

**A TEACHER'S TRANSLANGUAGING STRATEGIES IN TEACHING
MATHEMATIC THROUGH ENGLISH (EMI) IN THE INDONESIAN
SECONDARY SCHOOL: A QUALITATIVE INTERVIEW STUDY**

A Thesis

**Presented to the Department of English Language Education
As Partial Fulfillment of the Requirements to Obtain the *Sarjana*
Pendidikan Degree in English Language Education**



Submitted by:

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19322014

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FACULTY OF PSYCHOLOGY AND SOCIOCULTURAL SCIENCES
UNIVERSITAS ISLAM INDONESIA
YOGYAKARTA**

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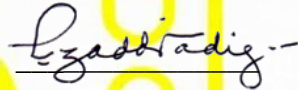
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DECLARATION

STATEMENT OF WORK'S ORIGINALITY

I declare that this thesis is the result of my independent effort and does not contain the work of others, except those acknowledged in quotations and references, as a scientific paper should.

Yogyakarta, November 28th 2023

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MOTTO

“Allah does not charge a soul except [with that within] its capacity. It will have [the consequence of] what [good] it has gained, and it will bear [the consequence of] what [evil] it has earned....” (QS. Al-Baqarah: 286)

DEDICATIONS

This undergraduate thesis is dedicated to My Papa, My Mama, and all my family members.

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First and foremost, Alhamdulillah rabbi 'alamin, praises and thanks to Allah SWT for His showers of blessings throughout my research work to accomplish this thesis successfully. Shalawat and Salam to our prophet Muhammad SAW who has inspired me not to give up easily when going through difficult times. Words cannot express my gratitude to my thesis supervisor, Nizamuddin Sadiq, S.Pd., M.Hum., Ph.D. who has guided me throughout this work. His patience, enthusiasm, motivation, and immense knowledge helped me in all the time of researching and writing this thesis. One of the most important things is thank you very much for providing a fast response when I asked questions and consulted via WhatsApp.

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Yogyakarta, October 30th 2023

Tahany Salsabila

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ABSTRACT

A number of recent studies have supported the occurrence of language issues in teaching content through English classrooms that affect student performance and the learning environment. This language issue arises due to the overlap between the monoglossic view on teaching content through English classroom and students' identity as multilingual practitioners. On this basis, experts and stakeholders have begun to look at the role of translanguaging as an appropriate pedagogical strategy to be involved in improving the practical system in teaching-content through English. The present study contributes to this growing body of literature by focusing on teachers’ translanguaging strategies in teaching mathematics through English in the Indonesian secondary school. The findings demonstrate that the teacher employs students’ complex linguistic resources in scaffolding translanguaging strategies. Notably, translanguaging strategies operate to satisfy the learning needs of multilingual learners to participate in the teaching content through English (EMI) classroom. As pedagogical strategies, translanguaging is an effective strategy to promote students achieving their highest potential and this study recommends the practice of translanguaging strategies. Additionally, the findings of this study also contribute practical insight to develop translanguaging strategies, particularly in the bilingual school or education.

Keywords: translanguaging strategy, teaching content through English, secondary school

CHAPTER I

INTRODUCTION

1.1 Background of the Study

In the context of multilingual education, teaching content through English in the science, technology, engineering and mathematics classrooms has been adopted in almost all academic institutions across the globe. One salient feature of teaching content through English is the translanguaging phenomenon. Developed by Garcia (2009), translanguaging is adopted by many authors and practitioners as the focus of research or the approach in the classroom contexts. The further focus encourages teachers to employ translanguaging as a pedagogic approach (Tai & Wei, 2020, 2020a, 2020b) and some others have documented their research on translanguaging (Banda, 2017; Liu, 2019; Pun & Macaro, 2018; Sah & Li, 2020; Gynne & Sanchez, 2019; Tai & Wei, 2020; Kuteeva, 2020; McBride & Jiménez, 2021; Tai, 2023). Since teaching content through English has been a burgeoning global phenomenon, many of those studies investigate the application of translanguaging in the context science, technology, engineering and mathematic (STEM) classroom as a pedagogical strategy to build an attractive classroom that could improve students' performance in learning a subject (Pun & Macaro, 2018; Tai & Wei, 2020, 2020a, 2020b; Kuteeva, 2020; Tai & Pun, 2021; Tai, 2023; Fang & Hu, 2022).

The outgrowth of translanguaging practice to the STEM classroom shows that English-only programs require other languages such as students' native language to be legitimate in the lesson as the complement of pedagogical approach (Fang and Hu, 2022). Pun and Macaro (2018) investigate the effect of the students' native language (L1) involvement to formulate questions as interaction patterns in science lessons in Hong Kong. The findings of this study show that the greater use of the L1 in designing higher order questions has created an interactive learning atmosphere for multilingual learners. Furthermore, Tai and Wei (2020) also examine the role of translanguaging as pedagogical practice to promote the development of teaching mathematics through English. This study aims to demonstrate translanguaging as a resource for enabling classroom participants to engage in diverse multiple meaning-making systems and subjectivities. The findings reveal the critical use of translanguaging in constructing playful talk to help teachers achieve their pedagogical goals. This study contributed a solution by employing a pedagogic discourse theory that investigates if translanguaging supports student engagement. Moreover, teachers use translanguaging as a means of offering students the opportunities to participate in the classroom and to communicate students' understanding of what the teacher explained.

Tai & Pun (2021) also has curiosity to explore the implications of translanguaging as a pedagogical tool to create a space for content subject learning in secondary school setting. The researcher conducts this qualitative study to show that multilingual students continue to involve their linguistic and semiotic resources in

constructing their knowledge to the learning content even though schools have imposed the English-only program. The findings claim that translanguaging practice enacts a role in bridging students' knowledge of the learning subject, facilitating group work, and creating an enjoyable learning environment. Tai (2023) illustrates how the mathematics teachers' translanguaging practice employs students' contribution and transforming students' contribution to construct academic ways of representing the content learning. The process of deploying translanguaging for transforming student contributions highlights translanguaging as a prominent component of the teachers' classroom interactional competence. The progress of the teachers' competence is certainly pretty impactful for constructing new configurations of language practices and achieving particular pedagogical purposes. Those studies indicate that translanguaging supports teaching content through English programs to create a space for the development of multilingual students' knowledge on processing the subject-content learning and promote an enjoyable learning environment.

The cited empirical studies above show that the focus of the research is to investigate the performance of students' linguistic resources, and the role of translanguaging in the teaching content through English classroom (Pun & Macaro, 2018; Tai & Wei, 2020a, 2020b, 2020c; Kuteeva, 2020; Sah & Li, 2020); Tai & Pun, 2021; Tai, 2023). These studies are conducted in Hong Kong (Pun & Macaro, 2018; Tai & Wei, 2020; Pun & Tai, 2021), Sweden (Kuteeva, 2020), and Nepal (Sah & Li, 2020). Considering the focus and the settings of these studies, to my best of knowledge,

little is known about the exploration of translanguaging strategies in teaching Mathematic through English in the Indonesian Secondary School. Therefore, it needs to expand the setting of the research into multilingual education institutions such as Indonesia and the topic of the research that focuses on analyzing how English, national and local language are used in the teaching content through English. Teachers' translanguaging strategies including rationale of using national and local languages would be revealed in this research. The results of this analysis serve as a reference for teachers to rationalize the use of translanguaging strategies in the context of the content classroom in order to encourage them to implement the practice of translanguaging appropriately according to the needs of multilingual learners. Furthermore, this study could contribute fundamental insight for the language education policy makers in Indonesia to provide training on the implementation of translanguaging strategies to support teaching content through English for Indonesian teachers.

1.2. Limitation of the Problems

To limit the scope of exploration, the current study focuses on teachers' translanguaging strategies in teaching Mathematics through English in the Indonesian secondary school.

1.3 Formulation of the Problems

This study was guided by the following research question: what are translanguaging strategies that teachers use in the teaching content through English Indonesian secondary school?

1.4 Objectives of the Study

This study aims to explore translanguaging strategies in teaching Mathematic through English in the Indonesian Secondary School. The use of local, national and English languages is expected to be explored in more detail based on mathematics teachers' translanguaging strategy in teaching content through English programs.

1.5 Significances of the Study

This study contributes a practical insight on how translanguaging strategies are practiced in teaching mathematics through English classrooms.

CHAPTER II

LITERATURE REVIEW

2.1 Defining Translanguaging

The theoretical framework of translanguaging popularized by Garcia (2009) as one of the pedagogical discourse strategies has attracted researchers in the context of multilingual education to prove the effectiveness of implementing translanguaging in teaching-learning practice. Based on the historical background, the term of translanguaging was originally coined in Welsh by Cen Williams, shaped to a pedagogical strategy in bilingual classrooms that consciously changed the language of input and the language of output (Gynne, 2019). Banda (2017) asserted that from a translanguaging perspective, language is not an abstract system that depends on rules and norms, but a practice of each individual to construct knowledge, create meaning, and transform the social reality of individual actions. As pedagogical discourse, translanguaging provides a space for multilingual students to gain access to their voice, power, and agency in the learning process until it can bridge the gap between home- and school-based literacy (Banda, 2017).

The focus of this current research outlines the operational definition of translanguaging as a pedagogical practice of multilingual practitioners that utilize the entire complex of students' linguistic resources flexibly in order to teach the content of a subject and develop language practices for academic purposes (Garcia & Wei, 2014).

The incorporation of full linguistic resources strategically along with pedagogical discourse assists teachers in constructing an interactive classroom and students actively participating in learning activities as well as promoting students to bridge their understanding in cultivating the learning content (Hansen-Thomas et al., 2020). Translanguaging is transformative since students are allowed to present their out-of-school knowledge and experience using their full linguistic repertoire to make sense of the incremental knowledge of content-subject learning (Tai & Wei, 2020b). Students contribute different dimensions of their personal history such as their belief, assumption, and idea based on their prior knowledge and experience so that meaningful performance is shaped (Li, 2011). This illustrates the process of meaning-making and knowledge construction that bridges students' complex understanding (Sah & Li, 2020). Additionally, translanguaging has created an enjoyable learning atmosphere through unplanned and flexible use of language (Pun & Tai, 2021).

2.2 Translanguaging scaffolding as pedagogical strategies

Baker highlighted that translanguaging was originally conceived as a classroom strategy for bilingual alternation between English and Welsh (As cited in Makalela, 2015) and currently has expanded as a pedagogical practice for multilingual learners (Garcia & Wei, 2014). Furthermore, Cenoz and Gorter (2021) described pedagogical translanguaging as an instructional teaching strategy based on the students' complex linguistic resources and playing a scaffolding function to develop the dynamic practices of multilingual learners. Maybin, Mercer and Stierer (1992) outlined definition of

scaffolding as a type of teacher assistance that helps students learn new skills, concepts, or levels of understanding (hereafter comprehension of material) that leads to the student successfully completing a task (a specific learning activity with finite goals). In this present study, translanguaging is regarded as a pedagogical tool and can be understood as scaffolding. Pedagogical translanguaging refers to specific didactic strategies and activities intended to develop students' multilingual repertoire rather than named languages in their repertoire (Feller, 2021).

Congruent pedagogical strategies are shaped when instructors or teachers model their pedagogical theories by considering different scaffolding to stimulate student learning and ensure all student needs are met (Loughran & Berry, 2005). Teachers need to reflect on what they believe about cultural groups other than their own and attempt to identify patterns across environments that contribute to or detract from student growth so as to form differential instructional learning to meet students' needs (Turnbull, Turnbull & Wehmeyer, 2007). This is in line with the focus of this study which explores appropriate translanguaging strategies to find a better instructional system in the teaching content through English programs.

2.3 Translanguaging in teaching content through English (EMI) program

In teaching content through English programs, the English language takes a dominant role in the learning process of a subject. Teaching content through English or teaching non-language academic subjects in English is also defined as English-medium instruction (EMI)– (Jiang, Zhang, & May, 2019). Therefore, Murata and Iino

(2018) conceptualized EMI as “English-medium instruction conducted in the context where English is used as a lingua franca for content-learning/teaching among students and teachers from the same and different lingua-cultural backgrounds”. The author finds a focus of research on EMI was mostly conducted in Hong Kong (Wannagat, 2007; Wong, 2010; Lo & Macaro, 2012; Li, 2015; Pun & Macaro, 2018; Lin & Morrison, 2010; Li, 2022). A number of studies present the implementation of EMI in other countries such as China (An & Thomas, 2021), Japan (Chapple, 2015), Bangladesh (Karim et al., 2023), Thailand (Liu, 2019; Prabjandee & Nilpirom, 2022), and Indonesia (Setoningsih, 2022). In all the countries mentioned, EMI is still a continuously debated issue today. Some expertised seem to support the scope of EMI and partially from expertised point of view believe that there is still overlap in EMI application to the learning process (Milligan & Tikly, 2016).

The EMI supporters argued that the practice of teaching content through English must be maintained to improve students' English proficiency because currently English is an international language that important to mastering as a competitive advantage for increasing self-competence in obtaining cutting-edge knowledge, higher education, and well-paid jobs (Wong, 2010; Karim et al., 2023). Based on this phenomenon, the evolution of teaching content through English (EMI) has been called the most significant trend in educational internationalization (Chapple, 2015). Although this internationalization trend has a positive impact on the development of students' English proficiency, the language use in EMI still needs to be reconsidered in

its implementation. Wannagat (2007) in his study has also approved that the EMI system in Hong Kong has encouraged high exposure for students' English proficiency, but the dominance of the English language presents a language issue for bi/multilingual learners in Hong Kong. The EMI classroom represented in Wannagat study depicts the mixed-coded switching tradition practice so that there is a lack of spontaneity in using L2 (English language) and hypothesizing skills are underdeveloped due to a simple text design.

Since teaching content through English (EMI) has experienced a language issue, students and teachers expressed and agreed that L2 could be used to present facts in learning content, while for interaction (e.g., focusing students' attention and involving students emotionally) it is much more appropriate to use L1 or native language (Wannagat, 2007). Furthermore, a study by An, Macaro, & Childs (2021) revealed that learning dominated by L2 could shape a classroom that lacks teacher-student interaction. Their questionnaire results showed the teacher talk represented an average of 85.6% of teacher-whole class interaction time, while student talk only comprised 11.6% on average. Teacher talk dominance is illustrated from this data, and overall teacher monologues could not invite students' verbal interaction during the lesson. It can be concluded that there is a limited degree of teacher-student interaction. Meanwhile, students as participants in the study own a belief that interactions between teachers and students are important in learning, but they actually experience an interaction barrier in their learning. This gap is further exacerbated by the linguistic

challenges students face on the EMI system. Hence, input modification strategies are needed by the teacher through using simplified vocabulary, paraphrasing, and allowing L1 use to enhance clear understanding for students to receive subject knowledge in L2 (An & Thomas, 2021).

Incorporating teachers' and students' shared language (L1) judiciously in EMI classroom plays a valuable repertoire for bridging students' prior knowledge to the incremental knowledge from the learning content (Li, 2022). Additionally, students also have the desire to maintain the sense of their identity as non-native English speakers in an EMI classroom by asking educators to use an L1 English accent in order to help students capture the teachers' conversation in delivering learning content in L2 (Liu, 2019). This conception represents English variety in the phenomenon of world Englishes that works against the concept of standardized norms (Widdowson, 1998). Incorporating L1 and using L1 English accent in EMI system refers to the characteristics of multilingual paradigms that English cannot be separated from other languages (Rose, Sahan, & Zhou, 2022). In a multilingual context, theoretical developments increasingly highlight that language is not viewed as monolithic but as a fluid entity with permeable boundaries, leading to more imaginative and strategic approaches to language use in EMI classrooms and recognition of varieties of English (Milligan & Tikly, 2016).

There have been many approach theories designed by experts that support the development of EMI scope in academic globalization, one of which is the elaboration

of a translanguaging concept towards pedagogical strategies in the EMI classroom (Tai & Wei, 2020; Pun & Tai, 2021; Tai, 2023; Song, Howard, & Olazabal-Arias, 2022). In the EMI context, translanguaging has provided plenty of significant impacts on EMI development. Monotonous and colorless classroom environments as EMIs' deficiency cause unmotivated students to participate in the learning process (Çankaya, 2017). Moreover, the lack of classroom interaction occurs in EMI classrooms where learning is only dominated by teacher instructions (An & Thomas, 2021). This leads students to experience difficulties in processing complex understanding of learning content since students are limited in making voices using their full linguistic resources (Pun & Thomas, 2020). Overcoming those cases, translanguaging has succeeded in constructing a playful talk in the EMI classroom. Tai & Wei (2020) investigated this issue in their study, highlighting that translanguaging space promotes teachers and students to perform creative actions and experiments through varied voices to facilitate meaning-making and knowledge construction processes. Those empirical findings have strengthened that the presence of translanguaging could maximize the EMI system and its benefit.

EMI is progressively being used in universities, secondary schools and even primary schools (Dearden, 2015). Related to the setting of the current study, the EMI practice has also become popular and is widely applied in the Indonesian international secondary school. International School (ISC) research 2023 recorded that Indonesia has 395 English-Medium International Schools which accommodate approximately

147.000 students. Although the EMI phenomenon is running into rapid growth in Indonesia, Setoningsih (2022) emphasized that EMI has not indicated immediate effectiveness in terms of its implications. Her research highlighted that the EMI program has facilitated superior quality learning in competing with the environment of global academics and improved students' English language abilities. Meanwhile, the findings of Setoningsih study demonstrated that Indonesian students as bi/multilingual practitioners sense the presence of limitations to the language use in this EMI practice. A learning process that only focuses on using English instruction has created language gaps and challenges for teachers and students during the learning process, specifically in communicating, interacting, and driving students' understanding of the learning content. Subsequently, this matter has supported teachers and students in the Setoningsih study to suggest a combination of using English language and L1 (Bahasa Indonesia) as a strategy to maximize the benefits of the EMI program in Indonesian education.

The existence issues on the system of teaching-content through English (EMI) take account of translanguaging performance to enhance the development of EMI application. Since EMI has become widespread and many are set in secondary schools, number of typical studies recommend the practice of translanguaging in the EMI secondary school (Pun & Thomas, 2020; Tai & Wei, 2020; Pun & Tai, 2021; Tai, 2023; Song, Howard, & Olazabal-Arias, 2022). Pun & Tai (2021) carried out a related study in two grade 10 secondary science labs (biology and chemistry) in a Hong Kong EMI

secondary school. The appropriate implementation of translanguaging strategies from the results of this study show the positive impacts on students' attitude and learning environment. The findings of Pun and Tai study show that students' linguistics are substantial to be involved in the classroom even though the schools implied EMI (English Medium instruction) policy in their practice. Translanguaging implications in this EMI science classroom could propose space for students to learn in an active way, construct their understanding of the target laboratory procedures, and create an enjoyable learning environment.

Tai & Wei (2020a) highlighted the importance of EMI teachers to prioritize students' understanding in processing the learning content rather than adhering to the language policy set by the school curriculum. Tai and Wei study illustrated that translanguaging space has created co-learning environments that involve students' knowledge as a supporting component to assist the teacher towards learning outcomes. Teachers and students have the same position as holders of knowledge so that there is mutual transfer of knowledge between them, enabling students to jointly negotiate meaning and teachers to learn from students' knowledge. The findings of Tai & Wei research revealed that a translanguaging space for co-learning could promote equitable knowledge construction and honor diversity of students' linguistic knowledge. Accordingly, translanguaging practices are flexible to use multiple languages thereby offering multilingual learners the power to maximize their learning potential in the EMI classroom (Tai, 2023). Those empirical findings consolidate that translanguaging has

an impact on improving the implementation of teaching content through English (EMI) system and maximizing its benefit, particularly in secondary school.

CHAPTER III

METHODOLOGY

3.1 The Context

This study investigated teachers' translanguaging strategies to involve languages other than English in Solo, Indonesia. Branded as an education city, many high-quality schools are endorsed by the government and they are developing national accredited schools. Specifically, the setting of this study is carried out at a private bilingual boarding school in Surakarta. The reason for choosing this boarding school is because the school advocates the ideology of bilingualism practices to their school policies by using a collaborative curriculum system between Cambridge and the national curriculum. The school curriculum also establishes a policy of English as the language of instruction in learning (EMI) by providing learning media with English-based content and encouraging teachers to deliver learning content using English.

3.2 Research design

To address the research gap in this study, the author conducts a qualitative interview study to capture teachers' translanguaging in teaching content through English. A qualitative interview study provides in-depth information concerning participants' experiences and viewpoints of a particular topic (Turner, 2010). A semi-structured interview guide approach is employed in this interview design which is an in-depth interview with a flexibility in its composition where the researcher has

prepared preset open-ended questions and follow-up questions that could emerge during or after the interview session according to the participants' response (Jamshed, 2014).

3.3 Participant

The author has determined the criteria for participants who are eligible to be involved in this research. The focus of this research requires a content-subject teacher with an identity as a native Indonesian and has experience in teaching content through English for more than one year. A teacher in the targeted school has met those criteria and the author decided to choose her to be a participant in this research. The participant taught mathematics to grade 10 students and she has been teaching mathematics through English in the targeted school for more than a year. In accordance with her educational background (Bachelor's and Master's Degrees in Mathematics Education), the participant has more than 10 years of experience teaching mathematics. To be specific, the author recruited a teacher who taught in grade 10 because grade 10 students had the shortest period in following the teaching-learning process using English as their medium instructions at this bilingual school. Grade 10 students still genuinely need the involvement of their native language to enhance their understanding of the material presented and play an active role in learning activities. This encourages substantial opportunities for the specific interactions between students and teachers when translanguaging is executed in the classroom. The participant was recruited by the following criteria.

Table 3.1. *Criteria of the participant*

Participant	Criteria
Teacher	<ol style="list-style-type: none">1. A mathematics teacher in grade 10 secondary school2. A native Indonesian3. Had more than 10 years of teaching Mathematics4. Had teaching Mathematics through English for at least a year

The author gained access to address the participants by getting a research permission letter from college and sending the permission letter to the targeted school. After obtaining permission, the author came to the school and negotiated with the head of schools' curriculum to determine grade 10 mathematics teachers who were willing to become participants in this current research. Furthermore, the author did personal permission to request teachers' availability to participate in this study and negotiated with her regarding the proper date to carry out the interview.

3.4 Research Instrument and Data Collection

The author conducted qualitative research by employing interviews. This qualitative study focuses on teachers' translanguaging strategies in teaching mathematics through English in an Indonesian secondary school. The instrument of this research adapted from the criteria of congruent pedagogical strategies (Loughran & Berry, 2005) and the concept of identifying patterns across environments (Turnbull,

Turnbull, & Wehmeyer, 2007). The formulation of interview questions is outlined in the following table.

Table 3.2. Formulations of Interview Questions

Subject	Conceptual definition	Components	Interview Questions
Congruent pedagogical strategies	Congruent pedagogical strategies are shaped when instructors or teachers model their pedagogical theories by considering different scaffolding to stimulate student learning and ensure all student needs are met (Loughran & Berry, 2005).	<ul style="list-style-type: none"> ● Students' needs ● Different scaffolding to stimulate student learning 	<ul style="list-style-type: none"> ● How do you perceive the importance of modeling pedagogical strategies that could meet students' needs? ● To what extent do you understand your students' learning needs in this teaching-content through English classroom? ● What specific strategies have you developed to meet students' needs? ● How do you elaborate a schools' curriculum policy with the different conditions of your students to construct appropriate

			scaffolding? <ul style="list-style-type: none"> • How do you scaffold pedagogical strategies to bridge students' complex understanding?
Identifying patterns across environments	Teachers need to reflect on what they believe about cultural groups other than their own and attempt to identify patterns across environments that contribute to or detract from student growth (Turnbull, Turnbull, & Wehmeyer, 2007)	<ul style="list-style-type: none"> • Cultural groups 	<ul style="list-style-type: none"> • How would you describe classroom and student conditions that are suitable for implementing the use of full linguistic resources? • Why did you decide to involve all students' linguistic resources in the teaching-content through the English classroom?

The interview procedures were conducted in semi-structured design to help the author explore teachers' translanguaging strategies in teaching mathematics through English. The interview was conducted in two sessions and each session has a duration of 20-30 minutes. In the first session, the author visited the participant and interviewed her immediately at school. A set of probing questions is given to obtain in-depth information or data related to specific scaffolds of teachers' translanguaging strategies in teaching mathematics through English. The author requested permission to record the participants' voices during the interview session.

After the required data had been collected, the author repeatedly listened to the recordings to transcribe the participants' voices. The interview transcript was read several times conscientiously, prompting the author to propose a number of follow-up questions. Hence, the author conducted the interview session 2 to clarify and specify the data. The participant was re-contacted through WhatsApp and negotiated to answer the follow-up questions via the voice note feature due to her unavailability to attend the real-time interview. A set of follow-up questions that have been prepared focus on tangible instances of teachers' strategies. The entire data transcription from two interview sessions was elaborated and translated from Bahasa Indonesia to English language until produced a coherent dataset that was available to be analyzed.

3.5 Data Analysis

The analysis of data corresponds roughly to Braun and Clarke's (2006) phases of thematic analysis, specifically using an inductive thematic analysis. The main goal of an inductive approach is to allow research findings to emerge from frequent, dominant, or significant themes inherent in the raw data, without the limitations imposed by a structured methodology (Thomas, 2006). This analytical method is used to develop the data collection into several significant categories. The author carefully read the interview data that the author has transcribed, and also wrote notes for important points. Furthermore, the data was elaborated to produce the first ideas of what was most significant before coding the data in a systematic way. Subsequently, codes were organized into the themes that appear in the next section and a thematic

map was created and revised after reviewing the data again. Information was gathered from the interviews to form stories to tell of the experiences and perception of the participants. The name of each theme was determined during the writing as the details of each theme developed during the phases of the analysis. After drafting the transcripts, the author read all the data transcripts once more to further ensure that no important points would be missed and to secure that the author adhered to the voices of the participants.

3.5 Trustworthiness

Stahl & King (2020) proposed credibility, transferability, dependability, and conformity as criteria to determine the trustworthiness in qualitative research. Those criteria are crucial to reach a sense of confidence from the audiences when interpreting what the author has reported. To complete the trustworthiness, supervisors and participants are involved in the consideration process. The credibility of this research was assessed through a member-checking involving participants where the author presented the dataset that had been analyzed to participants and allowed participants to write-up feedback regarding the accuracy of data. In this process, follow-up and clarification questions emerged from both researchers and participants which ultimately produced complex and accurate findings. Peer debriefing was also carried out to determine the credibility of this study where there was involvement of a supervisor who has similar research interests (e.g., English as a Medium of Instruction

(EMI), Multilingualism with English) to carry out institutional checking on research (e.g., permission, procedures, findings).

Subsequently, the transferability of this research can be seen from the thick and rich the author describes the context of the phenomenon. The description could draw the contextual information, organization, and influential participants in detail in order to expand understanding by transferring findings in one context to another. Dependability of this research established through credibility in peer debriefing process with supervisor. Supervisors read and react to the findings and encourage the author to maintain stability of interpretation. This peer debriefing makes the author more careful with what is noted as fact and what is set aside as the authors' interpretive comments about the data. The detailed methods in this study also establish the dependability of the chapter. When credibility, transferability, and dependability are established, confirmability is also established. In addition, supervisors are also requested to review whether the findings of this study are biased or not and verify the suitability.

CHAPTER IV
FINDINGS AND DISCUSSION

The findings of this study show the teachers' translanguaging strategies in her classroom when she taught mathematics for grade 10 students in Indonesian secondary school. Based on the analysis results, the author groups the categories into the following three main themes.

Table 4.1. Themes of findings

No	Theme	Category
1	Observing the students' needs	<p>The importance of recognizing students' need to design appropriate pedagogical strategies</p> <p>Students' need in learning mathematics through English</p>
2	Making use of students' linguistic resources	<p>Students' background as a factor to utilize full linguistic resources</p> <p>Multicultural and multilingual learners need the involvement of their full linguistic resources</p> <p>Teachers' rationale to utilize full linguistic resources implies translanguaging concepts.</p>
3	Employing pedagogical scaffolding	<p>Strategy to construct students' complex understanding</p> <p>Strategy to create an enjoyable mathematics learning</p> <p>Strategy to promote long-term students' memorization</p>

Detailed descriptions of each theme and category are presented below.

4.1 Observing the Students' Needs

Teachers' strategy in utilizing the entire students' linguistic resources can be identified from the analysis of the interview dataset. Prior to the strategy, the teacher emphasized the importance of recognizing students' condition before the learning process begins in order to design an appropriate pedagogical strategy with the expectation of conforming students' needs to maximize students' potential in learning.

This issue is shown in the excerpt below.

Excerpt 1

1. *I perceive education as a service for students. Hence, education focuses on*
2. *students' needs, not on teachers' needs. It means, we as teachers have an*
3. *obligation to serve students to reach their maximum potential. We can*
4. *understand students' needs by observing students' learning conditions before*
5. *the learning begins. This is to create learning strategies that are effective and*
6. *can meet students' needs that can encourage students to achieve their learning*
7. *potential. (Interview, translation version, 11 May 2023).*

Teachers' perception on the concept of education can be analyzed from the excerpt above. She asserts that education is an existence service to fulfill students' needs and guide students to achieve their highest potential (lines 1-3). As the participant asserted previously that teachers must design appropriate learning strategies that could meet students' learning needs (lines 3-6). Based on the teachers' observations

in a grade 10 mathematics lesson, students need a learning environment that could promote students to gain the complexity of understanding in processing English-based mathematics learning content (lines 13-16), and could create an enjoyable learning environment to eliminate students' assumptions that mathematics is a difficult and tiring subject (lines 16-19).

4.2 Making use of students' linguistic sources

The dataset of this study illustrates how the participant rationalizes in making use of students' linguistic resources to elaborate with her pedagogical strategies. The teacher considers students' identity backgrounds to make sense of the practice of utilizing the entirety of students' linguistic resources in teaching mathematics through English (EMI). The identity background of her students as multilingual learners indicate that students need the performance of their full linguistic resources to assist them in constructing the complexity of their understanding (lines 8-10). The participant further elaborates on the excerpt below.

Excerpt 2

8. *I think the involvement of two or more languages in the learning process*
9. *certainly support the condition of my students as multilingual learners to attain*
10. *their thorough understanding in operating a mathematical formula. Since the*
11. *schools' curriculum facilitates students with the learning resources using the*
12. *English language, the content of exercise and examination sheets are presented*
13. *in English. Thus, my task is assisting students to bridge their understanding of*
14. *the mathematics problem in the English-based exercise content and I utilize*
15. *their full linguistic resources to authorize my students as multilingual learners*
16. *in constructing their understanding. Then, I employ students' full linguistic*
17. *resources to create a fun and comfortable mathematics learning environment*
18. *because students have the assumption that learning mathematics is difficult and*
19. *tiring. Thus, as a mathematics teacher, I have to eliminate their negative*

20. *assumptions by providing a strategy that can bring students' comfort during*
21. *the learning (Interview, translation version, 11 May 2023).*

The authority of harnessing full students' linguistic resources to execute teachers' pedagogical strategies in teaching mathematics is revealed in the above excerpt. Due to the schools' curriculum policy in employing English language as medium of instruction in the learning process, the entire learning media provided using English language such as learning modules, students' worksheets and examination sheets (lines 10-13). It is detectable that the schools' curriculum promotes the performance of one language (monoglossic language ideology) in the teaching-learning activities. This is inversely proportional to the multilingual identity of Indonesian students in this classroom because they need the presence of full linguistics to grasp deeper understanding of English-based learning content (lines 9-10). In this regard, it is common to know that Indonesian people have a variety of cultural backgrounds with the difference of local language (lines 24-27). This issue is explained by the participant in the following excerpt.

Excerpt 3

22. *Personally, I view to the use of two or more languages is very appropriate when*
23. *applied in the classroom that has students who come from different religions,*
24. *ethnicities, and cultures. We can say there is a difference from students'*
25. *backgrounds. Then, in Indonesian context, every tribe has a different language,*
26. *like the Javanese use Javanese language or Sundanese use Sundanese*
27. *language, and so on (Interview, translation version, 11 May 2023).*

The excerpt above highlights Indonesian students as multicultural with diverse local languages (lines 25-26) and the presence of national language (Bahasa Indonesia) aims to unify the language differences. This reflects that the majority of Indonesian

society was born as bilingual practitioners and developed into multilingual practitioners since the presence of English is crucial to master in the globalization era. On this basis, the teacher decided to harness the complex of students' linguistic repertoires in the teaching mathematics through English classroom as an entity service to execute the appropriate pedagogical strategies that have been designed (lines 22-23). Teachers' pedagogical strategy implies translanguaging practices which extends the use of multiple language systems and resources (multilingual repertoire) to support knowledge construction and reflect a social, interpersonal function (Yuan and Yang, 2020).

4.3 Employing pedagogical scaffolding

Pedagogical strategies to construct the complexity of students' understanding is designed by the teacher through the existence of students' full linguistic resources to authorize her students as multilingual learners (lines 14-16). The analysis has detected a number of teachers' strategies as a pedagogical scaffold to enhance students' understanding of the learning content, 1) the teacher introduces particular mathematical terms using English to familiarize students with English-based learning media such as learning modules and students' worksheet (lines 28-30), 2) the alternation of students' linguistic resources in teachers' explanations out of the definition of the terms, the operation concept of mathematical terms, and the operational example on the exercise (lines 30-33), 3) the teacher constantly repeats the mathematical terms and its keywords using English in order to reinforce students' memorization on the essential

mathematical keywords (lines 33-37). She elaborates this issue in the excerpt below.

Excerpt 4

28. *My strategy: first, introduce mathematical terms in English to students and*
29. *explain the definitions by inserting students' native language so that students*
30. *can directly get to the point of understanding. Then, moving on to solving the*
31. *math problem, in the beginning there might be a lot of parts that I told them if*
32. *the form of the problem is like this, it means the solution is like this, and use*
33. *this formula. I explain the core problem using Bahasa Indonesia and repeating*
34. *the keywords of the problem in English so that when students read a math*
35. *problem in English and it appears the same keywords, they immediately*
36. *understand the problem instructing them to solve which math problem, and*
37. *which formula to operate (Interview, translation version, 11 May 2023).*

The above excerpt can be interpreted as pedagogical scaffolding involving the translanguaging strategy since the teacher merges students' full linguistic resources (i.e., English language and Bahasa Indonesia) to construct the complexity of students' understanding. In the early stage of teaching, the participant presents the learning content in one language (English language) and promotes students to broaden related information by involving another language (Lewis, Jones, and Baker, 2012). There is a shift from English language to the authorization of students' native language (Bahasa Indonesia) in the explanation section in order to organize the learning content more accessible for students' understanding specifically in processing the essential mathematics terms. Meaning-making process is identified in this process and implies the focus of meaning-making within the lens of the translanguaging concept. It is common to involve students' first language to facilitate students' understanding (Tarnopolsky & Goodman, 2014).

Repetition to mention the essential keywords is also applied by the teacher so

that students are accomplished in understanding mathematical problems in the exercise (lines 33-37). The development of students' linguistic knowledge on the essential keyword aid students automatically understands the core content and its mathematical formulas to finish the exercise. The complexity of students' understanding in solving mathematical exercise problems is the main goal from the practice of harnessing students' full linguistic resources strategy designed by the teacher (lines 13-16). In essence, teachers' pedagogical strategy has implicated the translanguaging practice in integrating English language and Bahasa Indonesia during the learning process. Her strategies have contributed to shape the complexity of students' understanding which can drive bi/multilingual learners to reach their maximum potential. This illustrates that translanguaging empowers multilingual learners as social practitioners who negotiate their understanding utilizing their fullest linguistic repertoires to achieve academic excellence (Banda, 2017).

Besides the teachers' scaffolds to bridge students' understanding, the teacher also designed a typical strategy to strengthen students' memory of their understanding on the essential mathematics terms. Teachers' strategy is linking essential mathematics terms to students' real life through inserting familiar vocabulary from students' everyday life. This further pedagogical strategy implies translanguaging since the teacher utilizes students' familiar linguistic repertoire to boost long-term students' memory to remember the learning content. This strategy is identified in the excerpt below.

Excerpt 5

38. *By associating mathematical terms with words that are familiar to students, it*
39. *will make it easier for them to remember and strengthen their memory of the*
40. *mathematical terms. Why? Because students already have a language*
41. *repertoire in their brains, sure, there is a language vocabulary that is related*
42. *and familiar to their real life. This certainly helps them remember the math*
43. *terms they just learned (Interview, translation version, 11 May 2023).*

Based on the excerpt above, this translanguaging approach argues for the importance of valuing students' familiar linguistic resources (Cummins, 2007). The teacher values students' familiar linguistic repertoire as an asset to strengthen students' memory in understanding learning material (lines 38-43). In the interview dataset, the teacher provides an instance of her experience in practicing this translanguaging strategy. When the teacher delivered the learning material of logarithms, she employed a keyword 'Richter Scale' or 'Skala Richter' in Bahasa Indonesia to raise students' basic knowledge opposite the function of logarithms on a daily basis (lines 44-47). The word 'Richter Scale' or 'Skala Richter' is a word that is familiar in everyday life since it is usually embedded in the news when an earthquake occurs. The teacher illustrates in the instance that students already have a basic knowledge of the terms 'Richter Scale' or 'Skala Richter' (line 47-48) so students respond by uttering 'Seberapa besar gempa itu, kan?' (*tr. How big is the earthquake, right?*). This indicates that students have stored the repertoire of that keyword as their linguistic resources and already know its use in everyday life. In the subsequent process, the teacher explained the link between logarithm and the keyword 'Richter Scale' or 'Skala Richter'. The logarithm serves to measure the earthquake intensity to get a result in a numerical scale with the

Richter Scale unit. The instance is shown in the excerpt below.

Excerpt 6

44. *An example might be when learning about logarithms of logarithms. In order*
45. *to make students not confused about why we are studying logarithms; I usually*
46. *tell them about the function of logarithms in our daily lives. Do you know*
47. *Richter Scale or Skala Richter in Bahasa Indonesia? Oh, gempa ya, miss?*
48. *Seberapa besar gempa itu kan, miss? That's right, so this logarithm helps to*
49. *measure the Richter Scale, measuring the intensity of an earthquake, how big*
50. *the strength of the earthquake that occurred. Then, one of the uses of*
51. *logarithms in our daily lives are a scale for measuring earthquake intensity.*
52. *So, this usually immediately raises another question in students' minds about*
53. *how it operates, this makes learning more interactive (Interview, translation*
version, 28 July 2023)

The instance provided by the author in the previous passage clarifies the audiences' view of the application of this strategy in the learning process. Based on the teachers' clarification, this translanguaging strategy implicitly notifies students that the learning content studied at school has a function in the real world (lines 45-46). This certainly establishes students' interest in learning and broadens students' curiosity concerning the follow-up of the operation of the mathematical terms (lines 52-53). This circumstance promotes the interactive learning environment during the lesson. As asserted by the teacher in her accounts below.

Excerpt 7

54. *I need to indirectly tell students that what students learn at school is actually*
55. *related to the real world. Then, students are becoming more interested and*
56. *enthusiastic in learning because what I deliver can relate to their real lives.*
57. *By involving words or phrases that are familiar to students, this can*
58. *encourage students to be more interactive and responsive during the learning*
59. *process (Interview, translation version, 28 July 2023)*

The above excerpt reveals another purpose of this strategy is to create an interactive learning environment as shown by the interested and enthusiastic student responses during the application process in the mathematics classroom (lines 54-56). Students show their interest by participating interactively and responsively during the learning activities (lines 57-59). This circumstance signifies students' positive behavior is shaped by implementing this strategy. It can be identified that translanguaging has been enacted in classroom management and instruction (Fang, Zhang, & Sah, 2022). Moreover, this strategy illustrates meaningful learning since the practice encourages students to integrate their basic knowledge to a new knowledge based on the learning content (Novak, 2002).

As explained previously, students have a negative perception (i.e., difficult and tiring) opposite the mathematics subject (lines 18-19). Hence, the teacher has designed a pedagogical strategy to destroy students' negative view of mathematics by creating an enjoyable mathematics classroom (lines 16-17). Teachers' strategy is providing a space in the middle of lesson to discuss matters outside of the learning content that involve students' knowledge and experience so that students can engage in this casual talk. In this activity, the teacher involves casual chat sessions, ice breaking, jokes, casual discussion with students and utilizes students' linguistic and knowledge resources to support their comfort as bi/multilingual learners in learning content through English (lines 60-62). The teacher frequently involves students' native languages in her practice, specifically Bahasa Indonesia and local language (Javanese

language) (lines 65-67). The strategy is explained by the teacher in the subsequent excerpt.

Excerpt 8

60. *In the middle of learning, I provide chatting sessions, ice breaking, joking,*
61. *question and answer, casual discussions with students to talk about small topics*
62. *which students already have basic knowledge about it. Students need this*
63. *activity so they don't feel overwhelmed and bored in the learning process.*
64. *Teachers need to relax students' minds for a moment after discussing math*
65. *material that is quite heavy for students. In this session, I usually use more*
66. *native languages, namely Bahasa Indonesia and Javanese language than*
67. *English language (Interview, translation version, 11 May 2023)*

The urgency of this strategy can be defined in the above excerpt where the teacher implements this approach based on a particular reason. After digesting the mathematics learning content which is pretty tiring for students, the teacher recognizes that the students' condition requires them to take a break momentarily in order to relax students' minds and avoid the overwhelmed feelings which can trigger demotivation to learn mathematics (lines 62-65). To deal with this circumstance, the teacher has implemented this strategy in the mathematics lesson. The use of Bahasa Indonesia and local language (Javanese language) which is continual in this session shows that the teacher does not bind students with the use of English as medium instruction in learning. This implicates translanguaging practice that encompasses the simultaneous and flexible use of linguistic resources (Sah & Li, 2020). Further explanation is embedded in the excerpt below.

Excerpt 9

68. *I utilize students' full linguistics including students' national and local*
69. *language in order to support students directly relate the topic with their basic*

70. *knowledge so the activity runs naturally. In this session, I provide space for*
71. *students to explore their knowledge and experiences about the outside world*
72. *using any language. The use of this native language can build students' comfort*
73. *in conveying knowledge, opinions, and difficulties they feel without any*
74. *language gaps (Interview, translation version, 11 May 2023).*

The above excerpt reveals that this strategy implicates the practice of translanguaging because it creates a social space for bi/multilingual learners by bringing together different dimensions of their personal history (e.g., knowledge, experience) into one coordinated and meaningful performance (Li, 2011). Students have a voice and are empowered to explore their knowledge and experiences in the classroom (lines 70-72). In this activity, the teacher authorizes the presence of national and local language to drive students' comfort in delivering their voice in order to avoid students experiencing the language barrier (lines 72-74). It is noticeable that there is a shift to the use of students' native language (Bahasa Indonesia and local language) as a powerful language to establish a positive relationship with students and maintain an enjoyable atmosphere during the learning process). Spontaneous translanguaging can be identified from this activity since the use of language is not planned and flexible to the language choices (Pun & Tai, 2021). The unplanned use of language aims to direct this casual talk more naturally and to fulfill students' desire in utilizing any language when conveying their voice in the learning process.

Numerous teachers' pedagogical strategies implicate translanguaging have been described in detail in this study. After employing those pedagogical scaffolding, the teacher claims there was the improvement of students' mathematical knowledge and

abilities (lines 75-77). This has a huge impact on student academic performance which could support students to gain a satisfactory final score (lines 77-78). It can be seen as an indication that students could achieve their highest potential in learning. Hence, the successful parameter of this strategy is marked by the score that students have attained in the math final exam. The participant explains this issue in the excerpt below.

Excerpt 10

75. *After employing those strategies, students are used to working on math*
76. *exercises in English and automatically understand how to operate it, this will*
77. *support them to reach their maximum potential. It can be seen from the results*
78. *of the student's final exam, whether the results are satisfactory or not. However,*
79. *so far, the majority of my students have achieved satisfactory scores on their*
80. *final exam results. This means that the strategy of implementing two languages*
81. *or more is effective in supporting students to reach their maximum potential*
(Interview, translation version, 28 July 2023).

The success of teachers' pedagogical strategy in harnessing students' full linguistic resources can be indicated from the above excerpt. After the strategy is implemented during the learning process, the teacher claims that most of their students have succeeded in getting a satisfactory score (equal or exceeding the average score) from their final mathematics exam results (lines 78-81). On this matter, teachers believe that implementing translanguaging strategies in the teaching content through English (EMI) classroom is effective in encouraging multilingual learners to reach their highest potential, especially in their academic performance. The findings strengthen that translanguaging as a pedagogical strategy can bridge the world of multilingual learners by utilizing their whole linguistic and cognitive resources to help them succeed academically (Garcia and Sylvan, 2011).

CONCLUSION AND SUGGESTION

5.1 Conclusion

The purpose of this study is to explore teachers' translanguaging strategy in teaching content through English in Indonesian secondary school. The participant outlines a number of pedagogical strategies which have implications for the practice of translanguaging-based teaching strategies. Firstly, teachers' scaffolds to bridge students' complex understanding: 1) introducing particular mathematical terms using English to familiarize students with English-based learning media, 2) integrating students' linguistic resources to explain particular components in mathematical learning content, 3) constantly repeating the mathematical terms and its keywords using English. Secondly, teachers' strategy to reinforce long-term students' memorization: linking essential mathematics terms to students' real life through inserting students' familiar vocabulary. Lastly, teachers' strategy to create an enjoyable learning environment: providing a social space by forming a casual talk session in the middle of learning and allowing students to donate their voices using full linguistic resources. Based on the findings of this study, translanguaging strategies operate to satisfy the learning needs of multilingual learners to participate in the teaching content through English (EMI) classroom.

As pedagogical strategies, translanguaging is an effective strategy to promote students achieving their highest potential thus this study recommends the practice of

translanguaging strategies. The implications of this current study have an influence on reforming language policy in the system of teaching content through English programs, particularly in the context of Indonesian bilingual schools. Indonesian international schools that adhere to the ideology of bilingual education and employ teaching content through English programs must be wise in considering the language use as a medium of instruction and can adapt it to the conditions of Indonesian students as multicultural and multilingual practitioners. In this sense, this study suggests the implementation of translanguaging strategy to support the development of teaching content through English programs. This study can be a resource for Indonesian teachers to appropriately scaffold translanguaging strategies. Its implementation will be maximized if language education policy makers in Indonesia can provide certified training for teachers that focuses on the practice of translanguaging-based pedagogical strategies to maximize the benefits of the teaching content through English programs.

5.2 Suggestion

This study still has some limitations that need to be developed by further research. The limitations of the research methodology which only employs interview protocols so that the data obtained is less than optimal. To better understand the implications of this study, future research could possibly carry out observation protocols so that practical data related to this topic is completely accomplished. Furthermore, the author suggests future research to explore pedagogical strategies in

teaching content through English classrooms according to the students' desire particularly in Indonesian education.

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APPENDICE

Appendix A

Interview Data Transcription

No	Interview Questions	Interview Script	Memo
001	Menurut ibu, apakah penting untuk menyusun strategi pedagogi yang sesuai dengan kebutuhan siswa (students' needs)?	<p>Karena <u>pendidikan adalah sebuah layanan bagi siswa</u>. Jadi, pendidikan itu soal <u>kebutuhan siswa</u>, bukan kebutuhan guru. Artinya, kita sebagai guru punya kewajiban buat melayani siswa dalam mencapai potensi maksimal mereka. Oleh karena itu, <u>sebelum pembelajaran dimulai, guru harus mengamati terlebih dahulu kondisi belajar siswa. Hal ini untuk menciptakan strategi pembelajaran yang efektif dan bisa memenuhi kebutuhan siswa untuk mencapai potensi belajar mereka</u> (Interview, 11 Mei 2023).</p>	<p>Konsep pendidikan menurut pandangan partisipan</p> <p>Pentingnya memahami kondisi siswa sebelum pembelajaran dimulai untuk menyusun strategi pembelajaran yang efektif</p>
002	Kurikulum sekolah ini menerapkan program bahasa Inggris sebagai bahasa pengantar pada proses belajarnya, sedangkan melihat nama sekolah ini memperjelas bahwa sekolah ini mengacu pada sistem bilingual. Bagaimana ibu mengelaborasi hal ini dalam menggunakan bahasa di kelas? Apakah penting untuk	<p>Menurut saya penting untuk melibatkan dua bahasa atau lebih dalam proses pembelajaran tentunya karena <u>siswa saya sendiri merupakan praktisi multibahasa dan keterlibatan dua bahasa tersebut dapat mendukung mereka mencapai pemahaman menyeluruh dalam mengoperasikan rumus matematika</u>. Karena kurikulum sekolah memfasilitasi siswa dengan sumber belajar yang menggunakan bahasa Inggris, maka soal latihan dan lembar ujian disajikan dalam bahasa Inggris. Oleh karena itu, tugas saya</p>	<p>Guru menggambarkan kondisi siswa dari identitas mereka sebagai praktisi multibahasa (sesuai dengan konsep translanguaging)</p>

	<p>melibatkan dua bahasa atau lebih di ruang kelas? Seperti melibatkan juga bahasa Indonesia dan bahasa Jawa di kelas.</p>	<p>adalah <u>membantu siswa untuk menjembatani pemahaman mereka tentang permasalahan matematika dalam soal latihan yang disajikan dalam bahasa Inggris dan saya memanfaatkan sumber daya linguistik mereka secara penuh untuk memberikan ruang kepada siswa saya sebagai pembelajar multibahasa untuk membangun pemahaman mereka</u> (Interview, 11 Mei 2023)</p>	<p>Pemanfaatan sumber daya linguistik siswa untuk menjembatani pemahaman siswa dalam memproses materi pembelajaran yang disajikan menggunakan bahasa Inggris</p>
003	<p>Jadi menurut ibu, penerapan dua bahasa atau lebih ini cocok diterapkan dalam kondisi kelas yang bagaimana?</p>	<p>Saya pribadi melihat <u>penggunaan dua atau lebih bahasa ini tepat sekali</u> jika diterapkan di kelas yang <u>kondisi siswanya berasal dari berbagai macam daerah, suku, dan budaya.</u> Atau bisa dibilang <u>latar belakang</u> siswa nya <u>berbeda-beda.</u> Apalagi di indonesia kan setiap suku punya <u>bahasa yang beda - beda</u> kaya suku Jawa pake bahasa Jawa, suku Sunda pake bahasa Sunda, dan sebagainya (Interview, 11 Mei 2023)</p>	<p>Mempertimbangkan latar belakang siswa yang multikultural dengan perbedaan bahasa untuk memanfaatkan dua bahasa atau lebih di kelas yang berbasis bahasa Inggris</p>
004	<p>Ibu mempraktikan dua bahasa atau lebih pada pembelajaran menunjukan bahwa ibu telah memanfaatkan sumber daya linguistik siswa secara penuh. Lalu apa tujuan ibu memanfaatkan seluruh sumber daya linguistik siswa di kelas?</p>	<p>Kemudian saya memanfaatkan sumber daya linguistik siswa secara penuh untuk <u>menciptakan lingkungan belajar matematika yang menyenangkan dan nyaman karena siswa mempunyai anggapan bahwa belajar matematika itu sulit dan melelahkan.</u> Maka sebagai guru matematika, saya harus menghilangkan anggapan negatif tersebut dengan memberikan strategi yang dapat memberikan kenyamanan siswa dalam pembelajaran (Interview, 11 Mei 2023).</p>	<p>Pemanfaatan sumber daya linguistik siswa untuk menciptakan pembelajaran matematika yang nyaman dan menyenangkan</p>

005	<p>Ibu tadi menyatakan bahwa pemanfaatan seluruh sumber daya linguistik ini untuk menjembatani pemahaman siswa. Strategi apa yang ibu lakukan untuk menjembatani pemahaman siswa tersebut?</p>	<p>Strategi yang saya lakukan yaitu <u>mengenalkan terlebih dahulu istilah - istilah matematika dalam bahasa Inggris</u> kepada siswa dan <u>menjelaskan definisinya dengan menvisipkan bahasa natif</u> agar <u>bisa langsung sampai ke pemahaman siswa.</u> Lalu, langsung <u>move ke pemecahan masalah soal matematika</u> nya, <u>awal - awal</u> mungkin <u>banyak yang saya kasih tau</u> kalau <u>bentuk soalnya</u> seperti ini ya berarti <u>pemecahannya</u> seperti ini, <u>rumusnya</u> pake ini (<i>Interview, 11 Mei 2023</i>).</p> <p>Saya <u>jelaskan permasalahan soalnya menggunakan bahasa Indonesia</u> dan <u>mengulangi kata kunci soalnya dalam bahasa Inggris.</u> Hal ini agar ketika <u>siswa membaca soal matematika berbahasa Inggris</u> dan <u>ada kata kunci</u> tersebut, mereka <u>langsung paham soalnya</u> menginstruksikan memecahkan masalah matematika yang mana, dan pake rumus yang mana (<i>Interview, 11 Mei 2023</i>)</p>	<p>Teachers' strategy to bridge students' complex understanding</p> <p>Guru memanfaatkan seluruh sumber daya linguistik siswa untuk meningkatkan kemampuan siswa dalam memahami dan menyelesaikan soal matematika yang disajikan dalam bahasa Inggris</p>
006	<p>Adakah strategi khusus yang ibu lakukan agar students' need terpenuhi melalui penerapan penggunaan dua bahasa atau lebih dalam kegiatan pembelajaran? Jika ada, mohon dijelaskan bagaimana menerapkan strategi itu?</p>	<p>Strategi khusus yang saya terapkan dalam <u>penggunaan dua bahasa</u> ini ya saya <u>membagi-bagi porsi penggunaan dua bahasa</u> ini saat proses pembelajaran berlangsung. <u>Aktivitas pembelajaran</u> mana yang <u>memerlukan keterlibatan bahasa Inggris lebih banyak,</u> aktivitas pembelajaran mana yang <u>memerlukan keterlibatan bahasa natif lebih banyak,</u> dan aktivitas pembelajaran mana yang <u>memerlukan keterlibatan</u></p>	<p>Guru mengklasifikasikan porsi penggunaan bahasa Inggris dan bahasa natif sesuai dengan aktivitas yang sedang berlangsung di ruang kelas</p>

		<p>keduanya secara seimbang. Di sela-sela pembelajaran kan pasti ada sesi ngobrol, ice breaking, bercanda, tanya-jawab, diskusi santai dengan siswa, membicarakan topik - topik ringan yang siswa juga sudah punya basic knowledge tentang topik itu. Siswa membutuhkan aktivitas ini agar mereka tidak merasa kewalahan dan bosan dalam proses pembelajaran. Guru perlu merilekskan otak siswa sejenak setelah membahas materi matematika yang cukup berat bagi siswa. Pada sesi ini, saya biasanya menggunakan bahasa natif, yaitu bahasa Indonesia dan bahasa Jawa. (Interview, 11 Mei 2023)</p>	<p>Casual talk session to refresh students' mind</p>
007	<p>Mengapa ibu memilih untuk menggunakan bahasa natif (bahasa Indonesia dan bahasa Jawa) pada sesi tersebut?</p>	<p>Agar yang saya bahas bisa langsung relate ke basic knowledge siswa. Di sesi ini saya memberikan space untuk siswa mengeksplorasi pengetahuan dan pengalamannya tentang dunia luar. Penggunaan bahasa natif ini dapat membangun kenyamanan siswa dalam menyampaikan pengetahuan, pendapat, kesulitan yang mereka rasakan tanpa ada kesenjangan bahasa (Interview, 11 Mei 2023).</p>	<p>Alasan guru melibatkan bahasa Indonesia dan bahasa Jawa pada sesi diskusi santai dengan siswa</p>
008	<p>Berdasarkan observasi kemarin, saya mengamati ibu mengaitkan istilah matematika dengan kata atau frasa yang familiar bagi siswa. Apa tujuan ibu melakukan hal</p>	<p>Saya juga mengaitkan istilah - istilah matematika dengan hal - hal yang familiar bagi siswa untuk membuat mereka lebih mudah untuk mengingat dan memperkuat memori ingatan mereka tentang istilah tersebut. Mengapa? Karena ya tadi itu, siswa sudah punya perbendaharaan bahasa di dalam</p>	<p>Teachers' strategy to reinforce long-term students' memorization</p> <p>Pertanyaan ini muncul dari hasil observasi yang telah</p>

	tersebut?	otaknya, tentu saja ada <u>perbendaharaan bahasa yang relate</u> dan <u>familiar</u> di kehidupan mereka. Hal ini tentunya <u>membantu</u> mereka <u>mengingat istilah matematika</u> yang baru mereka pelajari (<i>Interview, 28 July 2023</i>).	dilaksanakan sebelumnya
009	Apakah ibu bisa memberikan contoh lainnya dalam menggunakan strategi tersebut?	Contohnya mungkin saat belajar tentang logarithms atau logaritma. Agar siswa tidak bingung buat apa sih kita belajar logaritma, biasanya saya <u>memberitahu fungsi logaritma itu dalam kehidupan sehari - hari kita. Do you know Richter Scale atau Skala Richter? Oh gempa ya miss? Seberapa besar gempa itu ya miss? Betul, nah logaritma ini yang membantu untuk mengukur Skala Richter tersebut, mengukur intensitas gempa, seberapa besar kekuatan gempa yang terjadi.</u> Jadi kegunaan logaritma dalam kehidupan sehari - hari kita yaitu salah satunya sebagai skala pengukur intensitas gempa. Nah, dari situ biasanya langsung <u>memunculkan pertanyaan - pertanyaan lain di kepala siswa tentang bagaimana pengoperasiannya, hal ini bikin pembelajaran jadi lebih interaktif</u> (<i>Interview, 28 Juli 2023</i>).	Contoh penerapan strategi tersebut Melibatkan kata atau frasa yang familiar dalam menyajikan materi pembelajaran berperan sebagai stimulus untuk mendorong rasa penasaran mereka.
010	Menurut ibu, apakah semua strategi pemanfaatan sumber daya linguistik yang telah ibu terapkan tersebut efektif dalam mendukung siswa	Setelah mereka telah <u>terbiasa mengerjakan soal berbahasa Inggris</u> dan <u>langsung paham cara mengoperasikannya</u> , hal ini akan <u>mendukung mereka mencapai potensi maksimalnya</u> . Bisa dilihat dari <u>hasil ujian akhir siswa</u> , apakah	Parameter keberhasilan strategi yang telah guru lakukan

	mencapai potensi maksimalnya?	<p><u>hasilnya memuaskan atau tidak.</u> Namun, sejauh ini <u>mayoritas siswa</u> saya <u>bisa mencapai nilai yang cukup memuaskan dari hasil ujian akhir</u> mereka. Ini artinya <u>strategi penerapan dua bahasa</u> ini <u>cukup efektif</u> untuk <u>mendukung siswa mencapai potensi maksimalnya</u> (Interview, 28 Juli 2023).</p>	
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Appendix B

Coding and Interpretation of Interview Data

Data	Coding	Interpretasi
<p>Menurut saya, karena <u>pendidikan adalah sebuah layanan bagi siswa</u>. Jadi, pendidikan itu soal <u>kebutuhan siswa</u>, bukan kebutuhan guru. Artinya, kita sebagai guru punya kewajiban buat melayani siswa dalam mencapai potensi maksimal mereka. <u>Sebelum pembelajaran dimulai, guru harus mengamati terlebih dahulu kondisi belajar siswa. Hal ini untuk menciptakan strategi pembelajaran yang efektif dan bisa memenuhi kebutuhan siswa untuk mencapai potensi belajar mereka</u> (Interview, 11 Mei 2023).</p>	<p>Pentingnya memahami kebutuhan siswa</p> <p>Guru memiliki pandangan bahwa pendidikan merupakan wujud pelayanan siswa untuk memenuhi kebutuhan belajar mereka. Hal ini karena students' need berperan sebagai aspek penting yang siswa butuhkan dalam belajar agar siswa dapat mencapai pembelajaran yang sukses. Aspek tersebut mencakup penyediaan strategi pembelajaran yang tepat sesuai dengan kondisi belajar siswa dan strategi tersebut dapat mendorong siswa untuk mencapai potensi maksimalnya. Untuk mencapai hal ini guru mesti mengamati terlebih dahulu kondisi belajar siswa sebelum pembelajaran dimulai.</p>	<p>Pentingnya bagi guru memahami students' need sebelum pembelajaran dimulai untuk merancang strategi pedagogi yang tepat bagi siswa. Strategi pembelajaran yang tepat akan mendukung siswa lebih mudah untuk mencapai potensi belajar mereka secara maksimal.</p>
<p>Menurut saya keterlibatan dua bahasa atau lebih dalam proses pembelajaran tentunya <u>mendukung siswa multibahasa untuk mencapai pemahaman menyeluruh dalam mengoperasikan rumus matematika</u>. Karena kurikulum sekolah</p>	<p>Kebutuhan siswa di kelas matematika berbasis EMI</p> <p>Guru mengamati kondisi siswa sebelum pembelajaran dimulai agar guru memahami kebutuhan belajar siswa di kelas matematika yang berbasis EMI ini.</p>	<p>Berdasarkan pengamatan guru terhadap kondisi siswa, siswa membutuhkan pembelajaran yang dapat mendukung latar belakang identitas mereka sebagai pelajar multilingual dan siswa</p>

<p>memfasilitasi siswa dengan sumber belajar yang menggunakan bahasa Inggris, maka soal latihan dan lembar ujian disajikan dalam bahasa Inggris. Oleh karena itu, tugas saya adalah <u>membantu siswa untuk menjembatani pemahaman mereka tentang permasalahan matematika dalam soal latihan yang disajikan dalam bahasa Inggris dan saya memanfaatkan sumber daya linguistik mereka secara penuh untuk memberikan ruang kepada siswa saya sebagai pembelajar multibahasa untuk membangun pemahaman mereka</u> (Interview, 11 Mei 2023)</p> <p>Saya pribadi melihat <u>penggunaan dua atau lebih bahasa ini tepat sekali</u> jika diterapkan di kelas yang <u>kondisi siswanya berasal dari berbagai macam daerah, suku, dan budaya</u>. Atau bisa dibilang <u>latar belakang</u> siswa nya <u>berbeda-beda</u>. Apalagi di indonesia kan setiap suku punya <u>bahasa yang beda - beda</u> kaya suku Jawa pake bahasa Jawa, suku Sunda pake bahasa Sunda, dan sebagainya (Interview, 11 Mei 2023)</p>	<p>Latar belakang siswa sebagai pembelajar multilingual sehingga siswa membutuhkan keterlibatan seluruh sumber daya linguistik mereka untuk membangun pemahaman yang kompleks terhadap materi pembelajaran.</p> <p>Latar belakang siswa Pemanfaatan semua sumber daya linguistik ini tepat sekali jika diterapkan di kelas dengan kondisi siswa yang multikultural dengan perbedaan latar belakang yang berasal dari berbagai macam daerah, suku, dan budaya. Hal ini sesuai dengan konteks multikultural di Indonesia yang setiap suku nya memiliki bahasa nya masing - masing (Suku Jawa menggunakan bahasa Jawa, suku Sunda menggunakan bahasa Sunda).</p>	<p>membutuhkan strategi belajar yang efisien dalam membantu siswa mencapai pemahaman yang kompleks terhadap konten pembelajaran berbasis bahasa Inggris.</p> <p>Siswa multikultural yang tercermin dari kondisi siswa di Indonesia secara tidak langsung telah mempraktekkan kemampuan bi/multilingual dalam kehidupan sehari - hari mereka sehingga kondisi ini menjadi pertimbangan bagi ruang lingkup pendidikan untuk menerapkan pemanfaatan seluruh sumber daya linguistik siswa dalam proses pembelajaran</p>
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<p>Kemudian saya memanfaatkan sumber daya linguistik siswa secara penuh untuk <u>menciptakan lingkungan belajar matematika yang menyenangkan dan nyaman karena siswa mempunyai anggapan bahwa belajar matematika itu sulit dan melelahkan.</u> Maka sebagai guru matematika, saya harus menghilangkan anggapan negatif tersebut dengan memberikan strategi yang dapat memberikan kenyamanan siswa dalam pembelajaran (<i>Interview, 11 Mei 2023</i>).</p> <p><u>Strategi</u> yang saya lakukan yaitu <u>mengenalkan terlebih dahulu istilah - istilah matematika dalam bahasa Inggris</u> kepada siswa dan <u>menjelaskan definisinya dengan menyisipkan bahasa natif</u> agar <u>bisa langsung sampai ke pemahaman siswa.</u> Lalu, langsung <u>move ke pemecahan masalah soal matematika</u> nya, <u>awal - awal</u> mungkin <u>banyak yang saya kasih tau</u> kalau <u>bentuk soalnya</u> seperti ini ya berarti <u>pemecahannya</u> seperti ini, <u>rumusnya</u> pake ini (<i>Interview, 11 Mei 2023</i>).</p> <p>Saya <u>jelaskan permasalahan soalnya</u> <u>menggunakan</u></p>	<p>Kebutuhan siswa Siswa memiliki anggapan bahwa matematika adalah pelajaran yang sulit dan melelahkan sehingga guru memahami bahwa siswa membutuhkan pembelajaran matematika yang nyaman dan menyenangkan</p> <p>Strategi guru:</p> <ol style="list-style-type: none"> 1. Mengenalkan istilah - istilah matematika dalam bahasa Inggris kepada siswa. 2. Menjelaskan definisinya dengan memanfaatkan sumber linguistik yang ada. 3. Mengerjakan pemecahan masalah soal matematikanya. <p>Strategi yang lain:</p> <ol style="list-style-type: none"> 1. Menjelaskan permasalahan soal menggunakan L. 2. Mengulangi kata kunci soal dalam Bahasa Inggris. <p>Tujuan strategi ini: Siswa dapat memahami instruksi</p>	<p>Siswa juga membutuhkan kelas matematika dengan lingkungan pembelajaran yang nyaman dan menyenangkan.</p> <p>Pemanfaatan seluruh sumber daya linguistik siswa sangat tepat diterapkan sebagai strategi pedagogi di kelas matematika berbasis program EMI ini untuk memenuhi students' need di atas.</p> <p>Strategi pemanfaatan sumber daya linguistik siswa untuk <u>menjembatani kompleksitas pemahaman</u> siswa.</p> <ol style="list-style-type: none"> 1. Guru mengenalkan istilah - istilah matematika menggunakan bahasa Inggris. 2. Guru memberikan penjelasan definisi dari istilah - istilah matematika tersebut menggunakan perbendaharaan linguistik yang ada. 3. Guru memberikan
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<p><u>bahasa Indonesia</u> dan <u>mengulangi kata kunci soalnya dalam bahasa Inggris</u>. Hal ini agar ketika <u>siswa membaca soal matematika berbahasa Inggris</u> dan <u>ada kata kunci</u> tersebut, mereka <u>langsung paham soalnya</u> menginstruksikan memecahkan masalah matematika yang mana, dan pake rumus yang mana (<i>Interview, 28 Juli 2023</i>).</p> <p><u>Strategi khusus</u> yang saya terapkan dalam <u>penggunaan dua bahasa</u> ini ya saya <u>membagi-bagi porsi penggunaan dua bahasa</u> ini saat proses pembelajaran berlangsung. <u>Aktivitas pembelajaran</u> mana yang <u>memerlukan keterlibatan bahasa Inggris lebih banyak</u>, aktivitas pembelajaran mana yang <u>memerlukan keterlibatan bahasa natif lebih banyak</u>, dan aktivitas pembelajaran mana yang <u>memerlukan keterlibatan keduanya secara seimbang</u>. Di sela - sela pembelajaran kan pasti ada <u>sesi ngobrol, ice breaking, bercanda, tanya-jawab, diskusi santai</u> dengan</p>	<p>pemecahan soal yang mana dan menggunakan rumus apa ketika mereka membaca soal matematika berbahasa Inggris dengan kata kunci yang tersedia.</p> <p>Strategi khusus: Menggunakan sumber-sumber linguistik yang ada sesuai tujuan dan keperluan pembelajaran yang ada. Termasuk aktivitas-aktivitas pembelajaran mana yang memerlukan keterlibatan bahasa tertentu sesuai tujuan pembelajaran.</p> <p>Strategi yang juga digunakan: Di sela - sela pembelajaran, <u>ada sesi ngobrol, ice breaking, bercanda, tanya-jawab, diskusi santai</u> dengan siswa, <u>membicarakan topik - topik ringan yang siswa juga sudah punya basic knowledge tentang topik itu</u>.</p> <p>Aktivitas ini berguna agar siswa</p>	<p>contoh soal matematika dan menjelaskan pemecahan masalah soal tersebut menggunakan perbendaharaan linguistik yang ada.</p> <p>4. Guru secara berkala mengulangi kata kunci bahasa Inggris yang ada pada contoh soal tersebut.</p> <p>Strategi pemanfaatan sumber daya linguistik siswa untuk <u>create an enjoyable classroom</u> Guru memanfaatkan sumber daya pengetahuan siswa pada sesi ice breaking berupa tanya-jawab, candaan, dan diskusi ringan yang membahas topik yang siswa minati.</p> <p>1. Guru menyesuaikan kebutuhan penggunaan sumber daya linguistik tertentu sesuai tujuan pembelajaran</p>
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<p>siswa, <u>membicarakan topik - topik ringan</u> yang siswa juga sudah <u>punya basic knowledge</u> tentang topik itu. Siswa membutuhkan aktivitas ini agar mereka <u>tidak merasa kewalahan dan bosan</u> dalam proses pembelajaran. <u>Guru perlu merilekskan otak siswa sejenak</u> setelah membahas materi matematika yang cukup berat bagi siswa. Pada sesi ini, saya biasanya <u>menggunakan bahasa natif</u>, yaitu <u>bahasa Indonesia dan bahasa Jawa</u>.</p> <p>Agar yang saya bahas <u>bisa langsung relate ke basic knowledge</u> siswa. Di sesi ini saya <u>memberikan space</u> untuk siswa <u>mengeksplorasi pengetahuan dan pengalamannya tentang dunia luar</u>. Penggunaan bahasa natif ini dapat <u>membangun kenyamanan siswa</u> dalam <u>menyampaikan pengetahuan, pendapat, kesulitan</u> yang mereka rasakan <u>tanpa ada kesenjangan bahasa</u> (Interview, 28 Juli 2023).</p> <p>Saya juga <u>mengaitkan istilah - istilah matematika</u> dengan <u>hal - hal yang familiar</u> bagi siswa untuk membuat mereka <u>lebih mudah untuk mengingat</u> dan</p>	<p>tidak merasa kewalahan dan bosan dalam proses pembelajaran. Guru perlu merilekskan otak siswa sejenak setelah membahas materi matematika yang cukup berat. Pada sesi ini, semua sumber daya linguistik digunakan agar apa yang dibahas bisa langsung relate ke basic knowledge siswa. Di sesi ini saya memberikan space untuk siswa mengeksplorasi pengetahuan dan pengalamannya tentang dunia luar. Pemanfaatan sumber daya linguistik ini dapat membangun kenyamanan siswa dalam menyampaikan pengetahuan, pendapat, kesulitan yang mereka rasakan tanpa ada kesenjangan bahasa.</p> <p>Strategi pemanfaatan sumber daya linguistik siswa: mengaitkan materi pembelajaran terhadap real-life siswa melalui penyisipan vocabulary yang</p>	<p>pada setiap aktivitas yang berlangsung.</p> <p>Strategi ini dapat membangun performa yang bermakna karena telah menyediakan ruang sosial bagi siswa dalam memanfaatkan semua sumber daya linguistik untuk berbagi pengetahuan, pengalaman, pendapat, dan mengekspresikan perasaan siswa selama proses pembelajaran.</p> <p>Respon siswa yang nyaman dan interaktif saat berpartisipasi pada sesi ini menunjukkan bahwa strategi yang diterapkan telah berhasil menciptakan pembelajaran bermakna. This is in line with the concept of translanguaging as a merged of linguistic repertoires to establish meaningful performance in multilingual classrooms (Li, 2011).</p> <p>Strategi pemanfaatan sumber daya linguistik sebagai komponen pendukung peningkatan memori</p>
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<p><u>memperkuat memori</u> ingatan mereka tentang istilah tersebut. Mengapa? Karena ya tadi itu, siswa <u>sudah punya perbendaharaan bahasa</u> di dalam otaknya, tentu saja ada <u>perbendaharaan bahasa yang relate</u> dan <u>familiar</u> di kehidupan mereka. Hal ini tentunya <u>membantu mereka mengingat istilah matematika</u> yang baru mereka pelajari (<i>Interview, 28 Juli 2023</i>).</p> <p>Contohnya mungkin saat belajar tentang logarithms atau logaritma. Agar siswa tidak bingung buat apa sih kita belajar logaritma, biasanya saya <u>memberitahu fungsi logaritma itu dalam kehidupan sehari - hari kita.</u> <u>Do you know Richter Scale atau Skala Richter? Oh gempya ya miss? Seberapa besar gempya itu ya miss? Betul, nah logaritma ini yang membantu untuk mengukur Skala Richter tersebut, mengukur intensitas gempa, seberapa besar kekuatan gempa yang terjadi.</u> Jadi kegunaan logaritma dalam kehidupan sehari - hari kita yaitu salah satunya sebagai skala pengukur intensitas gempa. Nah, dari situ biasanya langsung <u>memunculkan pertanyaan - pertanyaan lain</u></p>	<p>familiar dalam kehidupan sehari - hari siswa.</p> <p>Tujuan strategi ini adalah untuk memperkuat memori siswa terhadap materi pembelajaran. Siswa telah memiliki perbendaharaan bahasa yang familiar dan selalu digunakan dalam kehidupan sehari - hari mereka. Hal ini menjadi modal bagi guru untuk membantu siswa memperkuat memorinya terhadap materi pembelajaran.</p> <p>Contoh penerapannya</p> <p>Guru memberitahu terlebih dahulu kegunaan topik matematika tersebut dalam kehidupan sehari - hari agar siswa tidak bingung terhadap alasan dari mempelajari topik tersebut dan menyisipkan vocabulary yang familiar bagi siswa.</p> <p>“Do you know Richter Scale atau Skala Richter? Oh gempya ya miss? Seberapa besar gempya itu ya miss? Betul, nah logaritma ini yang membantu untuk mengukur Skala Richter tersebut, mengukur intensitas gempa, seberapa besar kekuatan gempa yang terjadi”</p> <p>Dari proses tersebut berhasil membuat siswa semakin penasaran terkait pengoperasiannya dan membuat</p>	<p>siswa.</p> <p>Guru mengaitkan materi pembelajaran dengan kehidupan sehari - hari siswa melalui penyisipan kosa kata (vocabulary) yang familiar.</p> <p>Perbendaharaan linguistik yang familiar menjadi modal untuk memperkuat memori siswa dalam memahami materi pembelajaran.</p> <p>Penyisipan vocabulary yang familiar membuat siswa lebih relate terhadap materi yang disampaikan sehingga siswa dapat menanggapi apa yang disampaikan guru dengan aktif. Hal ini mendukung terciptanya suasana pembelajaran yang interaktif.</p> <p>Contoh: Penyisipan vocabulary “Richter Scale” atau “Skala Richter” untuk mengenalkan istilah logaritma dalam materi pembelajaran matematika</p>
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<p><u>di kepala siswa tentang bagaimana pengoperasiannya, hal ini bikin pembelajaran jadi lebih interaktif</u> (Interview, 28 Juli 2023).</p> <p>Setelah penerapan strategi yang telah disebutkan, mereka telah <u>terbiasa mengerjakan soal berbahasa Inggris dan langsung paham cara mengoperasikannya</u>, hal ini akan <u>mendukung mereka mencapai potensi maksimalnya</u>. Bisa dilihat dari <u>hasil ujian akhir siswa</u>, apakah <u>hasilnya memuaskan atau tidak</u>. Namun, sejauh ini <u>mayoritas siswa</u> saya <u>bisa mencapai nilai yang cukup memuaskan dari hasil ujian akhir</u> mereka. Ini artinya <u>strategi penerapan dua bahasa</u> ini <u>cukup efektif</u> untuk <u>mendukung siswa mencapai potensi maksimalnya</u> (Interview, 28 Juli 2023).</p>	<p>pembelajaran menjadi lebih interaktif</p> <p>Parameter keberhasilan strategi: Bisa dilihat dari hasil ujian akhir siswa. Sejalan ini mayoritas siswa bisa mencapai nilai yang cukup memuaskan dari hasil ujian akhir mereka. Ini artinya strategi penerapan dua bahasa ini cukup efektif untuk mendukung siswa mencapai potensi maksimalnya.</p>	<p>Melalui penerapan strategi yang berbasis translanguaging ini, siswa mampu mencapai potensi yang maksimal dengan menghasilkan skor ujian akhir yang sesuai atau bahkan melebihi skor rata - rata yang telah ditentukan kurikulum sekolah</p>
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