compared to other levels.

Furthermore, the number of not balanced assessments at each level becomes evaluation material in choosing a reference book. Hence, teachers need other teaching materials other than textbooks that have been provided by the school (Nurwulandari & Rafiq, 2021).

#### 4. CONCLUSION

Based on the study results, it can be concluded that the precision level was the most common level of the psychomotor assessment revealed in the integrated thematic book grade VI theme 5 entrepreneurship, dominated by the first and third indicators. The first indicator contained instructions to perform skills independently. The third indicator used operational verbs of precision level. It is because the precision level is in line with the motor development of elementary school age, which are expected to do things independently. Furthermore, the psychomotor assessment level was at least at the naturalization level (P5). It is because the level of naturalization is a category of skill mastery with a high level of performance. Hence, it is still infrequent to do in elementary schools.

The results also showed that the distribution of psychomotor assessment in the integrated thematic book class VI theme 5 entrepreneurship according to the level obtained a percentage result of 23.33% at the level of imitation (P1), 6.67% at the level of manipulation (P2), 36.67% at the level of precision (P3), 30% at the level of articulation (P4), and 3.33% at the level of naturalization (P5). Based on the study results, it can be stated that the precision level of psychomotor assessment (P3) was the most common in the integrated thematic book class VI theme 5 entrepreneurship, with the first indicator being the most. In contrast, the least psychomotor assessment was at the naturalization level

(P5). In addition, the precision level assessment (P3) is very much needed by elementary school students, especially in the highest grades, to support their activities in daily life, which are already required to be independent. Moreover, the number of not balanced assessments at each level becomes an evaluation material in psychomotor assessments on certain skills. The amount should be balanced to be carried out continuously and gradually from the lowest to the highest level. It is because the psychomotor taxonomy describes a developmental process at each level.

This research has two implications, namely theoretical and practical implications. The theoretical implications of the results of this study are that it can enhance insight and knowledge about psychomotor assessment and be used as references and relevance for further research. For the practical implications, the results of this study can be used as a consideration for schools and/or teachers in developing psychomotor assessments and learning activities that facilitate students' psychomotor development. In addition, it can also be used as evaluation material by the book development team in the next revised edition.

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