



*Corresponding author: Geminastiti Sakkir, English Education Department, Universitas Negeri Makassar, Indonesia

E-mail: geminastitisakkir@unm.ac.id

RESEARCH ARTICLE

Translanguaging in Mathematics Bilingual Classroom: Students' Perception

Geminastiti Sakkir¹, Hajrah², La Sunra³

Universitas Negeri Makassar, Indonesia

Abstract: This research aims to investigate translanguaging in a Bilingual classroom. Hence, this research tries to know the students' perception of translanguaging classroom interaction. This research focused on the students' perception of translanguaging. This research applied a qualitative method, the instruments were interviews. The result of the interview was transcribed and analyzed based on the research focus. The findings of this research show that translanguaging facilitates the teaching and learning of the Mathematic bilingual program makes their English teaching in the classroom effective and makes the students understand the teaching and learning material well. The way lecturers conduct translanguaging is based on the situation of the students. If the students do not understand what the lecturers explain in English, they will use translanguaging in the classroom to make the teaching and learning process. Students have positive responses about the bilingual practice in Mathematics class.

Keywords: Translanguaging, Bilingual, Perception, Student.

1. Introduction

English is considered a foreign language in Indonesia, and its utilization remains constrained to specific occasions and locations, primarily for official purposes. Within the university context, English is predominantly utilized for instructional purposes within the English department, resulting in limited proficiency in English across the broader university population. Even during international seminars or workshops where English-speaking individuals are involved, there is a reliance on translation among both students and educators. This is somewhat unexpected in today's digital era, where information is readily available online. Nonetheless, students often continue to rely on translation when accessing information in English.

One factor contributing to the situation described above could be the practice of teaching English within a monolingual environment. Achieving success in using English as the medium of instruction in a monolingual classroom can be challenging. In Indonesia, where students typically use their heritage and national languages at home, there is a need for a pedagogical approach that incorporates translanguaging to engage students effectively in classroom activities. When teaching a second language, exclusively using monolingual instructions may prioritize achieving native-like proficiency in the target language, but it can at times detract from the primary educational goal of ensuring students understand the subject matter being taught.

The objective of English language instruction is to enable students to attain bilingualism, which essentially means achieving proficiency in two languages. In this context, bilingualism serves as an assessment of students' ability to master language skills in both English and their native language. For example, in Indonesia, where English is taught as a foreign



language, students are expected to attain proficiency in two languages: Bahasa Indonesia and English. In contrast, individuals who are naturally bilingual from birth do not undergo language proficiency assessments, as they regularly use both languages in their daily lives. The goal of English language instruction should not be to make students sound like someone who acquired English as their "first language" but rather to help them communicate effectively, think critically, and comprehend and convey meaning, experiences, and knowledge (Kleyn & García, 2019). Instead of striving for a native-like level of language proficiency, which may impede these essential skills, instruction should focus on recognizing and harnessing students' multilingual competencies.

Teaching in a monolingual environment is not conducive to subjects like teaching mathematics in English. Traditional language instruction has typically taken place in a monolingual setting, with a strict separation of languages to promote the effective learning of foreign languages. However, the monolingual method used in teaching English as an additional language (EAL) does not align with the natural linguistic behavior of learners, both within and outside the classroom, particularly in multilingual contexts. (Portolés & Martí, 2020) Hence, embracing multilingual instruction provides a remedy for individuals accustomed to monolingual approaches. Diverse forms of English spoken by people from various racial, ethnic, and socioeconomic backgrounds do not conform to the concept of being "native" in the language. (Kleyn & García, 2019) Rather than insisting that students achieve native-like proficiency in the target language without the ability to convey meaning, shape experiences, understand, and think critically, instruction should take into account the bilingual competence of students. Bilingual individuals frequently switch between languages in their everyday interactions not to showcase their exceptional skills but to connect with a specific group or leverage their extensive linguistic knowledge. Therefore, a more effective approach to fostering emergent bilingualism is to closely examine how native bilinguals navigate the use of two languages in their daily lives.

Before delving further into the discussion of bilingualism, it is advisable to clarify the following terms: "bilinguals," "bilingualism," "bilingual method," "native bilinguals," and "emergent bilinguals," as understood by researchers. Bilinguals are individuals who can effectively communicate in more than one language, often without possessing the same level of proficiency in both languages. Their language competence is shaped by how each language is utilized in their social lives and can change over time for various reasons. In essence, "bilingualism" pertains to an individual's capacity to communicate in multiple languages. This term is flexible, lacking a specific threshold that defines someone as bilingual. According to Weinrich et al, bilingualism is defined as the practice of an individual using two languages interchangeably. Furthermore, the bilingual method is an approach to foreign language instruction that emphasizes the strategic use of students' native languages as a highly effective teaching tool.

The distinction between the last two terms is based on how individuals come to acquire two languages. Native bilinguals acquire both languages simultaneously from birth, while English learners fall into the category of emergent bilinguals. Although emergent bilinguals were once viewed as achieving lower performance levels compared to monolinguals, current research suggests that bilingual individuals tend to excel not only in literacy skills but also in acquiring a second or foreign language. Both educators and students can derive significant advantages by harnessing their existing knowledge and language awareness to enhance comprehension and learning. This empowerment of knowledge and awareness forms the basis for pedagogical translanguaging.

Translanguaging is not limited solely to English Language Teaching; its origins can be traced to the effective teaching of English in a bilingual Welsh environment. In practice, the focus is on reshaping students' perception of using two languages and encouraging the organic use of both languages in the language classroom. Conversely, the issue of allowing flexibility in using two languages in the classroom has been a topic of ongoing debate. It's a

well-known fact that using a student's native language has been discouraged to ensure that ESL/EFL students are exposed to English to the fullest extent possible.

Translanguaging is defined as a deliberate instructional approach initiated by teachers, which entails the concurrent utilization of two languages within a lesson or assignment. The use of the "-ing" form signifies that students are actively engaged in the ongoing process of creating meaning. In contrast, research has also highlighted the negative consequences of impromptu translanguaging, referred to as "decelerator translanguaging." This type of translanguaging hinders the learning process because it occurs without prior planning, lacks structure, lacks a specific purpose, is not inherently creative, may not necessarily facilitate language acquisition, and is employed by both teachers and students.

According to (Khair et al., 2020), Translanguaging pedagogy is identified as a valuable approach to actively engaging students in cognitive activities during classroom instruction. This qualitative case study explores how translanguaging pedagogy is employed to enhance higher-order thinking skills (HOTS) in university students, particularly in the context of teaching English for Business. The study utilizes a variety of data sources, such as multiple iterations of essays, weekly journals, assignments, peer feedback, surveys, interviews, and an examination of written lesson plans spanning an entire semester. Data sources include successive drafts of essays, weekly journals, assignments, peer commentaries, surveys, interviews, and analysis of written lesson plans over one semester. The study outlines a five-phase translanguaging pedagogy, including exploration, evaluation, imagination, presentation, and implementation. Each phase is designed to facilitate students' higher-order thinking skills and deepen their understanding of the subject matter.

Therefore, (Kusumaningputri & Khazanah, 2021), on their study found that translanguaging in English use is gaining prominence, particularly in the context of English as a global lingua franca. This shift has significant sociolinguistic implications, particularly in regions with diverse home languages. The research highlights that there is an evolving understanding that English belongs to its users, necessitating a response on how to accommodate various linguistic resources. While research on this topic has been growing in countries where English is an additional language, Indonesian undergraduates' perceptions and practices of translanguaging have received relatively less attention. In the current study, which involved a survey and subsequent analysis using descriptive statistics, a favorable reception toward translanguaging was observed in four primary domains: its practical application, its impact on English language acquisition, its social applications, and its relevance within the university environment.

In conclusion, the studies conducted by (Halim et al., 2023; Khair et al., 2020; Kusumaningputri & Khazanah, 2021; Wei & García, 2022; and Zein, 2022) collectively underscore the significance of translanguaging as a pedagogical approach in diverse educational contexts. While each study provides valuable insights and highlights the potential of translanguaging, they also reveal specific research gaps. These research gaps call for further exploration and understanding of translanguaging's practical strategies, potential opportunities, and policy implications across different educational settings. The need for more detailed research to delve into specific classroom practices, assessments, and the impact of translanguaging on student engagement, cognitive skills, and learning outcomes becomes evident. Additionally, there is a growing need for comprehensive investigations into how students benefit from translanguaging and how it can be effectively incorporated into various educational contexts.

Furthermore, the researcher identifies the significance of recognizing translanguaging as a unified repertoire and highlights its decolonial potential, especially in settings where diverse linguistic repertoires are prevalent. To harness this potential fully, further research is required to develop strategies, curricular changes, and teacher training that promote the adoption of a translanguaging perspective in pedagogy. In the Indonesian context, the research highlights the spontaneous and unplanned nature of translanguaging. Future

studies should focus on structured and intentional practices, aiming to ensure that students become proficient in employing English as the primary classroom language during different phases of teaching. Based on the above elaborations on the benefits promoted by Translanguaging, the researcher is interested in compiling research entitled “Translanguaging in Mathematics Bilingual Classroom at State University of Makassar”, to answer the question: “How do the Mathematic bilingual program students at the State University of Makassar perceive the use of translanguaging in the classroom?”

2. Method

In this study, the qualitative approach was employed by the researcher to delve deeper into the research concerning the use of translanguaging among multilingual students and to uncover additional information and findings. According to Saldana (2011) in Nursanti (2021), qualitative research encompasses a range of approaches and methods used to study natural social life.

The data were suitable for this research to get a description of students’ perception of the bilingual class at the University of Makassar. The researcher conducted the research at the University of Makassar specifically for the fifth semester of students of Math Education, Faculty of Mathematics and Natural Sciences.

In this research, the researcher took one class because, at the State University of Makassar, there was only one class in the Faculty of Mathematics and Natural Sciences. The total of the participants is 33 students. Moreover, to determine the participants, the researcher will use a purposive sampling technique. The researcher chose some participants as the representatives to be interviewed. Moreover, the participants for this study were chosen using several criteria, including students proficient in multiple languages, those actively engaging in-class activities, students lacking proficiency in multiple languages, and those less involved in class activities. These criteria are established to assess their various perceptions towards translanguaging implementation in Mathematics majors at the States University of Makassar.

The interview was designed to collect data about the perceptions of bilingual students regarding the use of translanguaging in their language in the learning process. There were fifteen numbers of questions that were employed by the researcher to find bilingual students' interaction in classroom interaction. fifteen questions are based on students' responses to the use of bilingualism classroom interaction (Atkinson et al., 1987; Auerbach, 1993; Kelilo, 2012; Latsanyphone & Bouangeune, 2009; Schweers Jr, 1999; Tsukamoto et al., 2011).

In analyzing the data from the interview, the researcher used some steps that dealt with the procedures for analyzing qualitative research data. The interview was analyzed through an interactive model of Milles, (Miles et al., 2014), namely: (1) data condensation, (2) data display, and (3) conclusion drawing and verification.

3. Results

Based on the result of the interview, the researcher found that the students have a positive perception of translanguaging. Based on the result of the interview, translanguaging has a positive impact on learning used translanguaging. Six students were to be interviewed with fifteen questions, and all of them gave positive comments. The answers of the students can be seen on the transcript data below:

3.1. *The existence of Translanguaging*

Based on the findings that the researcher got when conducting research, there were various perceptions from students about the existence of translanguaging, including according to students, translanguaging is very helpful for those who don't really understand English. Other perceptions are presented in the extract provided by the researcher below.

Extract 1

Q: What do you think about the existence of translanguaging as one of the teaching approaches?

S1: *Kalau menurut saya, metode ini pasti memudahkan mahasiswa dalam memahami pembelajaran, apalagi ketika masih awal pengenalan dalam mata kuliah. Jika kita belum tahu sekali bahasa Inggris dari materi tersebut, jadi translanguaging ini memudahkan mahasiswa dulu untuk mengerti apa maksud dari mata kuliah tersebut.* (In my opinion, this method definitely makes it easier for students to understand learning, especially when it is still early in the course. If we don't know English from the material, so translanguaging makes it easier for students first to understand what the course means.)

S2: *Menurut saya, dengan adanya translanguaging, saya melihat dari arah sisi, bisa dilihat dari arah sisi positif dan negatifnya. Kalau positifnya itu, siswa bisa langsung paham dengan apa yang dijelaskan oleh dosen.* (In my opinion, with translanguaging, I see it from the direction of the side, it can be seen from the direction of the positive and negative side. On the positive side, students can immediately understand what the lecturer explains.)

S3: *menurut saya, adanya Translanguaging ini bisa membantu mahasiswa yang belum terlalu memahami bahasa Inggris.* (In my opinion, the existence of Translanguaging can help students who do not really understand English.)

S4: *Menurut saya bagus karena dapat memudahkan siswa khususnya juga internasional di jurusan matematika. Karena kan kadang ada konsep matematika yang kurang sulit dipahami.* (I think it is good because it can facilitate students, especially international students in the math department. Because sometimes there are math concepts that are less difficult to understand.)

S5: *Kalau dari saya pribadi, kak, Translanguaging itu sangat membantu tentunya. Karena melihat situasi sekarang juga, kayak mahasiswa SEP pun belum tentu bisa kuasai full English seperti itu.* (For me personally, Translanguaging is very helpful, of course. Because looking at the current situation, even SEP students may not be able to master full English like that.)

S6: *Menurutku cukup bagus asal saat terjadi perpindahan bahasa itu, bukan yang bahasa Inggris lagi diulang-ulang.* (I think it's quite good as long as when the language switch occurs, it's not that English is repeated.)

According to Student 1, translanguaging can aid students in comprehending the course material, particularly when they are first exposed to it. While translanguaging can aid students in understanding what their teachers are saying, student 2 believes that it also has drawbacks. According to Student 3, translanguaging can benefit students who struggle with their English. According to Student 4, translanguaging is beneficial because it can make complex mathematical concepts easier for students to understand, particularly for overseas students studying mathematics. According to Student 5, translanguaging is very beneficial, particularly for students who struggle with their English. According to Student 6, translanguaging can be beneficial if it is done correctly. In conclusion, students in the extract above stated that translanguaging can improve comprehension of the course material for those who struggle with the language.

3.2. The positive impact of translanguaging on the learners

Considering the conclusions that researchers came to after performing, their investigation there were various perceptions from students about the positive impact of translanguaging on the learners, including according to students, translanguaging has a positive impact because it helps facilitate the acceptance of material in class. Other perceptions are presented in the extract provided by the researcher below.

Extract 2

Q: Do you agree that translanguaging has a positive impact on the learners? Why?



S1: *Tentu setuju karena dengan adanya metode ini, kita lebih mudah memahami konsep dan konteks dari mata kuliah tersebut.* (Of course I agree because with this method, it is easier for us to understand the concepts and context of the course.)

S2: *Punya dampak positif, karena itu bisa mempermudah dan mempercepat pembelajaran tersebut. Karena siswa bisa cepat paham dan cepat dapat apa yang diberitabukan oleh dosen tersebut.* (It has a positive impact, because it can facilitate and accelerate the learning. Because students can quickly understand and quickly get what the lecturer tells them.)

S3: *Tentu Karena masih banyak mahasiswa yang belum terlalu paham istilah-istilah matematika dalam bahasa Inggris. Jadi dampak positifnya itu bisa membantu memudahkan penerimaan materi di kelas.* (Of course, because there are still many students who do not really understand mathematical terms in English. So the positive impact is that it can help facilitate the reception of material in class)

S4: *Setuju karena seperti yang saya bilang tadi, kadang konsep matematika itu sulit untuk dimengerti, apalagi ditambah lagi dengan bahasa Inggris, jadi kalau dikasih translanguaging, mahasiswa mudah mengerti, kemudian juga bisa menambah kosa kata baru juga.* (Agree because as I said earlier, sometimes math concepts are difficult to understand, especially coupled with English, so if given translanguaging, students can easily understand, then it can also add new vocabulary too.)

S5: *Berdampak positif dan sangat berdampak positif. Karena kembali lagi kalau dosennya merasa yang tersampaikan full English, dia paham untuk dirinya sendiri. Tapi belum tentu kita yang diajar paham. Jadi sangat positif menurut saya dengan adanya Translanguaging.* (Positive impact and very positive impact. Because again, if the lecturer feels that what is conveyed is full English, he understands for himself. But not necessarily those of us who are taught understand. So it is very positive in my opinion with Translanguaging.)

S6: *Setuju, karena daripada misalnya full Inggris dan mahasiswa nggak mengerti pembelajarannya, mending ada yang biar setengah meskipun yang Indonesia saja.* (Agreed, because instead of for example full English and students don't understand the learning, it's better to have half even if it's only Indonesian.)

The passage from extract 2 above discussed the advantages of translanguaging for students. The students concurred that their educational experience is enhanced by translanguaging. They thought that learning could be accelerated and that translanguaging improves their comprehension of the course's concepts and context. Additionally, the students brought up the benefit of translanguaging as a means of better understanding English's sometimes confusing technical terms. Additionally, they thought that translanguaging could aid in their vocabulary acquisition. Overall, the students thought that learning through translanguaging is beneficial since it increases their comprehension of the subject matter and allows them to pick up new vocabulary.

3.3. *Students' perception of Translanguaging*

Taking into account the findings that researchers arrived at following their inquiry, there were various perceptions from students about the positive impact of translanguaging on the learners, according to students, translanguaging is a way to make it easier to learn in class and then can help us learn how to use English and translate in Bahasa. Other perceptions are presented in the extract provided by the researcher below.

Extract 3

Q: How do you perceive translanguaging?

S1: I think it is very useful for students, especially students not fluent in English so they can understand the material. *(Menurut saya sangat berguna bagi siswa, terutama siswa yang tidak fasih berbahasa Inggris agar dapat memahami materi.)*

S2: Translanguaging is when a multilingual person or linguistic repertoire is used and honored instead of trying to keep focus on a single language. (*Translanguaging adalah ketika seseorang yang multibahasa atau repertoar bahasa digunakan dan dihormati daripada mencoba untuk tetap fokus pada satu bahasa.*)

S3: I think translanguaging is a way to make it easier to learn EFL and then can help us learn how to use English and translate in Bahasa. (*Menurut saya, translanguaging adalah cara untuk mempermudah belajar EFL dan kemudian dapat membantu kita belajar bagaimana menggunakan bahasa Inggris dan menerjemahkannya ke dalam bahasa Indonesia.*)

S4: Translanguaging is the basis for learning a language of course to make it easier to understand the material. (*Translanguaging adalah dasar untuk belajar bahasa tentunya untuk mempermudah dalam memahami materi.*)

S5: In my point of view, translanguaging is a bridge for a language learner to be younger and understand the language being studied better, of course. (*Menurut saya, translanguaging merupakan jembatan bagi seorang pembelajar bahasa agar lebih muda dan lebih memahami bahasa yang sedang dipelajari tentunya.*)

S6: *Translanguaging sebagai upaya para penutur multibahasa atau yang bisa bicara dalam beberapa Bahasa untuk memenuhi fungsi sosial dan fungsi kognitif yang kompleks dalam kehidupan sehari-hari.* (Translanguaging as the way of multilingual speaker to fulfill social and cognitive function in daily life).

Based on the extract above, the researcher concludes that all of the interviewees gave positive perceptions toward the use of translanguaging in the teaching and learning process. Translanguaging plays an important role because translanguaging might let the students mix languages when responding to their teacher's question or friend's question, knowledge and vocabulary they know.

3.4. Situation in using Translanguaging

Based on the findings that the researcher got when conducting research, there were various perceptions from students about the positive impact of translanguaging on the learners, according to students, translanguaging is a way to make it easier to learn in class and then can help us learn how to use English and translate in Bahasa. Other perceptions are presented in the extract provided by the researcher below.

Extract 4

Q: In what situation do you feel translanguaging must be done by the lecturers?

S1: *Menurut saya mungkin ketika level matakuliah tersebut sudah sangat sulit. Misalnya seperti matakuliah yang mudah saja jika digunakan bahasa Inggris, agak sulit kita pahami apalagi matakuliah yang memang sudah sulit.* (I think maybe when the level of the course is very difficult. For example, like an easy course, if English is used, it is rather difficult for us to understand, let alone a course that is already difficult.)

S2: *Kalau dalam situasi yang betul-betul ada sebuah kalimat atau ada sebuah kata yang similaritasnya itu kurang kata yang sama, jadi itu betul-betul harus dicarikan yang artinya saja.* (If in a situation where there is really a sentence or there is a word whose similarity is less than the same word, so it really has to be found which means only)

S3: *Ketika mahasiswa terlihat bingung, ketika dosen menjelaskan mahasiswa itu dia tidak paham apa yang dikatakan dosennya dalam bahasa Inggris.* (When students look confused, when the lecturer explains the student he doesn't understand what the lecturer said in English.)

S4: *Dalam situasi ketika dia menjelaskan terkait materi baru atau hal-hal baru, khususnya pada rumus-rumus juga, rumus-rumus matematika itu juga harus dosen itu lakukan untuk lakukan translanguaging.* (In situations when he explains related to new material or new things, especially on formulas too, mathematical formulas that the lecturer must also do to do translanguaging.)

S5: *pada saat situasi mahasiswa tidak memberikan umpan balik.* (When students do not give feedback.)

S6: *Ya kalau ngeliat ada muka-muka mahasiswa yang bengong, ya gunakan mitu yang translanguaging.* (Yes, if you see that there are students' faces that are stunned, then use translanguaging.)

The passage from a discussion addresses the circumstances in which students believe instructors ought to employ translanguaging. As per the students' perspective, translanguaging ought to be employed in situations where the course content is exceptionally complex and difficult to comprehend in English. Additionally, they held the opinion that translanguaging ought to be applied when a term or phrase is challenging to translate. Furthermore, the students felt that when students show signs of confusion and don't understand what the lecturer is saying in English, translanguaging should be used. Additionally, they thought that lecturers should employ translanguaging when introducing new information, particularly mathematical formulas. In conclusion, the students thought that translanguaging ought to be employed in situations where they don't give feedback or seem confused.

3.5. The importance of Translanguaging

Considering the conclusions that researchers reached after doing their investigation, there were various perceptions from students about the positive impact of translanguaging on the learners, including according to students, translanguaging is important because it makes the learning process results easier for the students to comprehend. Other perceptions are presented in the extract provided by the researcher below.

Extract 5

Q: How important is it for lecturers to use Indonesian in the teaching process?

S1: *pada saat level mata kuliahnya tinggi sekali, ada beberapa singkatan-singkatan yang di bahasa Indonesia kan susah kita pahami, Apalagi bagaimana caranya bahasa Inggris.* (When the level of the course is very high, there are some abbreviations that in Indonesian are difficult for us to understand, especially how to use English.)

S2: *Saya pikir tidak penting. Tidak penting ya? Untuk dosen menggunakan Bahasa Indonesia pada saat kelas internasional? Ya, karena kita kan harusnya pakai bahasa Inggris. Ya, bukan Indonesia.* (I don't think it's important. Not important huh? For lecturers to use Indonesian during international classes? Yes, because we should use English. Yes, not Indonesian.)

S3: *penting. Karena ada beberapa kata yang tidak ditabukan, jadi harus juga menggunakan bahasa Indonesia dalam pembelajaran.* (Important. Because there are some words that we don't know, so we also have to use Indonesian in learning.)

S4: *Penting, karena proses pembelajaran kan ada pengajar dan ada yang diajar. Dan outputnya pasti kita pahami. Dan kalau misalnya memang full English dan kita tidak pahami, kan output pembelajarannya tidak tercapai begitu.* (Important, because the learning process has a teacher and a taught. And the output must be that we understand. And if for example it is full English and we don't understand, the learning output is not achieved.)

S5: *Penting, karena bagaimanapun juga Bilingual kan bukan yang kayak full Inggris, tapi kalau di ICP sendiri di sini, kita kan lebih dipush bahasa Inggrisnya, jadi mungkin penerapannya kalau ini ketika ada saja memang siswa yang kurang pahami.* (Important, because after all, Bilingual is not like full English, but in ICP itself here, we use English more, so maybe the application is when there are students who don't understand.)

Regarding the significance of utilizing Indonesian in the classroom, the students in the extract hold varying views. Student 1 thought that when the course level is high, it can be challenging to understand some Indonesian acronyms, much less English ones. According to Student 2, lecturers should use English in international classes instead of Indonesian, as it is not necessary. Because some words are difficult for students to understand, Student 3

thought it was important to teach in Indonesian. According to Student 4, using Indonesian in the classroom is important because it makes the learning process results easier for the students to comprehend. Since students in ICP are more accustomed to English and Bilingual is not entirely in English, Student 5 believed that using Indonesian in the classroom is important. In summary, the value of incorporating Indonesian into the teaching process is arbitrary and contingent upon the needs of the students as well as the course's context.

3.6. Bilingual classroom experiences

Based on the findings that researchers obtained when conducting research, there were various perceptions from students regarding the experience of using translanguaging, including according to students, the experience of using more than one language when making presentations in class. Other perceptions are presented in the quotation that the researcher provides below.

Extract 6

Q: Do you have experience using more than one language at a time in a bilingual classroom?

S1: *Untuk pengalaman bagaimana menggunakan lebih dari satu bahasa. Misalnya matakuliah, aljabar elementer.* (To experience how to use more than one language. For example, courses, elementary algebra.)

S2: *Pada saat melakukan presentasi, pada saat juga melakukan sesi tanya jawab, baru menggunakan dua bahasa.* (When doing presentations, when also doing answer sessions, just using two languages.)

S3: *Pada saat biasanya kita mengajukan pertanyaan, presentasi paling sering sih presentasi.* (When we usually ask questions, presentations are most often presentations.)

S4: *Saya menggunakan, kalau saat presentasi, karena kan kita mahasiswa pendidikan, otomatis kebanyakan itu kita yang melakukan presentasi, belajar jadi guru.* (I use, it when presenting, because we are education students, automatically most of us do presentations, and learn to be teachers.)

Four students offered their opinions in response to the question about their experiences speaking more than one language in a bilingual classroom. Student 1 talked about his experience speaking in more than one language, giving examples from courses like elementary algebra and mathematics. Student 2 cited moments in his presentations where he combined two languages fluently. When posing questions, Student 3 underlined how common presentations are, suggesting that they are a regular practice. Student 4 concluded by talking about how they utilize multiple languages when presenting, especially since they are majoring in education and frequently assume the role of presenters as they prepare to become teachers. The answers from the students point to the usefulness of bilingualism in a range of educational contexts, especially when it comes to roles as teachers and presenters.

3.7. Students' Translanguaging frequency

Based on the findings that researchers obtained when conducting research, there were various perceptions of students' Translanguaging frequency. Other perceptions are presented in the quotation that the researcher provides below.

Extract 7

Q: How often do you use translanguaging (the use of more than one language) in learning activities in bilingual classes?

S1: *Sangat sering, hampir semua matakuliah. Jadi kayak kebutuhan ini.* (Very often, almost all courses. So it's like this need)

S2: *Agak ragu karena Ketika menggunakan translanguaging dalam pembelajaran itu agak ragu karena Takut salah.* (A bit hesitant because when using translanguaging in learning it is a bit hesitant because of the fear of being wrong.)

S3: *Sangat memudahkan, kemudian juga memudahkan untuk komunikasi dengan teman, misalkan teman tidak memahami apa yang disampaikan.* (Very easy, then it also makes it easier to communicate with friends, for example friends do not understand what is conveyed.)

S4: *Kalau saya merasa bagus, positif, berdampak positif bagi saya karena orang Indonesia belum tentu, apalagi saya di kelas-kelas, yang kita masih mahasiswa, masih belajar.* (If I feel good, positive, it has a positive impact on me because Indonesian people are not necessarily, especially me in classes, which we are still students, still learning.)

The students offer a variety of viewpoints on the application of translanguaging in bilingual classrooms, based on the excerpt above. Student 1 stated that they view translanguaging as essential and employ it often in practically every subject. Conversely, Student 2 acknowledged that he was hesitant because he was afraid of making mistakes. Student 3 emphasized how translanguaging significantly facilitates peer communication, particularly in situations where others may not understand the language being used. Finally, Student 4 highlighted the advantages of translanguaging, seeing it as helpful in an educational setting where students are still learning new material. A variety of opinions regarding translanguaging are reflected in the responses above, ranging from frequent use to worries about possible mistakes and the acknowledged advantages in improving communication and learning outcomes.

3.8. *Translanguaging in the learning process*

Based on the findings that researchers obtained when conducting research, there were various perceptions from Students Translanguaging in the learning process. Other perceptions are presented in the quotation that the researcher provides below.

Extract 8

Q: Do you feel that translanguaging helps increase student engagement in the learning process in a bilingual classroom? Why?

S1: *dapat meningkatkan pemahaman Kalau menurut saya lumayan membantu karena biasanya kurang paham siswa dalam proses pembelajaran Tapi kalau dilakukan di translanguaging, bisa paham lagi kembali.* (Can improve understanding If in my opinion it is quite helpful. It helps because students usually don't understand in the learning process but if it is done in translanguaging, they can understand again.)

S2: *sangat jauh berdampak untuk pemahaman materi.* (Very much impact on understanding the material.)

S3: *Ya, pasti. Di Translanguaging itu, kalau misalnya dosen menerapkan metode pengajaran itu.* (Yes, definitely. In translanguaging, if for example the lecturer applies that teaching method.)

The responses from the students provided insight into the kinds of situations or activities that promote translanguaging in the classroom. According to Student 1, translanguaging can be useful in improving comprehension, particularly for students who might find it difficult to understand the material being taught. Students can regain understanding by using translanguaging as a way to get over comprehension obstacles. Student 2 highlighted how translanguaging has a major impact on material comprehension and suggested that it is essential for promoting a deeper comprehension of the subject matter. Student 3 confirmed the value of translanguaging in the classroom, especially when teachers use it in their lesson plans.

In summary, the students pinpointed circumstances in which translanguaging proves to be an advantageous instrument for improving comprehension within the classroom. It is regarded as a useful tactic in situations where more conventional approaches might not be

sufficient to foster understanding, especially when students have difficulty with the learning process. Most people agree that translanguaging helps students understand the subject matter better, particularly when it's incorporated into the instructional strategies used by teachers.

3.9. Significance of Translanguaging

Based on the findings that researchers obtained when conducting research, there were various perceptions significance of. Other perceptions are presented in the quotation that the

Extract 9

Q : Do you have suggestions or recommendations for improving the use of translanguaging in learning in bilingual classrooms?

S1: ? *Kalau saya mungkin sarannya, mungkin lebih baik lebih banyak digunakan bahasa Inggrisnya dulu. Kalau bahasa Indonesia itu mungkin kalau memang betul- betul susah dipahami.* (If I may suggest, maybe it's better to use more English first. If it's Indonesian, maybe if it's really difficult to understand.)

S2: *seperti yang kita katakan kalau di waktu-waktu yang tertentu, Pi, kayak bingung sekali ini mahasiswanya.* (As we said if at certain times, Pi, it's like the students are very confused.)

S3: *Saran saya, kayaknya bisa menggunakan translanguaging, tapi jangan terlalu sering karena kita juga, Semisal saya masuk di jurusan ICP ini kan untuk belajar bahasa Inggris juga.* (My advice, I think you can use translanguaging, but not too often because we also, for example, I entered the ICP department to learn English too)

S4: *Saran saya itu dosen menggunakan translanguaging ketika membahas terkait rumus-rumus matematika saja.* (My suggestion is that lecturers use translanguaging when discussing math formulas only.)

S5: *saran untuk pembelajaran di kelas, mungkin kalau bisa kita sebagai mahasiswa menerapkan itu bukan hanya di luar pembelajaran.* (advice for learning in class, maybe if we as students can apply it not only outside of learning.)

The students provided a range of ideas and recommendations for enhancing the use of translanguaging in instruction within bilingual classrooms, based on the extract above. Particularly when the subject matter is difficult, Student 1 recommended beginning with English and then adding Indonesian. The goal of this method is to lay a foundation in English and then use Indonesian sparingly when necessary. The significance of taking into account particular times for translanguaging, such as when students might be especially perplexed, was brought up by student 2. This suggests that the best way to maximize the benefits of translanguaging is to consider context and timing.

Student 3 proposed a moderate and balanced approach to translanguaging. The premise upon which this suggestion rests is that certain academic disciplines, like ICP (which is likely associated with English language acquisition), require a constant focus on English language competency.

The fourth student proposed a narrow context in which translanguaging could be useful: discussions of mathematical formulae. This proposal exemplifies the domain-specific application of translanguaging to enhance understanding in settings where precision and clarity are paramount.

In addition to formal education, Student 5 advocated for students to actively participate in translanguaging outside of class.

Finally, the students' suggestions emphasized the significance of being subtle and cognizant of context while employing translanguaging. They emphasized the need to adapt translanguaging to the topic at hand, find a middle ground across languages, and consider

specific settings. These suggestions, taken as a whole, demonstrated how important it is to be flexible and methodical when applying translanguaging tactics to enhance bilingual instruction in schools.

4. Discussions

The result of the interview showed the perception of students in the fifth semester of the Mathematics bilingual program at the State University of Makassar. The data showed that most students preferred to use of translanguaging in international classrooms of the mathematics bilingual program. The students also give positive perception to the fifteen questions that have been asked. The students can feel the benefit of the use of translanguaging in international classrooms of the mathematics bilingual program. It is also relevant to the study of Nursanti (2021). There are six benefits that were revealed in the study. First, it assists the students in understanding English lessons. Second, it helps them to understand new vocabulary in English. Third, it can help them to do exercises. Fourth, it helps them to ask and answer something during the class. Fifth, it assists them to read something in English correctly. Lastly, it makes them feel comfortable during the class. Furthermore, (Aoyama & Denton, 2022) stated that students' awareness towards the use of L1 as established by the teachers will facilitate the learning process. Students will use L1 to provide explanations about unknown words and phrases in English that they thought would be difficult to understand by their peers.

The experiences that students have with the practice of translanguaging in the classroom influence their perceptions. Students felt grammar was a difficult lesson, and they felt using English to learn grammar made the lesson harder. Therefore, they felt that students needed bilinguals to clarify and communicate based on grammar rules, and they believed bilinguals could make the difficulty of grammar easier. The positive perception can be explained in two aspects: first, bilinguals can clarify and communicate grammar points; and second, bilinguals can be a translation technique to avoid misleading English students. Students also shared their opinions about the employment of bilinguals in English language learning environments. When they used bilingualism, they were able to understand.

It showed that some students preferred to use Bilingual in EFL classrooms. Students got more than 50 assists when using Bilinguals in the English learning process which made them understand. They believe that Bilinguals could be a tool that leads them to have a better understanding of translating new words and speaking based on their comprehension. They also believe that bilinguals could clarify and communicate grammar points. It is accorded by Strorch and (Aoyama & Denton, 2022) who explain that students can get the benefit from the use of a first language to clarify an unfamiliar vocabulary and communicate grammar points. Students' translation in Bilingual can assist in the comprehension and memorization of English vocabulary (Swain & Lapkin, 2000). The first language translation makes it easier, and clearer for students to understand the content. They had a better understanding of grammar points, mastered the translation technique of new words and maximized a valuable class time better toward the use of Bilingual.

Although bilingual education may be useful in the classroom, if it is used too frequently or excessively, students may begin to view bilingual education as a barrier to their ability to learn English rather than as an asset. Initially, it would hinder the pupils from becoming acquainted with the English language. Overuse of bilingualism could allow students to become too accustomed to speaking and hearing in English, particularly in speaking and listening sessions. Less time spent speaking English since bilingualism would be used could be the reason for this. When bilingualism is used in that way, the outcome is likewise overexposure to the English language. Additionally, since they are studying English, the students could anticipate being taught in English rather than their dual language, which would make them feel disinterested in the course. This could also indicate that, depending on the circumstance, the students preferred that their teacher instruct them mostly in English rather than bilingually.

The interview results, which were conducted in both languages, revealed the preferred language used by students to query their teachers. When asking questions of their teachers, nearly all of the students still speak Bahasa Indonesia. Students claim that this phenomenon is caused by their inability to ask questions in English fluently. According to Howat (1984), giving students the option to speak in their native tongue could harm their English proficiency. The negative effect was that it might create a tendency to speak using a first language rather than using English. This is due to the possibility that students might feel more at ease speaking in their tongue than in English. The researcher concludes that teaching bilingual language in the classroom has certain advantages based on the findings.

In addition, Puasa et al (2015) conducted research on “Classroom talk in Bilingual Class Interaction”. This research explained bilingual class interaction, the research findings showed that the language option used in bilingual classroom interaction was influenced, and the result of this study showed that bilingual interaction had a positive effect on the students in teaching and learning.

5. Conclusion

The students give positive perception to the fifteen questions that have been asked. The students can feel the benefit of the use of translanguaging in international classrooms of the mathematics bilingual program at the State University of Makassar

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