

Code-Mixing and Code-Switching in Maths Online Classroom: The Language Function in Interaction of Junior High School Students

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Abstract

The research was conducted as a qualitative case study. The study's aims were to look into the types for codes and the reasons in the occurrence of code-mixing and code-switching. In this study, a teacher and 20 students of Junior High School students were the subjects. The information was gathered through observation, recording and interview. As the result of this research, the language function in code-mixing and code-switching found for interpersonal function in 42 cases in 56,75%. The least function of language found during the online interaction was personal function with 5 cases in 6,76%. Directive function found during the online interaction in Junior High School teacher-students in NGS is 17,57%. Meanwhile, referential function was highly used more than directive function in almost 19% detected. From the data, it was concluded that the speaker in the classroom tended to interact by using interjection in Bahasa Indonesia even though in the interaction of English Language. Based on the analysis, the types of code-mixing are elaborated into three categories, as follow: insertion (50%), alternation (28,57%) and congruent lexicalization (21,43%). On the other hand, there are three types of code-switching: tag switching (88,52%), inter sentential switching (9,84%) and intra sentential switching (1,67%). The reasons of using code-mixing and code-switching based on previous findings are talking about particular topic (21,43%), being emphatic (7,14%), intention for clarifying (35,71%) and lexical needed (35,71%). Meanwhile, based on the interview, the reasons of using code-mixing and code-switching is due to the environmental society impact which cause the language usage of the speakers.

Keywords

code-mixing; code-switching;
functional language; students-
interaction



I. Introduction

Globally speaking, bilingual languages are spoken by most human. It is common for us to find people talking in varieties of languages in such their native language and their common language at the same time. When people speak two different languages at a time, they are mixing language and switching it among languages they know.

In bilingual phenomenon, people tend to mix or switch one language into another. Bilingual phenomenon is also known as Multilingual phenomenon. Mixing and switching languages are commonly happened from the bilingual ability of a language speaker. Bilingual societies especially people in Indonesia prefer to express in numerous languages to interact in the society. Generally, groups of people speak bilingual languages live in a

nearby society, sometimes, they are divided by political boundaries, and some of them are identified similarly by nation or state (Wardhaugh, 2010).

The phenomenon of code-mixing and code-switching are widely popular. The writer saw this phenomenon in her society, especially in a school she worked, the communication between the teachers and the students tend to mix and switch between English language and Bahasa Indonesia.

In this research, the writer will analyze the interaction between a teacher and the students in Maths class by reason because Maths is taught in English by a teacher who the native language is Bahasa Indonesia. Since pandemic Covid-19, the learning-teaching sessions are done by online and the students did not come to school. Sihombing (2020) state that Covid-19 pandemic caused everyone to behave beyond normal limits as usual. The outbreak of this virus has an impact especially on the economy of a nation and Globally (Ningrum, 2020). The problems posed by the Covid-19 pandemic which have become a global problem have the potential to trigger a new social order or reconstruction (Bara, 2021). Code-mixing and code-switching are considered by doing language research in Maths class session.

Many researchers have conducted research between code mixing and switching such as (Waluyo, 2017) analyzed the types, the effect and the reasons of using code-mixing and code-switching in English Grammar. The form of code-mixing in a vlog (Maghfiroh, 2018). On the other hand, (Sugiantari, 2018) did the research toward the factor of using code-mixing and code-switching by Government of Bali. (Karie & Husain, 2020) describe the used of code-mixing and code-switching by the types, factors and reasons in English Education study. Lastly, (Klapicová, 2017) observe social aspects of code-switching and code-mixing towards children.

II. Review of Literature

Many people or communities use two languages in conversation, and this practice is inspired by the fact that people in modern societies are expected to know more than just one language (Waluyo, 2017). They frequently said the clause in both languages at once. Bilingualism is widespread across all social classes, all age groups, and almost all nations in the world. At any one-time, bilingual people can vary along a continuum of language modes, from a monolingual language mode to a bilingual language mode (Krishnasamy, 2015).

2.1 Function of Language

Finocchiaro and Brumfit (1983) in (Sitinjak et al., 2020) stated that language function refers to varied topic which is under the similar setting. It means that language function is important to understand about language itself and it can create connection to interact with other people. Language purpose aims to express our purpose in speaking by adapting with the situation and place. Thus, Language forms meanings in many different ways, literal or metaphorical (Pasaribu, 2022).

2.2 Code-Mixing

The usage of various different languages is referred as code-mixing vary from languages used in studies of grammatical aspects of bilingual speech. The grammatical aspects in code-mixing consist, among other things, determining the word classes of code-mixing patterns that often occurs in bilingual speech (Hornberger et al., 2010). Code-mixing is used in specific cases when the native language is spoken during the use of multiple languages without any adjustments in the context. When a speaker utilizes one language and then mixes in a few words from another language before switching to the original for a few more words randomly, this is known as code-mixing (Hudson, 1996).

2.3 Code-Switching

Code-switching person speaking intentionally shifts to a variety of languages while communicating in order to send a certain information. A similar point regarding the phrase code-switching, which refers to when a person speaking converts different languages in response to a change in external conditions. The speakers' terminology choices may be influenced by the society to which they are appealing (Hudson, 1996). Code-switching occurs in a dialogue throughout speaker turns or inside a possible turn, stated by (Wardhaugh, 2010). It can also be applied as a fundamental indicator for a community of individuals who must do their research in more than one discourse,

There are three types of grammatical aspect code-switching: (1) tag switching describes using an exclamation, a tag, or a parenthetical in a sentence that is written in a different language that tag switching is a specific kind of symbolic switching. The tag often appears at the start or the end of the statement or the question (Appel, 2005). Tag switching is the code-switching that belongs to the units of independent elements contained in a statement or a question, as examples of basic tag flipping in the English language, including: Wow!, OY!, D'oh!, hello!, Hi!, bye!, Ouch!, Oh!, and similar. Additionally, the following phrases can be used as sentence fillers: you know, well, actually, basically, literally, and similar expressions (Fanani & Ma'u, 2018).

2.4 Reasons of Using Code-Mixing and Code-Switching

Over the past ten years, there has been an increase in the need for processing code-switching data to help users with a variety of natural language processing tasks, including part-of-speech tagging, named entity recognition, sentiment analysis, conversational systems, and machine translation (Jose et al., 2020).

III. Research Methods

3.1 Research Design

This study used descriptive qualitative method and was a case study. This method is also popular in other studies of code-mixing and code-switching in the past five years such as the journal of (Indah Rezeki et al., 2021), (Maulana et al., 2021), (Fauzana et al., 2022) (Aziz et al., 2019) and (Miftah Arrizki et al., 2020)

To support this research, however, qualitative data were also presented. This study attempted to sort the function of languages in code-mixing and code-switching and describe the types of code-mixing and code-switching employed by teacher-students as well as the reasons for doing so during online math lessons for three sessions in two hours once.

3.2 Participant

The participants of this research came from different background of mother tongue. The participants consisted of a teacher and 20 students in first grade of Junior High School in

Northern Green School Medan and their utterance during the online session was used as the data. The data was taken from the utterance during the online session among the teacher and students in Maths class. The Maths class also uses the supporter such as Koobits digital learning application for online sessions.

3.3 Instrument for Collecting Data

The instrument for collecting data were constructed in this study in order to obtain the study's results. The data was gathered by using an observation sheet, a recorder, and an interview guide. The writer used the observation sheet in the form of table to observe the teacher during a teaching and learning session in order to obtain survey information on the teacher's code-mixing and code-switching techniques. To record the utterance during the class session, the writer used the Zoom Meeting application's recorder which provide the source of data. A data source is the supporter for the researcher which provides the data for a piece of research. The researcher also used an interview guide to interview teachers in order to collect information about why they employ code-mixing and code-switching in their speech during teaching and learning sessions (Silaban & Marpaung, 2020).

3.4 Methods of Data Collection

The researcher collected data by observing and recording the activities of teaching and learning in the online class. The data was gathered through observation was used in this stage. The writer first obtained permission to participate in the online class, and then watched the teacher and students' activities during the class. Using the Zoom Meeting feature, the researcher recorded the teacher's remarks during the observation. Following the completion of the recording, the writer listened to the utterances in order to convert the data from spoken to written or transcribed form. The next stage was to make a decision. The author began to pick and choose which sentences were code-mixing and code-switching.

After completing the observation, the writer conducted an interview with the teacher, who dominated the condition and situation of the class. The interview was done to help the writer to conclude the reasons of using code-mixing and code-switching briefly. The data from the observation and interview was examined by the researcher. The descriptive qualitative method was used to analyze the data.

IV. Discussion

According to the observations, the study's findings are divided into language function of code-mixing and code-switching, the various types of code-mixing and code-switching, and the reasons behind their use of code-mixing and code-switching. According to the previously developed theory, the type of code-mixing and code-switching are classified as the lexical aspect.

4.1 Function of Language

According to Finocchiaro and Brumfit's theory, the author of this study categorized the code-mixing and code-switching-containing utterances. Language has five functions: the personal function (PF), the interpersonal function (IF), the directive function (DF), the referential function (RF), and the imaginative function (IF). The classification was explained by the author using examples of different code-mixing and code-switching.

a. Function of Language in Code Mixing

Table 1. Function of Language

Function of Language		
Type of Language Function	Code-Mixing	Percentage
Personal Function	2 cases	14,29%
Interpersonal Function	2 cases	14,29%
Directive Function	2 cases	14,29%
Referential Function	7 cases	50%
Imaginative Function	0 case	0
Total Case	13 cases	100%

From the table above, it is clearly seen that the dominant function of language applied is referential function. As the writer had analyzed, it happened because of the content of utterance which applied referential consists mostly about the material discussed during the online class session. The other types of language function in code-mixing are personal function and directive function with two cases each in 15,38%. And also interpersonal function with 21,43%. Meanwhile, there is no imaginative function found in the utterances of code-mixing during the online session. The descriptions of some utterance in each type of language function are as follow:

For personal function:

Student: Miss, can I go to toilet? I want *BAB*, Miss.

The above sentence spoken by student applied personal function because he expressed himself for asking permission so that he was able to do the activity of defecation in the toilet. The personal function happened since the speaker express about the condition and feeling at that moment and the mixing language was used in the expression.

For interpersonal function:

Student: already finished miss, but I *langsung* minus it. I did not total the plus plus thing.

In the condition from the sentence, the student the speaker which is the student explain the way he did the assignment. The mixing phrase, “but I *langsung* minus it.” interpreted that the speaker was explaining his opinion concerning towards the question but still related to him.

For directive function:

Teacher: I just check and there is no homework. I have told you to submitted it yesterday. So, later when you check your *nilai keterampilan* for *PKN*, and it is 65, don't be mad at me.

The utterance above applied directive function because the teacher gave instruction to the student to submit his assignment as soon as that time. The teacher gave instruction in sentence “so, later when you check your *nilai keterampilan* for *PKN*,” which contained an instruction to the listener to check it. The sentence also contained warning for the listener to complete the instruction as soon as at that moment.

For referential function:

Student: Miss, just now her *Latihan* two he has done it, but the *Latihan* one, she doesn't know which one.

The utterance above is concluded as referential language function as the speaker which is the student talked about "latihan one" and "latihan two" referred to the topic of exercise they discussed about. the mixing language of Bahasa Indonesia in English utterance referred to assignment which was concluded that this mixing utterance is part of referential function.

b. Language Function in Code-Switching

Table 2. Language Function in Code-Switching

Function of Language		
Type of Language Function	Code-Switching	Percentage
Personal Function	3 cases	4,92%
Interpersonal Function	40 cases	65,57%
Directive Function	11 cases	18,03%
Referential Function	7 cases	11,48%
Imaginative Function	0 case	0 case
Total Case	61 cases	100%

In the utterances of code-switching in Maths online class sessions, the dominant language function often used was interpersonal function found 40 cases as we can see from the table above, the teacher's utterance mostly consisted of the exclamation and interjection which showed that the teacher tried to interact and respond to the student, and the students also did similarly. The use of exclamation and interjection emphasize accepting and agreeing toward the statement. There was also possibility in using interjection in giving command or warning. Then the following language function after interpersonal function is in 11 cases found in directive. Referential function is found for 7 cases and there are 3 cases found in personal function. There is no imaginative function applied in code-switching utterance type tag switching during the session. The descriptions of some utterance in each type of language function are as follow:

For personal function:

Student: ah... why didn't I change...

The above sentence spoken by student applied personal function because he expressed himself that he regretted by action he did at the moment and he realized when the teacher warned him. The switching language in the form of interjection "ah" emphasized speaker's feeling of regret at that time.

For interpersonal function:

Student: okay. Eighty-three right?

Teacher: ya.

In the condition from the sentence, the teacher try to interact with the students and persuade the students to send their respond. So this utterance included in interpersonal language function by the interjection "ya" which could also mean accepting statement.

For directive function:

Teacher: oh, sorry. That one is three hundred and sixty. Yok, what is the answer?

The utterance above applied directive function because the teacher demanded the students to respond during the online class session. By the switching language in the form of exclamation, the speaker which is the teacher tried to persuade the listener to follow her instruction.

For referential function:

Teacher: Four D plus sixteen plus two d, loh... sorry, four d plus sixteen plus two d plus fourteen equal one hundred eighty degree, okay. So six d plus thirty equals one hundred eighty, isn't it? Isn't it, students?

The utterance above is concluded as referential language function by the teacher explained the lesson which included in giving explanation and information. The switching language in the form of interjection emphasize the speaker's statement. The data above showed referential function by the whole statement they discussed about the topic material.

Table 3. Function of Language

Function of Language				
Type of Language Function	Code-Mixing	Code-Switching	Total Case	Percentage
Personal Function	2 cases	3 cases	5 cases	6,76%
Interpersonal Function	2 cases	40 cases	42 cases	56,75%
Directive Function	2 cases	11 cases	13 cases	17,57%
Referential Function	7 cases	7 cases	14 cases	18,92%
Imaginative Function	0 case	0 case	0 case	0 case

The data in table above is the conclusion from the total case of language function in code-mixing and code-switching. It showed the dominant language function applied is for interpersonal with 42 cases in 56,75%. Based on the data analysis, the data suited the definition of interpersonal function which was used the most to interact in the form of interjection. The least function of language found during the online interaction was personal function. The speaker less expressed their emotions and feelings by using code-mixing or code-switching. There is slightly gap between directive function and referential function. Directive function found during the online interaction in Junior High School teacher-students in NGS is 17,57% since it was used to express instruction and suggestion. Meanwhile, referential function was highly used more than directive function in almost 19% detected. Referential language function of code-mixing and code-switching in online class interaction of Junior High School teacher-students at NGS Medan referred to the definition, information and explanation about the material. In conclusion, the speaker in the classroom tended to interact by using interjection in Bahasa Indonesia even though in the interaction of English Language.

4.2 Type of Code-Mixing

Table 4. Types of Code Mixing

Types of Code-Mixing	Cases	Percentage
Insertion	7	50%
Alternation	4	28,57%
Congruent Lexicalization	3	21,43%
Total	14	100%

Insertion

Teacher: sum is *jumlah*, equals total. I do not know what happen with this Koobits, *ihh*.
What happen? Why only get low score? Turn on your video, you have finished Koobits. What happen?

(Teacher: sum is *addition*, equals total. I do not know what happen with this Koobits, ihh (the interjection in Bahasa Indonesia means that the person is fed up). What happen? Why only get low score? Turn on your video, you have finished Koobits. What happen?)

The data above demonstrate the utterance in English language as the dominant language mixed with the speech in Bahasa Indonesia. The students were taught the interpretation of sum in Bahasa Indonesia through using word *jumlah*, which refers to an insertion in code-mixing. The author discovered that this utterance also comprises another mix of Bahasa Indonesia from a various forms of code-switching type tag switching.

Alternation

Teacher: *bagus loh*. Okay next. Four D plus sixteen plus two d, *loh*. Sorry. Four d plus sixteen plus two d plus fourteen equal one hundred eighty degree, Okay. So six d plus thirty equals one hundred eighty, isn't it? Isn't it, students?

(Teacher: that's good. Okay next. Four D plus sixteen plus two d, loh (the interjection in Bahasa Indonesia to emphasize the whole statement.) Sorry. Four d plus sixteen plus two d plus fourteen equal one hundred eighty degree, Okay. So six d plus thirty equals one hundred eighty, isn't it? Isn't it, students?)

To indicate that the students have performed admirably in relation to the issue covered during the online lesson, the phrase *bagus loh* is alternated in the English sentences in the data above. In this statement, there is also discovered another mixed vocabulary in the form of interjection characterized into code-switching type tag switching.

Congruent Lexicalization

Student: Miss, just now her *Latihan* two she has done it, but the *Latihan* one, she doesn't know which one.

(Student: Miss, just now her exercise two she has done it, but the exercise one, she doesn't know which one)

In this instance, the student and teacher interacted using a combination of English and Indonesian language. The phrases "latihan two" and "latihan one," which blend English and Indonesian utterance in a phrase, are examples of congruent lexicalization.

4.3 Types of Code-Switching

Table 5. Types of Code-Switching

Types of Code-Switching	Cases	Percentage
Tag Switching	54	88,52%

Inter Sentential Switching	6	9,84%
Intra Sentential Switching	1	1,64%
Total	61	100%

The majority of tag switching with 88,52% in the junior high school math class at Northern Green School Medan takes the form of interjections: ya, ihh, ehh, ohiya, nah, hah? Each of the interjections, including hei, has a particular meaning and purpose. Tag switching became the dominant switching form during the encounter as a result of the introduction of Indonesian interjections. The least common type of switching, with only one occurrence in 1,64%, is intrasentential switching. Additionally, inter-sentential switching occurred six times, or 9.84% of all sentences, which is higher than intra-sentential switching.

Tag Switching

Student: miss, shall we discuss the workbook?

Teacher: no.

Student: *ihh*... miss

The following occurrence demonstrated an Indonesian interjection throughout an English-language conversation. The word "ihh" appeared at the beginning of the statement, signifying the expression of discontent with the current conditions.

Inter Sentential Switching

Teacher: I told you, I cannot see the question, yet. *Ini baru bisa lihat*.

(Teacher: I told you, I cannot see the question, yet. I just saw it.)

The preceding evidence indicates that inter sentential switching took place between sentences in Bahasa Indonesia and English. The teacher began the passage by saying, "I told you, I cannot see the question, yet." Then the teacher changed the wording to "ini baru bisa lihat" to indicate that the question from the Koobits website had only recently occurred at that point.

Intra Sentential Switching

Teacher: *haduh, gini gampang*. It's only straight line. *Murid Miss ini*.

(Teacher: haduh, that easy. It's only straight line. My dear student.)

This information is an outcome of the transition from Bahasa Indonesia to English, which involves intra sentential switching. "Haduh, gini gampang" genuinely incorporates tag switching in the form of an interjection. This suggests that the teacher was attempting to communicate to the students that the question they were working on was simple with the subsequent statement, "It's only a straight line." The teacher said, "Murid Miss Ini," which is Bahasa Indonesian for asking all the students to pay attention at that moment.

4.3 The Reasons of Using Code-Mixing and Code-Switching

Table 6. The Reasons of Using Code-Mixing and Code-Switching

No	Reasons of Code-Mixing	Cases	Percentage
1.	Talking about particular topic	3	21.43%
2.	Quoting	0	0
3.	Being emphatic	1	7,14%
4.	Interjection	1	0
5.	Repetition	0	0
6.	Intention for clarifying	5	35,71%

7.	Expressing group identity	0	0
8.	Instructing	0	0
9.	Lexical needed	5	35,71%
10.	New reasons	0	0
	Total	14	100%

Talking about particular topic

Student: Miss, can I go to toilet? I want *BAB*, Miss.

The student was requesting the teacher for permission to leave the classroom for a moment because he seemed to have defecation (*BAB* in Indonesian), which refers to a specific issue as the activity taken in the bathroom. Since that word was the first to come to the student's mind when speaking in Bahasa Indonesia, it's conceivable that he mixed up the terms.

Being emphatic

Teacher: *bagus loh*. Okay next. Four D plus sixteen plus two d, *loh*. Sorry. Four d plus sixteen plus two d plus fourteen equal one hundred eighty degree, Okay. So six d plus thirty equals one hundred eighty, isn't it? Isn't it, students?

The teacher continued the English conversation after the utterance above and afterwards moved to Bahasa Indonesia. The teacher seemed more at ease in this circumstance to communicate her intention to thank the student emphatically. From that statement, the exclamation "loh" in Bahasa Indonesia was also used in various conversational contexts. The interjection is intended to draw attention to the entire expression "four D plus sixteen plus two d."

Intention for clarifying

Teacher: number ten is easy. Without way *pun bisa kerjakan*.

The teacher actually used English in this speech, but she also integrated Indonesian language when she said, "Number ten is easy," to emphasize and support the claim. She also encouraged that the students agree with her perspective by saying, "without way *pun bisa kerjakan*."

Lexical needed

Teacher: I just check and there is no homework. I have told you to submitted it yesterday. So, later when you check your *nilai keterampilan* for *PKN*, and it is 65, don't be mad at me.

The example given above illustrated an utterance in English that was afterwards blended with Bahasa Indonesia by the teacher in the form of the phrase "nilai keterampilan" since that term was simpler to say in Indonesian than it was in English. Because "PKN" is the term for a school subject in Bahasa Indonesia, it had a similar case to "nilai keterampilan."

No	Reasons of Code-Switching	Cases	Percentage
1.	Talking about particular topic	1	1,64%
2.	Quoting	0	0
3.	Being emphatic	0	0
4.	Interjection	52	85,24%
5.	Repetition	2	3,28%
6.	Intention for clarifying	3	4,92%
7.	Expressing group identity	0	0

8.	Instructing	3	4,92%
9.	Lexical needed	0	0
10.	New reasons	0	0
	Total	61	100%

Talking about particular topic

Student: I forgot where is it.

Teacher: *mahasiswa melakukan unjuk rasa demo ke kantor gubernur, ke kantor DPRD, lapangan Merdeka.*

The teacher converted the conversation from English to Bahasa Indonesia since she was reading a news headlines within this language. When discussing the demonstration that was taking place in their immediate environment at the time, the teacher had a tendency to switch languages.

Interjection

Teacher: it's up to you. *Ehh...* I asked you to write, not screenshot.

The case of interjection above came in the form of "ehh..." that means the teacher warned the students to stop the action they were doing at that time. The teacher purposed the students to write instead of doing screen-shooting.

Repetition

Teacher: I told you, I cannot see the question, yet. *Ini baru bisa lihat.*

From the data above, it is included in repetition when the teacher restated the utterance in Bahasa Indonesia "ini baru bisa lihat" in which to repeat the sentence "I cannot see the question". In case, by the time of statement "ini baru bisa lihat", the teacher emphasized that the question was shown up on the screen.

Intention for clarifying

Teacher: yes, easy right. Ninety for a and sixty for b. later when exam, I am going to put this question. So memorize it. I don't want later you forget and then, *tau sendiri la.*

By the statement above, the teacher spoke in English language. She switched the utterance in Bahasa Indonesia to help the students understand about her speech. By using Indonesian language, the teacher hoped that the students might understand what she meant at that time. The teacher demanded the students to understand the question as result it will appear in their examination or else the students had to know the consequence.

Instructing

Student: miss, we need to do six?

Teacher: *yaa.* You do six and seven. Okay for fifteen minutes?

In this utterance, the teacher used the interjection to instruct the students to do the question. Comparing to the previous findings, this case is unusually happened. the interjection was used to give command and then followed with the detail instruction "you do six and seven. Okay, for fifteen minutes?"

In order to find out more about the reasons that drove the use of code-mixing and code-switching during the online sessions, the author conducted an interview with Miss Jessica, the Maths teacher. The teacher expressed the view that the frequency of code-mixing and code-switching was caused by the speakers' excessive identity as Indonesians. They only use

English language at school environment, in contrast they also use other language which is their mother tongue such as Bahasa Indonesia and Hokkien Language. Consequently, the socialisation and conventional language have a significant impact on how code-mixing and code-switching appear. Furthermore, Northern Green School encourages students to use English in the school's surroundings by employing English-language textbooks and other materials. Despite not being their first language, some students have been using English since kindergarten since they are habituated to it. Regardless of the fact that code-mixing and code-switching frequently occur during teaching and learning sessions, they had no impact on the students' comprehension. In addition, some students still require repeated exposure to the Indonesian language in order to comprehend the subject matter effectively. There are also some new students from a school where the majority of the students speak Indonesian, so it required some time to get them to adapt to the Maths lessons taught in English.

V. Conclusion

Overall, the results of language function in code-mixing and code-switching are showing the dominant language function applied is for interpersonal with 42 cases in 56,75%. Based on the data analysis, the data suited the definition of interpersonal function which was used the most to interact in the form of interjection. The least function of language found during the online interaction was personal function. The speaker less expressed their emotions and feelings by using code-mixing or code-switching. There is slightly gap between directive function and referential function. Directive function found during the online interaction in Junior High School teacher-students in NGS is 17,57% since it was used to express instruction and suggestion. Meanwhile, referential function was highly used more than directive function in almost 19% detected. Referential language function of code-mixing and code-switching in online class interaction of Junior High School teacher-students at NGS Medan referred to the definition, information and explanation about the material. In conclusion, the speaker in the classroom tended to interact by using interjection in Bahasa Indonesia even though in the interaction of English Language.

According to the research and discussions, insertion with 7 utterances in 50% of the contact is the form of code-mixing that is most frequently utilized. Conversely, the fact that congruent lexicalization only requires 3 utterances makes it less common than alternation, which requires 4 utterances. Tag switching appears to be the most common type of code-switching, accounting for 54 cases, followed by inter sentential (6 cases), and intra sentential (1 case). Moreover, it is possible for an utterance to have either two types of code-mixing or code-switching.

There are 9 reasons of using code-mixing and code-switching based from the theory and previous research findings. The writer discovered 4 reasons for code-mixing in the statements made by the teacher and students throughout the online class sessions. They are talking about particular topic (3 cases), being emphatic (1 case), intention for clarifying (5 cases) and lexical needed (5 cases). On the other hand, there are 8 reasons of using code-switching found from the interaction between teacher and students. Interjection was the ultimate reason for code-switching in 52 of the cases. There are also intention for clarifying and instructing in 3 cases each. 2 cases are happened by the repetition and only a case happened for talking about particular topic.

One of the nations with bilingual or even multilingual populations is Indonesia. As a consequence, the average Indonesian speaks two or perhaps more languages on a frequent time. Formally, they have a mother tongue or first language that consists of the national language, which is Indonesian, as well as other languages like English. This fact may cause problems in the teaching and learning process. However, many educators must use creativity

to transmit information from generation to generation, whether intentionally or unintentionally, especially when teaching subjects like math that are public knowledge. Therefore, it is obvious that adopting code-mixing and code-switching benefits both teachers and students in practical usage.

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