

**Bangla-English Code-switching Variation in Messenger Chats of Different
Aged Educators of an English Medium School in Dhaka: A Case Study**



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Date of Submission: Spring 2023

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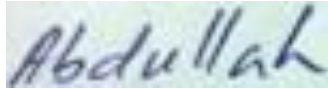
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CERTIFICATE OF APPROVAL

I hereby declare that this thesis is the student's own work and effort. All sources of information incorporated here have been duly acknowledged. This thesis has been submitted with my approval.

A handwritten signature in blue ink that reads "Abdullah". The signature is written in a cursive style and is positioned above a horizontal line.

(Dr. Abdullah Al Mahmud)

Designation: Associate Professor, Applied Linguistics

Department of English and Humanities

DECLARATION

This thesis is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions.



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Abstract

Worldwide many people switch codes/languages for various purposes. The advent of social media in the past few decades has led to a rise in this behavior among bilinguals and multilinguals both abroad and in Bangladesh. Previous studies conducted in Bangladesh only focused on the code-switching behavior of the youth. So, studies on the code-switching patterns of people of various ages are scarce in Bangladesh. Hence, this study aimed to explore the varieties of code-switching between Bangla and English in text messages among the different aged groups of teachers of an English medium school in Dhaka. In addition, the study also aimed to point out the contexts in which the matrix language (Bangla/English) occurs frequently. The study followed a qualitative research approach to get an in-depth understanding of their code-switching patterns. Nine female teachers were chosen conveniently, from Classes IV and V in an English medium school in Dhaka. The data for this study were text conversations between the participants and the researcher in Messenger, which were collected via screenshots. The conversation texts were analyzed manually in light of the Matrix Language Frame model (Myers-Scotton, 1993b [1997], 2002, as cited in Myers-Scotton, 2006) whenever intra-sentential code-switching occurred. The results revealed no sequential trend between the various types of code switches done by people of three different ages. However, younger participants did show more instances of code-switching than older ones. Moreover, all participants' intra-sentential code-switched texts showed the presence of Bangla as the matrix language regardless of the context of the conversation. In conclusion, the results of this study have provided insights into the varieties and number of instances of code-switching exhibited in the participants' texts. These results can lead the way to more investigation in later studies.

Keywords: code-switching, Bangla, English, Messenger chats, English medium school teachers, age groups

CHAPTER 1: INTRODUCTION

1.1. Background and Problem of the Study

Polly, a Black British woman, who can speak standard English and Patois, a variety of Jamaican Creole, acquired from her parents, once in one of her school days had her essay on “British West Indians”, criticized by one of her teachers due to the use of Patois, and her response was to curse at him in the Creole variety (Holmes, 2013, p. 38). Though the teacher did not understand the exact meaning, he looked scared and warned her that he would send her to the school principal but later did not. However, he did stop bothering her about the matter and Polly was pleased with the outcome (Holmes, 2013). Just as Polly switched her code to send a message to the teacher not to criticize her use of one language, similarly, people in different situations switch codes for multiple reasons. According to Holmes (2013), people across various cultures switch codes due to changes in their setting, such as the addition of a new person into the conversation; a change in the relationship due to the formality of the situation; a change in the topic of discussion which may lead to easier and efficient communication; express a different emotion, etc. Recent studies on code-switching in countries like Saudi Arabia revealed that participants used Arabic for discussing religious topics and switched codes between Arabic and English for discussing social topics on Twitter (Alsamhan & Almutrafi, 2022). The majority of the studies on the reasons for code-switching in Bangladesh have revealed that people especially the younger generation, switch codes subconsciously or habitually for ease of communication (Shanta, 2017; Neloy & Sarkar, 2019; Aorny et al., 2022) and have little to no idea regarding the concepts related to code-switching (Shanta, 2017; Aorny et al., 2022). Shanta (2017) also noted that the lack of a language policy has led to the younger generation’s negligence to use the Bangla script to

communicate in Bangla. Since it is a largely monolingual country, it is not surprising to see Bangladeshis using English only in scholarly and professional settings (Shanta, 2017). However, with the education policy in universities opting to provide an English medium education (Ministry of Education, 2010), and the introduction of social media, code-switching, and code-mixing have become very common among people in Bangladesh. In addition, according to Holmes (2013), age affects how people's word choice, grammar, and pronunciation change over time. As proven in Alfonzetti's (2015) study on different generations of Italians using both Italian and Sicilian dialects, found that inter-sentential switching of dialects was common among younger people and intra-sentential switching among older people. The problem, therefore, is the fact that very few Bangladeshis are aware of the different types of code-switching which have a possibility of varying due to age which was not investigated in detail by previous studies. Due to less scope of prior studies on the code-switching patterns of people of various ages, it needs to be seen whether it is only the younger generation who switch codes frequently more than their older generation counterparts or not. Consequently, this research aimed to explore the frequency of different types of code-switching as it varies with age and the contexts in which they occur. Hence, to provide a better understanding of the different types of code-switching and to exhibit how these code-switching patterns vary across age and in which contexts they occur, the Matrix Language Frame Model (Myers-Scotton, 1993b [1997], 2002, as cited in Myers-Scotton, 2006), Myers-Scotton's (2006) definitions on inter-sentential switching and intra-sentential switching, as well as Poplack's (1980) definition of tag switching was used. The research has attempted to clarify the understanding of the general people of Dhaka regarding the contexts of code-switching and its variation with age and provide other researchers a scope to conduct large-scale studies on the topic, for the benefit of the general population of Bangladesh.

1.2 Purpose of the Study and Research Questions

This qualitative study aimed to explore the varieties of code-switching between Bangla and English in text messages among the different aged groups of teachers of an English medium school in Dhaka. In addition, the study also aimed to point out the contexts in which the matrix language (Bangla/English) occurs frequently. At this stage in the research, code-switching can be defined as the use of two or more languages with one or multiple interlocutors and can occur at the sentence level, clausal level, or during another conversationist's turn (Myers-Scotton, 2006). Other terminologies used include inter-sentential code-switching which refers to the change from one code to another at the sentence level; intra-sentential switching which refers to the change from one code to another at the word level, within a sentence (Myers-Scotton, 2006) and tag switching which refers to the addition of a tag phrase (e.g. right, okay) often added at the end of sentences of another code (Poplack, 1980). Lastly, based on the Matrix Language Frame Model (Myers-Scotton, 1993b [1997], 2002, as cited in Myers-Scotton, 2006) matrix language can be defined as the language which forms the grammatical structure of the whole sentence, and it provides most of the grammatical items in a sentence. While embedded language is that language where some words from it are inserted into the matrix language. The following research questions arise in a context where online communication among Bangladeshi people has become prevalent:

1. What variations of code-switching can be found in the conversation texts of the participants? How do the different types of code-switching vary with age?
2. How does the frequency of code-switching differ among different aged participants?
3. How does the incidence of Bangla as the matrix language and English as the matrix language differ in different contexts with age?

CHAPTER 2: LITERATURE REVIEW

In Bangladesh, the National Education Policy has mandated that English should be the mode of instruction in higher education (Ministry of Education, 2010). Moreover, with the introduction of social media communication, a lot of people in Bangladesh use it to keep in touch with their loved ones and the world around them. Most people who are very active on social media use both Bangla and English (Tasnim, 2018). This tendency to code-switch is very common among bilingual and multilingual people. This section of the paper, therefore, constitutes the concept of code-switching, the matrix language frame model, the types of code-switching, research on code-switching on social media platforms in Bangladesh as well as abroad, and research on variation in code-switching along with age.

2.1 Code-switching

Code-switching occurs when people use two or more languages in one interaction. This can happen when two or more people are conversing with each other, among sentences of the same interlocutor's turn, and also inside a sentence (Myers-Scotton, 2006).

2.2 Matrix and Embedded Language

According to Myers-Scotton (2006) when people interact in two or more languages, the grammar of those languages is influenced in different ways, this situation is also known as “the language contact phenomena” (p. 234). The influence of languages in contact is varied and they can be divided into either of the two categories. One category is how the various linguistic elements of two or more languages interact with each other and the other category is how the linguistic element of one language affects the other. When one language provides most of the grammatical

items and structures of the majority of the grammar of a clause or a sentence, it is known as Matrix language. While the other language(s) which provide some linguistic elements in the clause or sentence is called Embedded language (Joshi, 1985, as cited in Myers-Scotton, 2006). Using the two types of language found in sentences, Myers-Scotton developed the Matrix Language Frame (MLF) Model (1993b [1997], 2002, as cited in Myers-Scotton, 2006). This model is based on two important premises: the first premise explains that the amount of influence that the Matrix Language has on the structure of a sentence is not the same as that of the Embedded language. The second premise explains the difference between content and system morphemes. The premise also elaborates that the matrix language or the embedded language cannot provide every variety of morphemes. Content morphemes are nouns, verbs, and at times discourse markers like therefore, so, etc., and they can come from both the matrix and the embedded language. System morphemes consist of affixes also called bound morphemes, and function words like determiners and clitics which are self-standing words. Adjectives and prepositions can alternate between acting as content morphemes or system morphemes. Some system morphemes must come from the Matrix Language. The two premises are in turn related to the two principles of this model, one being the Morpheme Order Principle, which states that during intra-sentential code-switching, where there is at least one word provided by the Embedded language and one or more words provided by the Matrix language, the linear word structure will be dictated by the rules of the Matrix language. While the other principle, System Order Principle, states that in the case of sentences containing both Matrix and Embedded language, all the system morphemes will be supplied by the Matrix language.

2.3 Types of code-switching

Myers-Scotton (2006) elaborates on the type of code-switching such as intra-sentential and inter-sentential code-switching. Another type of code-switching relevant to the study has also been elaborated. The MLF model can only be applied to intra-sentential code-switching (Myers-Scotton, 2006).

2.3.1 Inter-sentential code-switching

This type of code-switching occurs among sentences. It happens when complete sentences/independent clauses are formed by both languages (Myers-Scotton, 2006). For example, ‘It is alright...pore dekha hobe’ (the English language forms one part of the sentence and is a complete sentence, and ‘*pore dekha hobe* ‘I will see you later’ is a complete sentence in Bangla.

2.3.2 Intra-sentential code-switching

This type of code-switching occurs when words from either of the languages are inserted toward the end or beginning of a clause or a sentence. It may also happen at the level of words or midway through a sentence. The grammatical form of these types of sentences is dictated by either of the two languages, in which case, that language is called the Matrix Language (Myers-Scotton, 2006). For example, ‘ajk weather ta khub gloomy’ (today’s weather is quite gloomy).

2.3.3 Tag switching

Poplack (1980) explains tag switching as the insertion of tags or short phrases of one language in another language. She also elaborated that tag switching is the simplest form of code-switching as the tags or phrases can be used in any part of a sentence/utterance. And since they are

not bound by many sentence constraints they can maintain the grammatical rules of word or syntactic order. For example, ‘Amader ajk class nei, right?’ (We do not have any class today, right?)

2.4 Research on code-switching in online messaging platforms in Bangladesh

A qualitative study by Shanta (2017) explored the tendency to switch codes between Bangla and English in social media platforms in Bangladesh by analyzing social media posts, discussions among radio jockeys, and interviews broadcasted on television channels. The selected conversation exhibited code-switching by people of all walks of life especially the educated and the influential people of the society. The study speculated that the latter group of people are switching codes subconsciously and are not aware of the theories of code-switching and code-mixing. The study also pointed out that the majority of the youths use transliteration i.e. use of English scripts to write Bangla instead of using the same alphabet and language when they express their thoughts on social media platforms. The paper criticizes this linguistic behavior of the participants as their reluctance to use Bangla. In addition, this behavior is also due to the lack of a proper language policy in various sectors of the country. And this lacking is causing a haphazard code-switching scenario that hampers the advancement of the Bangla language.

A qualitative study was carried out by Tasnim (2018) on the types of code-switching most common among university students who frequent social networking sites. The study participants were all from the same age group of 19-24 years, among whom 5 were male participants and 5 were female. The author identified three varieties of code-switching based on Poplack’s (1980) categorization of three types of code-switching, which were prevalent in the participants’ social media statuses and their personal conversation messages. These included: intra-sentential, inter-

sentential, and tag-switching. It was also found that the frequency of intra-sentential code-switching was higher than other types.

A mixed method study by Neloy and Sarkar (2019) aimed to investigate 20 students and five teachers of a university in Dinajpur on their tendencies to switch codes between Bangla and English and also to find out the reasons why the young students use acrolect while they switch codes, both these phenomena were studied from the psychological point of view. The paper used Wei's (2000) code-switching categorization to find out that intra-sentential code-switching was most frequent among participants, it also used Holmes' (2001) reasons for code-switching to justify that one of the reasons why participants switched codes was due to meeting new people, especially when participants met the opposite gender. For most Bangladeshis, code-switching occurs habitually. Other psychological reasons for code-switching include the matter of prestige and respect, as using English is linked to more prestige among youngsters in Bangladesh and it is also seen as a sign of showing off their English-speaking skills. Lastly, the participants use acrolect while switching codes since English is a more prestigious variety.

Another mixed method study by Aorny et al., (2022) aimed to explore the scope and intentions of code-switching among Bangladeshi people on social media and the possibility of a new type of English emerging due to code-switching. Forty participants were interviewed and their Facebook posts and comments were also analyzed. The study revealed that the majority of social media users in Bangladesh switch codes frequently and do so for easy and efficient communication. Most of the participants agreed that they lack a theoretical understanding of code-switching and switch codes subconsciously. Lastly, the emergence of a new English is not occurring due to code-switching in social media, but rather due to the use of informal words, incorrect knowledge of grammatical usage, slang, and globalization.

2.5 Research on code-switching in verbal/written communication and social media platforms abroad

A mixed method study by Al-Qaysi and Al-Emran (2017) on ‘Code-switching Usage in Social Media: A Case Study from Oman’ focuses on the students’ and teachers’ code-switching tendencies in social messaging platforms in an Omani university. The findings revealed that female students and teachers code-switched more than their male counterparts and that among the teachers the highest percentage of participants who switched codes belonged to the 36-45 age group. Students mentioned that code-switching helps them to receive and provide information, news and discuss educational issues. Sometimes students also do it to flaunt their English language skills and also to bridge linguistic gaps when they cannot find an equivalent word in their mother tongue to express their feelings or emotions. As for teachers, most of them switched codes in day-to-day conversations mostly to connect with friends and to reminisce about their memories. In their professional context, it was seen that teachers who had teaching experience of 5 years or more switched codes more than those with less than 5 years of experience. This is because those with more years of experience came into contact with more people from a multitude of cultural and ethnic backgrounds.

Forker’s (2018) qualitative study on code-switching between Russian and Sanzhi (an indigenous language) assessed the validity of the Matrix Language Frame model by Myers-Scotton by analyzing 6,070 tokens of six male speakers who were born and educated in Sanzhi but settled down in the Russian village of Druzhba after serving in the Russian army. The participants were in their 50s to late 70s. The findings revealed that conjunctions were frequently code-switched among the participants and according to Myers-Scotton majority of these need to be content morphemes which the data also supported. In addition, suffixes or prefixes of the Embedded

Language (EL) are not added as inflection with the Matrix Language (ML). In the participants' speech where Sanzhi was the ML, the majority of the system morphemes came from Sanzhi, and Sanzhi word order was followed. Lastly, the most frequent code-switching was intra-sentential code-switching among which the majority of the speech patterns were found to follow the MLF model since the ML and EL were easily identifiable.

A quantitative study by Lynn and Scannell (2018) on the code-switching pattern in 1046 Irish tweets found that inter-sentential code-switching between the Irish and English languages was most common, followed by intra-sentential code-switching. The study also elaborates on the reason why people switched codes in the tweets. One reason was to be comprehensible to a larger group of people so that both Irish and non-Irish speakers can understand them. While the other was to convey ideas that cannot be expressed in one language.

Couto and Gullberg's (2019) quantitative study on code-switching among three language pairs (Spanish and English; Welsh and English and Papiamentu and English) compared the determiner and adjective order using the generativist approach (Cantone & MacSwan, 2009; Licerias, Fuertes, Perales, Pérez-Tattam & Spradlin, 2008) and the MLF model by Myers-Scotton (1993). The study was carried out by obtaining data from a publicly accessible database of 42 Welsh-English participants, 19 Spanish-English participants, and 25 Papiamentu-Dutch participants. The findings exhibited that the determiner was provided by a language (Papiamentu) that did not have gender features and in languages (English and Dutch) where the adjectives should be positioned before the noun according to the generativist approach, occurred after the noun. Whereas, the predictions made by the MLF model matched the data where the matrix languages like Welsh, Papiamentu, Spanish, and English supplied the determiners. Moreover, the code-switches were more frequent between determiners and adjective-noun groups and less between

adjectives and nouns, MLF model's prediction once again aligned with the data where it was found that code-switching between adjective and nouns found the adjectives were positioned according to the grammar rules of the matrix language. Hence, the MLF model better fulfilled the aims of the study than the generativist approach.

A quantitative study conducted by Ting and Yeo (2019) focused on identifying the types of languages used in Facebook posts and the purpose behind code-switching as done by 24 Malaysian university students. The study used Gumperz's (1982) model of conversational code-switching. The findings revealed that regardless of the learners' ethnic identity English or Malay was used by the majority of the students, though the use of English prevailed. It was also found that students switched codes to interact with each other and express their feelings. Hence, establishing a rapport was the main aim of switching codes not to share factual information. Interjections, or short phrases of exclamation were used by the students which showed a similarity between the written mode of communication and the in-person communication. Learners only discussed everyday topics while switching codes, no cultural topics were brought up during their interactions. According to the model used to analyze the posts some purposes of code-switching were negligent, such as rephrasing, specifying addressees, and referring to certain cultural topics. The study concluded that this could be because written communication in social media eliminates those purposes which would otherwise be present in in-person communication.

The qualitative study by Ali et al., (2021) on the code-switching tendencies between Pashto, Urdu, and English of fifty graduates from 5 universities in Pakistan evaluated the appropriacy of the Markedness Model (Myers-Scotton, 1995) through the lens of the Matrix Language Frame in analyzing text messages as opposed to oral communication and also used the model to exhibit the ineffective nature of the physical and geographical setting in text messages.

The study revealed that none of the languages can be categorized as ML since most of the code-switched chunks of texts occurred in one language and was of the intra-sentential type, hence all code-switched texts did not have to be supplied with functional morphemes from other languages. Moreover, the categorization of code-switching into various marked, unmarked choices according to the Markedness Model was ineffective, since the participants' texts were not impacted due to consistent interference from other participants or turn-taking which was noticeable in the oral communication. Thus, the physical and geographical setting had no impact on the text conversations of the participants, hence the Markedness model proved to be inadequate in explaining the code-switching between the three languages.

To explore the intentions of Saudi Twitter users regarding their language choices and whether two social variables namely gender and education as well as the topic of conversation are responsible for differing language choices, Alsamhan and Almutrafi (2022) carried out a mixed-method study on 126 participants. The authors made use of the Markedness Model by Myers-Scotton (1993), and Malik's (1994) ten causes of code-switching to analyze the participants' data. The results revealed that when participants could not find the proper expression in their mother tongue and when there was a lack of a specific word in context they would switch to English. Moreover, switching to Arabic was regarded as the unmarked or expected choice while switching to English was regarded as the marked or unexpected choice but in the case of some English elements which were used more commonly, those linguistic items were considered to be the unmarked choice. Lastly, monolingual tweets were posted by people with below college education, and code-switched tweets between Arabic and English were posted by people with high education. Females posted monolingual tweets more than males. Arabic-written tweets were more frequent

for religious topics, and English tweets were more frequent for educational topics and the most frequent code-switching was noticed in the discussion of social topics.

2.6 Research on age variation and code-switching

A qualitative study by Alfonzetti (2015) analyzed recorded speech as well as email, text, and posts on online communication platforms. To illustrate that the changes in code-switching between Italian and Sicilian dialects are due to several sociolinguistic factors which are linked to age. The study found that in migrant communities, the variety of code-switching differs across age groups where intra-sentential code-switching was more prominent among young people, and inter-sentential code-switching or congruent lexicalization was more prominent among older people. While it was the other way around in bilingual contexts. This pattern questioned the presumption that code-switching only varied in one way for each linguistic pair.

In addition, a statistical analysis of the code-switching patterns between Hindi and English and its correlation with age was conducted on the interviews of prominent Bollywood celebrities (Ellison & Si, 2021). The analysis revealed that there were variations in the preference for Hindi and English languages among the older group, but they did show a strong preference to use Hindi and uttered longer Hindi sentences, but younger speakers code-switched to English more and uttered shorter Hindi sentences. But the difference in the ratio of intra-sentential code-switched sentences to inter-sentential code-switched sentences in English in both groups' utterances was not very significant. Thus, the researchers assumed that the variation in the data is not due to age but due to differences among each individual.

Hence, the literature outlined above has revealed that there has been research on the code-switching patterns of people on social media platforms in Bangladesh. But the literature on the

variation of code-switching with age is scant in the context of Bangladesh. Hence, the purpose of this paper was to investigate the frequency and types of code-switching varying with age and context and fill this research gap.

CHAPTER 3: METHODOLOGY

The Matrix Language Frame (MLF) model (Myers-Scotton, 1993b [1997], 2002, as cited in Myers-Scotton, 2006) was used to distinguish the matrix and embedded language and identify the variation with age, Myers-Scotton's (2006) categorization of two types of code-switching and Poplack's (1980) definition of tag switching was used to figure out the types of code-switching to be found in the text messages of the teachers. Since the research aimed to study the variation of code-switching among different aged teachers and identify the contexts in which the Bangla/English matrix language occurs frequently, these theoretical frameworks helped conclude the linguistic behavior of the teachers.

3.1 Research Approach

The study followed a qualitative research approach as the research objectives aimed to get an extensive understanding (Creswell & Poth, 2018) of the issue of how code-switching varies with age. In this study, the type of code-switching is one variable that has been studied along with another variable, age. The research used a collective case study since it intended to analyze a realistic present-day phenomenon such as the code-switching behavior of more than one individual belonging to one site (Creswell & Poth, 2018). The researcher intentionally selected multiple cases (individuals) to show the variation of the issue (Creswell & Poth, 2018) of code-switching among the cases (individuals). The cases in this research were the individuals/participants of the study. The data collection involved multiple sources of information such as observation and audio-visual materials (Creswell & Poth, 2018), i.e., screenshots of Messenger chats between each participant and the researcher.

3.2 Setting and Participants

Nine teachers from Classes IV and V in an English medium school in Dhaka were chosen conveniently. All the teachers selected were female since age is the only demographic whose influence on the varieties of code-switching was studied. Therefore, convenience sampling, one type of non-probability sampling, was done. The participants were also easily contacted via social messaging platforms since they are the researcher's colleagues and are in constant contact with the researcher to discuss issues relating to their personal and professional life. Hence, due to the availability and convenience of the participants, this type of sampling was chosen (Creswell, 2012). In addition, the research aimed not to generalize the findings to a larger population but to study the participants in this small-scale research (Creswell, 2012).

3.3 Data collection method and Analysis

The data for this study was text conversations, in other words, text conversations in the social messaging platforms like Messenger or WhatsApp between the participants and the researcher. The conversations in the texts were naturally occurring conversations produced due to the interaction between the researcher and the participants. The researcher played the role of both an observer and a participant to initiate conversations. Data was collected via observation as it provided on-site information about the participants' authentic behavior instead of their opinions on their behavior (Creswell, 2012). In this case, the researcher investigated the participants' realistic code-switching behavior by examining their day-to-day conversations with the researcher. Through observation, the researcher selected the parts of the conversation for analysis and took screenshots. The screenshots served as audio-visual materials to be analyzed. The occurrences of code-switching were analyzed for each participant except the researcher and were categorized into

three types: intra-sentential, inter-sentential, and tag switching. The sentences were first written exactly as they appeared in the text messages, then in the subsequent line, the whole code-switched text was translated to English. A detailed description of the types of code-switching, the occurrences of code-switching, and the contexts in which they occur were provided chronologically starting with the data of the younger age group. The number of times each person switches codes was calculated. An Excel spreadsheet was used since it is an easily accessible software. The mean frequency of code-switching for each age group (i.e., 25-29, 30-34, 35-39) was then plotted against the age as a bar chart. The mean provided the average frequency of all the participants' code-switching behavior. Hence, it was convenient to present the data in a bar graph. The conversation texts were also analyzed manually in light of the Matrix Language Frame model whenever intra-sentential code-switching occurs. A description of the occurrence of Bangla as a matrix language and the contexts in which the teachers switched codes were provided, the same was done for the situations where English was found to be the matrix language. The findings were summarized. In addition, any pattern of the occurrence of the Bangla/English matrix language with age was also noted. Manual analysis of the textual data was done since the participant number was manageable to analyze the data word by word. The study maintained construct validity since the results were likely consistent with theoretical frameworks used in the study (Creswell, 2012) since the types of code-switching were identified and the matrix and embedded language were distinguished using the theories mentioned. The study also maintained validity and reliability by triangulating between multiple sources of data (Creswell, 2012) such as past research, participants' data, and theoretical frameworks. Past research and theoretical frameworks were used to support the analysis derived from the participants' data.

The participants' names and that of the English medium school were kept confidential throughout the research. Each participant was assigned a letter and a number, e.g., participant 1 was referred to as P1, and so on for the other participants. Their names were, therefore, kept anonymous to protect their identity and offer privacy. The data obtained was not shared with other participants. Before taking screenshots of the participants' text conversations their permission was sought. All the past research and relevant literature used for this research were referenced properly. Participants were informed before the beginning of data collection, that they may choose not to take part in the study at any point in time. The data collected was not altered in any way, to ensure the credibility of the information.

CHAPTER 4: DATA ANALYSIS

This chapter deals with the analysis of the data collected from screenshots of the Messenger chat conversations between the researcher and the participants. The data collected has been analyzed to answer the research questions which focus on figuring out any pattern in the code-switching tendencies of educators from three different age groups, the types of code-switching that occur in their conversations, the incidence of Bangla or English as a matrix language, the contexts in which they occur and their variation with age.

Qualitative Analysis

Nine participating teachers have each been assigned a letter and number from P1 to P9. While the researcher was assigned the letter R in all conversations. Five of the teachers teach in Class IV and the other four teach in Class V. They were selected based on their age and were divided into three age groups, i.e., 25-29, 30-34, and 35-39. Each group had three participants who were all teachers of the same English medium school in Dhaka. P1, P2, P4, P5, and P6 were students of English Medium School, the other participants studied in Bangla Medium School. P6 and P8 studied till A' levels, while P1 to P5 studied in private universities, and P7 and P9 studied in public universities. While selecting data of each participant it was ensured that exactly four turns of the participants' conversation will be analyzed for code-switching behavior, to prevent skewed analysis. The data analyzed accounted for the participants' part of the conversation since the researcher's role was to initiate a conversation. Every time the participants switched to English those words were highlighted in bold letters. Typing errors in the participants' texts have not been changed but the correct words have been provided in brackets. In the translation of some participants' texts words in square brackets were given for more context.

4.1. Analysis of three participants from the age group 25-29

4.1.1. Analysis of P1's conversation with the researcher

Setting: P1 is having a conversation with the researcher regarding their task of checking students' scripts in the school they both work at. The analysis of the following conversation between P1 and the researcher (R) is as follows:

P1: *Anika thikase?*

(Anika is it alright?)

*Ar to kichu likhte hobena **right**? **Sign** eshob? Naki **done**? **Top page** tar kotha boltesi.*

(There is nothing else to write right? Sign and the like? Or is it done? I am talking about the top page).

R: *Hae thikase shob.*

(Yes, everything is alright).

P1: *Eta te kono prb (**problem**) hobe?*

(Will this cause any problems?)

Ektu bhul hoisilo

(There was a small error)

R: *Tomar sign diye diso* that will be enough

(You have given your sign that will be enough)

P1: *Anika* sence **missing** *hole koto katbo?*

***sentence**

(Anika how much shall I deduct when a sentence happens to be missing?)

R: *Kototuko* missing like *purata?*

(How much is missing like the whole sentence?)

P1: **1 sentence e 8-10 words** fpr (**for**) **example**

(In one sentence [there are] 8-10 words for example)

Mane 1 line ar ki

(Meaning basically 1 line)

R: *Andaqj kore dhoru .75 kaat te paro*

(Deduct about 0.75 based on your guess)

In P1's texts after the first sentence, intra-sentential code-switching can be noted in all the other sentences, since code-switching occurs at the boundary of the texts. For example, the text 'Sign *eshob*' contains the content word 'sign' from English. While '*eshob*' roughly translates to 'and the like', this clause has a determiner (the), and 'like' here is acting as an adjective, all of which are system morphemes supplied by the Bangla language. Similarly, in P1's second dialogue, the only English word in the sentence is 'problem' which is a content word. Whereas the Bangla

morpheme ‘*te*’ is an inflection that roughly translates to ‘this’. In addition, ‘*kono*’ translates to ‘any’ which is a determiner and is supplied by the Bangla language. Tag-switching also occurs in the second sentence of her text, ‘*Ar to kichu likhte hobena* right?’ she inserts the English word ‘right’ at the end of her text and forms a tag question. In the next code-switched sentence, the nouns ‘*Anika*’ and ‘sentence’ and the verb ‘missing’ are content words supplied by the English language. Function words include the auxiliary verb ‘*hole*’ meaning ‘happens to be’ and the interrogative pronoun ‘*koto*’ meaning ‘how much’. Content word in Bangla is the main verb ‘*katbo*’ (deduct) which indicates the action of deducting marks from the students’ scripts. In the fourth code-switched text, the nouns ‘sentence’, and ‘words’ are the content words provided by English. The other content words that are in English include the numerals ‘1’ and ‘8-10’ which function as adjectives and indicate the number/quantity of sentences and words respectively. The only Bangla function word is the inflection ‘-e’ which can be translated to the preposition ‘in’ in English, it is, therefore, a system morpheme. Though there is only one Bangla morpheme it is a system morpheme while all other content words in the sentence come from English. Therefore, it can still be considered as following the Matrix Language Frame Model. The last code-switched text contains the adjective ‘1’ and the noun ‘line’ which are content words. There is also one function word ‘*ar ki*’ in Bangla which translates to ‘basically’, this adds to the context of the sentence and P1 uses it to emphasize her point. In all these sentences Bangla language forms the grammatical structure of the text, thus, it is the matrix language.

4.1.2 Analysis of P2’s Conversation with the Researcher

Setting: P2 is having a conversation with the researcher regarding the payment of fees at the university where they both study. The analysis of the following conversation between P2 and the researcher (R) is as follows:

P2: *Accha Anika tumar Urms eh taka show kore?*

(Hey Anika does your Urms show any amount of taka?)

I mean like koto pay kora laagbe and all

(I mean like how much do I need to pay and all).

R: Check *kori nai*

(I did not check)

Ektu dekhtesi

(Just checking it in a little while)

P2: Okay

R: 7,100 *tk dekhacche*

(It is showing 7,100tk)

Which is the correct amount

For me

P2: Oh *accha*

(Oh ok)

Amar ta kituchui dekhacche (na)

(Mine is not showing anything)

*Ami **January** er shuru te **pay** korsilam*

(I made the payment at the start of January)

Oitai ki sheta?

(Is that the one?)

*Amar **9300** tk chilo*

(I had 9300 tk outstanding)

R: *Tomar per credit koto?*

(How much do you pay per credit?)

P2: *Ami hocche **19300** dei in total. For 2 courses.*

(I give 19300 in total. For 2 courses).

R: *Tahole to thikase.*

(Then it is alright)

10k diso ar baki 9300

(You have paid 10k, and 9300 is left to be paid)

In P2's conversation, intra-sentential code-switching can be identified in the first two lines of the first dialogue, the third and fifth lines in the third dialogue, and the first sentence of the fourth dialogue. For example, the code-switched English words, 'Urms', and 'show' in the first

line of the first dialogue are noun and verb words which are content words supplied by the English language in the sentences. The system morphemes in the two sentences include, '*tumar*' which translates to 'your' and is a determiner, the bound morpheme '*eh*', which roughly translates to 'in the (Urms)', the adverb '*koto*' which translates to 'how much'. However, the Bangla language also provides the content words '*kora laagbe*' which roughly translates to 'need to do'. The term Urms is used to refer to the digital platform which securely stores all the financial and academic information of the university students where both P2 and the researcher study. Similarly, the content words in the second sentence include the noun 'I', verbs 'mean' and 'pay', and the adverbial phrase 'and all'. The word 'like' however is a function word and is therefore a system morpheme supplied by the English language. But despite this Bangla is the Matrix language since it supplies the system morphemes like the determiner and the bound morpheme whereas the English language provides the content words. Similarly in the third sentence of the third dialogue, the content morphemes include the noun, 'January' and the verb 'pay' supplied by the English language. While the system morphemes are, the bound morpheme '*-er*' which roughly translates to 'of' (preposition), and the inflection '*-te*' which translates to 'at the' which is a prepositional phrase as it details the time frame when the action of payment took place. The structures of all the sentences followed the subject-object-verb word order of the Bangla language as the verbs are towards the end of the sentence in the case of both sentences. Hence Bangla is the matrix language while English is the embedded language. There is only one instance of inter-sentential code-switching and that is in the fourth dialogue where the participant wrote, 'For 2 courses' using English words for the whole sentence.

4.1.3 Analysis of P3's Conversation with the Researcher

Setting: P3 and the researcher are discussing the latter's assignment topic and a conference to be held at their university. The analysis of their conversation is as follows:

P3: *Tmi ki koro?*

(What are you doing?)

R: assignment *er jonno* newspaper article *khujtesi*

(I am searching for newspaper articles for an assignment)

Ekta paisi

(I found one [article])

P3: **Thursday** *tmr kono kaj ase?*

(Do you have any work on Thursday?)

R: *arekta khujtesi*

(I am searching for another one [article])

P3: *Kiser* **topic** (replied to R's text of 'ekta paisi')

(What topic?)

R: *hae asee* (reply to P3's 2nd question)

(Yes, I do have [work on Thursday])

P3: **Thursday** ***uni** e (te) **ekta conference ase**

(There is a conference at the uni on Thursday)

Germany study korar

([On the topic of] studying in Germany)

Eka eka jete iccha korena

(I do not want to go alone)

R: *nijera* topic choose *kore okhan theke* specific keywords *ber kore* analyze *korte hobe* (reply to P3's question of 'Kiser topic')

(We were asked to choose our topic and based on that find specific keywords and analyze [write-ups])

Cyclone er upor kortesi

(I am doing my assignment on cyclones)

[*name of the university has been omitted to maintain confidentiality]

In P3's texts, intra-sentential code-switching can be identified. The first code-switched sentence contains the noun 'Thursday' and is the only content word provided by the English language. The possessive pronoun 'tomar' (your) in this context is acting as the pronoun 'tumi' (you) due to the text being a question. The word 'kono' is a quantifier meaning 'any' and the auxiliary verb 'ase' translates to 'have'. The possessive pronoun, quantifier, and auxiliary verb are all function words and are hence system morphemes, which are supplied by the Bangla language.

Moreover, the word order follows the word structure of the Bangla language, i.e., S-O-V order. The second code-switched sentence also has a noun ‘topic’ which is the only content word provided by the English language. While ‘*kisher*’ is an interrogative pronoun which roughly translates to ‘what’ and is a function word provided by the Bangla language. The third code-switched sentence contains three nouns ‘Thursday’, ‘uni’, and ‘conference’ which are the content words provided by the English language. The word ‘-e’ though is considered in Bangla as a postposition but in this sentence, the ‘-e’ roughly translates to ‘at’ and though it seems to come after the noun ‘uni’ but ‘uni’ is an English word and when translated together the word ‘at’ comes before the word ‘uni’ in English. Therefore, ‘-e’ is a preposition since it signifies the location of the conference. The auxiliary verb ‘*ase*’ which translates to ‘is’ is a function word along with the preposition ‘-e’ both of which are system morphemes supplied by the Bangla language. While ‘*ekta*’ is a content word supplied by the Bangla language since it gives important information on the number of conferences that will be held at the university, rather than just indicating the sequence or frequency of events. In addition, it also follows the S-O-V word order of the Bangla language with the verb ‘*ase*’ coming at the end of the sentence. The last code-switched sentence contains the noun ‘Germany’ and the verb ‘study’ which are content words coming from the English language. The Bangla verb, ‘*korar*’ in this context is used as a preposition, ‘to’ hence the phrase ‘Germany study *korar*’ roughly translates to ‘To study in Germany’. So the phrase implies that the conference will be providing details for those who want to study in Germany. Hence, ‘*korar*’ here is a function word since often in Bangla the ‘-er’ or ‘-ti’ is used with verbs to make them function as a noun. ‘*Korar*’ therefore, means the act of studying which is a noun and it provides context instead of carrying the main meaning of the sentence. Since the sentence ends with the verb acting as a noun, it can be identified as following the word order of the Bangla

language. Moreover, the Bangla language provided the function word, i.e., system morpheme, while the English language provided the content words. Therefore, in this sentence, Bangla is the matrix language and English is the embedded language.

4.2. Analysis of three participants from the age group 30-34

4.2.1 Analysis of P4's Conversation with the Researcher

Setting: P4 is having a conversation with the researcher about the situation of flights during her move to Australia after her marriage. The analysis of the following conversation between P4 and the researcher (R) is as follows:

P4: *Jano **airport** e je din ashi koekta **flights canceled** hoise*

(Do you know the day I arrived at the airport some flights got canceled?)

***I was waiting** amarta o kokhon jani kortese*

(I was waiting when they might cancel mine as well)

*Tai shobai boltesilo **lucky** je ei shomai (shomoy) o aste parsi.*

(That is why everyone was telling (me) that I was lucky that I was to be able to arrive even at this time).

*Amar ta **cancel** hole abar kobe je **flight** petam.*

(If my one got canceled, who knows when I would have gotten the flight again).

R: *Allah r kache shukriya j hoye gese apnar ta.*

(All thanks to Allah that things worked out for you).

P4: *Shob* **business**

(Everything is business)

Akhon ei shomai (shomoy)

(Right now during this time)

R: *Hae miss ekbar cancel hole to onek pera*

(Yes miss it is a lot of hassle if it is canceled once)

P4: *Setai*

(That is right)

Abar **flight** *pete somossa hoi (hoy)...*

(It is difficult to book a flight again)

Masters *kemon lagtese?*

(How are you finding your Masters [degree]?)

R: *Pera lagtese XD*

(It feels like a hassle)

Iccha korena keno jani porte

([I] don't know why but I don't feel like studying)

4ta course er bodole 2ta course nisi. Ektu bujhar jonno course load ta kemon

(I have taken 2 courses instead of 4 courses. To understand how is the course load)

Next semester *theke beshi kore nibo* In Sha Allah

(Will take more [courses] from next semester In Sha Allah)

P4: *Vhalo (Bhalo) toh*

(That is good)

In P4's texts intra-sentential code-switching occurs as the English words, 'airport', 'flights canceled', 'I was waiting', 'lucky', 'cancel', and 'flight' are inserted in the first and subsequent sentences, where Bangla words form the grammatical structure of the sentences. For example, in the first sentence of her text which roughly translates to 'Do you know the day I arrived at the **airport** some **flights** got **canceled**?' here the Bangla language provides the inflection '-e' which translates to the prepositional phrase 'at the', and quantifier ('*koekta*')-all of which are system morphemes. The English language only provides the content words such as the nouns 'airport' and 'flight' and the verb 'canceled'. Moreover, when the verb '*hoise*' was written at the end of the sentence, the sentence can be said to follow the subject-object-verb (S-V-O) order of the Bangla language. The third dialogue '*Tai shobai boltesilo **lucky** je ei shomai o aste parsi*' contains the content word 'lucky' which is an adjective and it comes from the English Language. The Bangla language provides the demonstrative '*ei*' which roughly translates to 'this', and the bound morpheme '*o*' which roughly translates to 'even'. Some content words like '*shobai*' (everyone-noun), '*boltesilo*' (was saying-verb), '*je*' (that-conjunction), '*shomai*' (time-noun), '*aste parsi*' (was able to come-verb) were supplied by the Bangla language. The sentence structure

of the second clause '*lucky je ei shomai o aste parsi*' follows the S-O-V order of the Bangla language. The fourth dialogue '*Amar ta **cancel** hole abar kobe je **flight** petam*' contains the content words 'cancel' (verb) and 'flight' (noun) provided by the English language. Whereas the Bangla language provides the system morphemes, like '*-ta*' which is a possessive determiner indicating 'my (thing or object)' as it translates to 'that' or 'it'. In this sentence not only does the Bangla language provide the system morphemes but it is also providing most of the content words like, '*hole*' (gets) which is a verb, '*abar*' (again), and '*kobe*' (when) which are adverbs and '*petam*' (gotten) which is a verb. For the fifth sentence '*Shob **business***' the only English word is 'business' which is a content word as it is a noun. Similarly, the word '*shob*' which translates to 'everything' is also a content word as it has been identified as a noun. Although the sentence in Bangla does not seem to use any verbs it still carries meaning, because there is an implied verb, i.e., '*holo*' ('is'). The verb has been omitted by the participant since the researcher and the participant are in an informal setting and it is clear from the context that P4 meant to say that delaying flights during Covid-19 is a part of business. In this case, the sentence roughly translates to 'Everything is business' and it therefore also follows the structure of the Bangla language which often can have subject-verb-object, like the English language. Hence, Bangla is the matrix language and English is the embedded language in all the sentences. There is only one instance of inter-sentential code-switching when P4 wrote, '***I was waiting** amarta o kokhon jani kortese,*' here the first independent clause is in English while the second one is in the Bangla language. In the sixth code-switched text, the noun 'flight' is the only content word provided by the English language. While the adverb 'abar' meaning 'again' which indicates a repetition of the action/event and the auxiliary verb 'hoi' (hoy) which translates to 'to happen' or 'to occur' and signifies that the subject ('*somossa* [*shomossha*']) occurs at a particular moment, so these are function words. Content words in Bangla

include the verb ‘*pete*’ which means ‘to get’ but in this context, it refers to the verb ‘to book’ since P4 is talking about a flight. Another content word is the noun ‘*somossa(shomossha)*’ which means ‘trouble’ or ‘difficult’. The function words, i.e., the system morphemes are provided by the Bangla language, and the text also follows the word order of the Bangla language with the verb ‘*hoi(hoy)*’ appearing at the end of the sentence. The last code-switched text contains the noun ‘Masters’ which is the only content word in English. While ‘*kemon*’ an interrogative pronoun that translates to ‘how’ is a function word and therefore a system morpheme. Lastly, the word ‘*lagtese*’ means ‘to be felt’ or ‘to be needed’ in this context however, P4 uses it to inquire about the progress of the researcher’s Masters’ degree, and since it carries the main meaning of the sentence so it is a content word. This sentence also ends with a verb in Bangla hence it also follows the word order of the Bangla language. Therefore, in all the above sentences where intra-sentential code-switching occurred, Bangla is the matrix language while English is the embedded language.

4.2.2 Analysis of P5’s Conversation with the Researcher

Setting: P5 is having a conversation with the researcher regarding her illness and how it has affected her. The analysis of her conversation is as follows:

R: Ma’am *er shathe kotha bolte parsila?*

(Were you able to talk with ma’am?)

P5: *Naa....kalke bolbo....ajke shorir khub kharap hoye gese...*

(No...I will talk with her tomorrow.... today I am feeling very unwell)

Kalke school a (e) jete parbo kina k jane

(Who knows if I will be able to go to school tomorrow)

R: Leave *nio*

(Take leave [from your school])

Kotha bollei to kaashi ashbe

(If you even talk a little you will cough)

P5: *Haa Ai (ei) karone call o dae (dei) nai...*

(Yes, this is why I did not even give a call)

Kotha bollae kashi hoche

(If I talk a little I cough)

R: *Ekdin* leave *nio*

(Take leave for a day)

Shurute rest nile

(If you take rest at the start of your cold)

P5: *Kashte kashte hola (gola) betha kortese*

(My throat is aching due to frequent coughing)

R: *Onek khani* heal *hoy*

(You heal quickly)

P5: *Mona(mone) hoche mukh dia **bleeding** hobe*

(It feels as if I will start bleeding from my mouth)

R: But *beshi* serious *hoye gele pore aro leave neoa lagte pare*

(But if your cold becomes more serious you might need to take leave for more days)

Amar jemon thandar shurute leave nisilam

(Like I took leave at the start of my cold)

Intra-sentential code-switching occurs throughout all of P5's texts. In the first text where P5 switches codes, the sentence '*Kalke school a (e) jete parbo kina k jane*' contains one content word supplied by the English language while all the other content words as well as system morphemes are provided by the Bangla language. The inflection '*a*' after the word 'school' roughly translates to the preposition 'to' and the phrase 'school a' means that P5 is talking about going 'to school'. The '*-a*' here is a preposition and is a function word. The word 'tomorrow' signifies a time and therefore serves a grammatical function in the sentence, similarly, '*k jane*' (who knows) and '*kina*' (if) imply a question and are therefore function words. Hence, the function words are system morphemes provided by the Bangla language. In the second text where P5 switched codes, '*Haa ai (ei) karone call o dae (dei) nai*' the verb 'call' is the only content word supplied by the English language. Whereas, the '*-e*' with the word '*karone*' and the '*-o*' with the word '*call o*' are clitics as they are pronounced with the words that precede them. The word '*ei*' (this) is a determiner, while, '*nai*' is a function word that helps add a negative connotation to the text. The clitics and the determiner are function words and are hence system morphemes that come from Bangla. In the third code-switched text of P5, the verb 'bleeding' is the only content word

provided by the English language. Function words i.e., system morphemes, include the word, ‘*mone*’ which has been used as an adverb ‘feels like’, and the auxiliary verb, ‘*hobe*’ which means ‘will happen’ indicating future tense. This sentence also ends with a verb in Bangla hence, it also follows the word order of the Bangla language. Therefore, in all the above sentences where intra-sentential code-switching occurred, Bangla is the matrix language while English is the embedded language.

4.2.3 Analysis of P6’s Conversation with the Researcher

Setting: P6 is having a conversation with the researcher on how to mark their students’ exam scripts. The analysis for the conversation is as follows:

P6: **Miss season** *er name ulta lekhse*

(Miss, [the student] wrote the season’s name in reverse)

Kotto katbo?

(How much should I cut?)

R: Spelling mistake *er jonno katen miss*. Total *e 3ta* mistake *to otar jonno 0.75 katen*.

(Cut marks for the spelling mistake, miss. Since there are a total of 3 mistakes so for that you can cut 0.75)

P6: Okay

R: Miss *ei* question *er* total mark *koto jeno?*

(Miss, how much mark is allocated for this question?)

P6: 3

(In) Total

R: *Tahole 2.25 den*

(In that case, you can give 2.25 [marks])

P6: **Miss** *ame (ami) hath (haat) e mark rekhe kattase (ketechi)*

(Miss, I have not withheld any mark [in my grading of the students' scripts] and penalized accordingly.)

R: Ok miss

P6 switched codes in four instances and all of those were intra-sentential code-switching. The first code-switched sentence has the content words 'Miss', 'season', and 'name' all of which are nouns and are provided by the English language. The word 'Miss' is being used to refer to a teacher in a school. The word '-er' is a possessive marker which signifies something belonging to the season as seen when the phrase 'season er name' is translated to 'season's name' and is, therefore, a system morpheme. The word '*ulta*' is an adjective that modifies the noun 'name', it can be translated as 'in the reverse order'. Since it carries an important meaning in the sentence, it is a content word. Likewise, '*lekhse*' is also a content word since it is the only verb in the sentence and carries the meaning of the sentence which means that a student has 'written'. The sentence follows the S-O-V word order of the Bangla language with the verb '*lekhse*' appearing at the end of the sentence. The second code-switched sentence has the nouns 'Miss' and 'mark' which are content words and are in English. The auxiliary verb 'rekhe' which roughly translates to 'have

withheld’ is, therefore, a function word and is a system morpheme that comes from the Bangla language in the text. The pronoun ‘*ame (ami)*’ meaning ‘I’, is a content word since it is the main subject of the sentence. In this context, the phrase ‘*hath e mark rekhe kattase (ketechi)*’ means ‘have not withheld any mark [in my grading of the students’ scripts] and penalized accordingly’ in other words the teacher was lenient in her grading of the student’s papers. The main verb ‘*kattase (ketechi)*’ means ‘penalized/deducted’ it is a content word since it carries the main action of grading the papers. Most of the content words come from the English language while the system morphemes are provided by the Bangla language. Like her previous code-switched sentences, the sentence also follows the S-O-V word order of the Bangla language. Moreover, the majority of the content words are provided by the English language whereas the Bangla language provides the system morphemes which are mostly function words. Therefore, in all the above code-switched sentences Bangla is the matrix language and English is the embedded language.

4.3. Analysis of three participants from the age group 35-39

4.3.1 Analysis of P7’s Conversation with the Researcher

Setting: P7 is having a conversation with the researcher regarding the possible side effects of the Covid-19 vaccine which she has given and is assuring the researcher that everything will be fine. The analysis for the conversation is as follows:

R: Miss, vaccine *er* 3rd dose *er* text *peyechen*?

(Miss, did you get the text of the 3rd dose of the vaccine?)

P7: *Peyechi*

(I got it)

R: *Amak ajk dilo. Kalk jete hobe.*

(I received it today. I will have to go tomorrow.)

P7: *Ami die (diye) asechi (eshechi)*

(I already gave it)

R: *Ki obostha miss apnar? Jor ba shorir betha ase?*

(How are you feeling, miss? Do you have any fever or aches anywhere in the body?)

P7: *Amar **sister** o pelo...Kal k jabe*

(My sister also received it [text message for 3rd vaccine dose]...she will go tomorrow)

*Na....ektu betha chilo....**napa** kheyeye nisi....kono osubidha hoy nai*

(No....I only had a little pain [in my hand]....(I) took napa....(I) did not have any complications)

It's okay....kono problem nai

(It's okay....there is no problem)

R: *Napa ki vaccine deoar por kheyeye nisen?*

(Did you take Napa after being vaccinated?)

P7: **Hmm.. Raate khaisi**

(Yes...I have taken the medication at night)

R: Oh *accha* ok miss. *Bujhte parsi*.

(Oh got it ok miss. I understood.)

In P7's conversation with the researcher, the first code-switched text contains the noun 'sister' which is the only content word provided by the English language. The function words include the bound morpheme '-o' being used as an adverb used to mean 'also' and the adverb '*kalk*' which translates to 'tomorrow'. The pronoun '*amar*' meaning 'my' and the auxiliary verb '*jabe*' (will go) are content words since the former is the main subject and the latter is the main verb of the sentence. Here, P7 has replied to the researcher's first question by giving additional information about her sister also receiving the text message for the 3rd dose and will be going tomorrow to get the shot. In the second code-switched text, 'Napa' the name of a paracetamol medicine is the only content word in English, while function words from the Bangla language include, the negative markers '*na*' (no) and '*nai*' (do not have), the auxiliary verb, '*chilo*' which in this context means 'had', the auxiliary verb '*nisi*' which means 'had taken', the auxiliary verb '*hoy*' which in this context means 'was' and the negative quantifier, '*kono*' meaning 'any'. Lastly, the function word '*ektu*' meaning 'a little' signifies the extent of the pain that P5 had due to the vaccine and so it is an adverb of degree. Using the negative marker '*na*' at the start of the sentence, P7 replied that she had no major aches in her body due to the vaccine. The negative marker '*nai*' (did not have) at the end of the last part of the text provided a negative connotation to the word '*kono*' (any) where P7 ensured that she did not have any complications after she got the vaccine. The verb '*kheye*' is a content word since it carries the main meaning of taking the medicine. The next sentence, 'Hmm...*Raate khaisi*' the only English word is 'Hmm' which in this context means 'Yes', it is an interjection where P7 affirms the researcher's doubts about taking the medicine after being vaccinated. It is a function word. More function words from the Bangla language include

the postposition ‘-e’ which means ‘at’ (preposition) since it comes after the noun ‘*raat*’ (night) signifying the time it is opposite to a preposition where prepositions come before nouns or pronouns. The auxiliary verb ‘*khaisi*’ means ‘have taken’ and it is a content word since it is the main verb of the sentence. In all the above sentences, the sentence structure followed the S-O-V word order of the Bangla language where the verbs were placed at the end of the sentences, such as, ‘*pelo*’ and ‘*chilo*’ at the end of the first text; ‘*chilo*’ ‘*kheye nisi*’ and ‘*hoy nai*’ at the end of the second text; ‘*khaisi*’ at the end of the third text. Moreover, most of the content words were supplied by the English language while most of the system morphemes were provided by the Bangla language, hence Bangla is the matrix language and English is the embedded language in P7’s texts. There is only one instance of inter-sentential code-switching and that is in the third dialogue where the participants’ text contained one independent clause ‘It’s okay’ in English and another clause ‘problem nai’ in Bangla. This code-switching occurs at the sentence level.

4.3.2 Analysis of P8’s Conversation with the Researcher

Setting: P8 is having a conversation with the researcher regarding her new hobby of reading books, mostly Bangla and English detective, thriller books.

R: *Apnar ki khobor miss?*

(How are you, miss?)

P8: *Alhamdulillah valo (bhalo) aachi*

(Praise be to the Lord/ Thank God, I am well)

Ekhon shudhu books pori Bangla and English

(Now I only read Bangla and English books)

R: *Hae miss story te majhe majhe den j dekhi*

(Yes miss, I see them in your story [in Messenger] sometimes)

Apnar boi collection gular naam likhe rakhsi free hole amio kine porbo bhabtesi

(I have written the names of the books when I will be free I will also buy and read them)

Jegula story diton arki

(The ones that you give in your story)

P8: *Alhamdulillah* (replied to the 2nd text of R)

(Praise be to the Lord)

*Ar (Aro) nitin (notun) kichu **Bangla detective***

([Here are] some more new Bangla detective [books])

Start *korlam*

([That] I have started to read)

R: Ohh thank you miss *chobi deoar jonno*. More books to read.

(Ohh thank you for providing the images, miss. More books to read.)

P8: *Eto valo j uthtei eiccha kore na*

(They are so good that I do not feel like leaving them)

R: *Amar Bangla ta chorchha kora lagbe*

(I need to start practicing my Bangla)

Ei boi gula porlei enough hobe mone hocche

(I think reading these books will be enough)

P8: *Ami age **Bangla** kokhono pora no (nai) so bolte gele 1st time*

(I did not ever read Bangla [books] before so basically it is my 1st time)

In the first code-switched text of P8, the noun word ‘books’ and the words ‘Bangla and English’ which have been used as an adjective that modifies the noun ‘books’ are the content words supplied by the English language. While, ‘*ekhon*’ (now), an adverb signifying the time, and ‘*shudhu*’ (only) an adverb that modifies the verb ‘*pora*’ (read) are function words. Since one adverb provides the context about the time and the other about the type of books P8 reads, they are function words. The next two subsequent code-switched texts are fragmented, hence some of the meaning has to be implied from the previous few texts to better get a context. The texts ‘*Ar (Aro) nitin (notun) kichu Bangla detective/ (pora) Start korlam*’, contain the content words, ‘Bangla detective’ an adjective used as a noun to indicate the type of book, and the verb ‘start’ are supplied by the English language. In the first text, ‘*aro*’ (more) is an adverb modifying the adjective ‘*notun*’ (new), ‘*notun*’ is an adjective modifying the noun ‘Bangla detective’, and ‘*kichu*’ is an adverb meaning an unspecified quantity of books- are all function words as they provide context to the sentence by indicating there are more books that P6 has started to read. In the next text, the auxiliary verb ‘*korlam*’ roughly translates to ‘has [started] to [read]’ since ‘*pora*’ (read) is implied in the context. ‘*Korlam*’ helps clarify the context more by indicating the action of reading as

something that has just started in the present time. The last code-switched sentence contains the noun, ‘Bangla’ and the conjunction ‘so’ which connects the first part of the sentence ‘*ami age Bangla kokhono pora no (ni)*’ and ‘*bolte gele 1st time*’ hence they are content words supplied by the English language. In addition, the noun ‘1st time’ being used as an adverb is a function word since it signifies the number of times P8 has read Bangla books. While the adverb ‘*age*’ (before) indicates the time of reading Bangla books, the adverb ‘*kokhono*’ (ever) also signifies time, and lastly, the negative marker ‘*ni*’ (have not) which was written along with the verb ‘*pori*’ (read) gives context that P8 has not ever read Bangla story books before. Therefore, these words are function words and are system morphemes supplied by the Bangla language. But the pronoun ‘*ami*’ (I), is a content word since it is the main subject of the sentence. For the majority of the code-switched texts the verbs come towards the end or almost the end of the text for example, in the first text the verb ‘*pori*’ came after ‘books’, and in the second text ‘start *korlam*’ comes after the noun ‘Bangla detective’ and in the third text ‘*pori ni*’ comes after the noun ‘Bangla’, hence they follow the S-O-V order of Bangla language. And in all the texts, the English language provided most of the content words, while the majority of the system morphemes were provided by the Bangla language. Hence, Bangla is a matrix language and English is an embedded language in all the code-switched texts of P8.

4.3.3 Analysis of P9’s Conversation with the Researcher

Setting: P9 is discussing with the researcher regarding which page to start the explanation from, in the online class. Since both of them take the same subject in the school. Their task was to collaborate and complete explaining the chapters. The analysis of the conversation is as follows:

P9: Ok then I have class on Sunday, shall I start (pg-) 15

R: Miss you can continue from the fourth paragraph of Page-14

The fourth paragraph *ta baki miss porano*

(The fourth paragraph is left to be taught)

Then *apni apnar plan onujai* page-15 start *korte paren*.

(Then you can start from page-15 as per your plan)

Jehetu amader syllabus same

(Since our syllabus is the same)

Tai ekjon jekhane shesh korbe arekjon okhan theke start korbe eibhabe jabo na miss?

(So one of us will start from where the other stopped [their lesson], isn't this how we were supposed to do it, miss?)

P9: *Ha miss...but akta page full complete korle valo hoi, coz ('cause) ami jodi last para start kori then ultimately beginning theke revision dite hobe*

(Yes miss...but it is better to complete one page fully, because if I start the last para then ultimately [I] have to give revision from the beginning)

R: time shortage *er karone shesh korte pari ni* miss

(I could not complete it due to the shortage of time, miss)

P9: Yes miss, same here

Hoi na..ashole

(It cannot be done...actually)

R: *ar students der question er answer korte giyeo kichu time chole jae*

(And some time also goes by answering the students' questions)

P9: Ji miss

(Yes miss)

*Ar miss ami **powerpoint presentation** diye kori. I mean **obs** (a software) diye kori. Tai ami **page wise *ready** kori*

(And miss I do it [explain] with a powerpoint presentation. I mean I do it with obs. So I prepare it page wise)

R: *accha bujhte parsi miss*

(Alright, I understood miss)

P9: Miss **14 pg** e apnar koita **para** baki ache?

(Miss, how many paras do you have left on page 14?)

R: miss *shudhu* last *ekta* para baki chilo.

(Miss only the last para was left)

*[‘ready kori’ could not be translated word for word hence ‘prepare’ has been used to make better sense of the text].

In P9’s text, all the instances of code-switching can be categorized as intra-sentential code-switching. In the first code-switched text, ‘but’ is a conjunction creating a contrast between what the researcher said and what P9 is about to say regarding the explanation of the chapter they are teaching. The noun ‘page’, the adverb ‘full’, the verb ‘complete’, the noun ‘last para’, the verb, ‘start’, the noun, ‘beginning’ and the verb, ‘revision’ are all content words along with ‘but’ which P9 wrote in English. While in Bangla, ‘*Ha*’ (Yes) is a function word because it shows P9’s agreement with the researcher’s earlier statement. Similarly, the verb ‘*korle bhalo hoi (hoy)*’ is a function word since, ‘*hoy*’ is an auxiliary verb meaning ‘is’. While the verb ‘*korle*’ is an infinitive marker meaning ‘to do’ hence the phrase ‘*korle bhalo hoi (hoy)*’ translates to ‘it is better to [do]’. This gives more context to the sentence and emphasizes P9’s opinion that it is better to complete [explaining] one page fully. The conjunction ‘*jodi*’ (if) connects the two clauses ‘*jodi last para start kori*’ with the main clause, ‘*ami...then ultimately beginning theke revision dite hobe*’. The verb ‘*kori*’ meaning ‘do [an action]’ is used after the main verb ‘start’ to provide a complete structure to the sentence. Since the sentence follows the word order of the Bangla language, without ‘*kori*’ the sentence would make little sense in Bangla, hence it is a function word. Similarly, the preposition, ‘*theke*’ (from), and the verb ‘*dite hobe*’ meaning ‘have to give’ are function words as the latter word helps make complete sense of the sentence when it comes after the verb ‘revision’. But, the pronoun ‘*ami*’ (I) is a content word since it is the main subject of the sentence. The conjunction, ‘*coz/’cause*’ is a shortened form of ‘because’. The adverb ‘then’ signifies the sequence of action that P9 would have to take to explain the chapter if she started from the last paragraph of a page. While the adverb ‘ultimately’ adds context to the sentence where

P9 emphasizes that she would have to go back to explaining the start of a page. The conjunction and the adverbs are all function words provided by the English language. There were several clauses joined together in the above text and each of them concluded with a verb, such as ‘complete *korle valo (bhalo) hoi (hoy)*’, ‘start *kori*’, ‘revision *dite hobe*’ as such it followed the sentence structure of the Bangla language. The second time P9 switched codes, she broke up her text into smaller sentences. And the first part of it contains the nouns ‘miss’, and ‘power point presentation’ which are content words in English. The second part contains the pronoun, ‘I’, the verb ‘mean’, and the noun ‘obs’ which is a name of a digital software to record video and audio for teaching students used in the researcher and the participants’ school. All of these are content words since they carry the main meaning of the sentence where P9 is rephrasing her words more simply. The word ‘*kori*’ (do [an action]) is a content word however because it carries the meaning of the action of P9 having to use the obs software to make her presentations. While ‘*diye*’ means ‘with’ in English and is a preposition. In the context of the text, the word clarifies with what (software) P9 explains to the students, hence, it is a function word. The second text also follows the sentence structure of the Bangla language as seen when the sentence ends with the verb ‘*kori*’. The third part of the text contains, the verb ‘ready’ which is a content word as it explains the main act of preparing lectures for the students. It is the only content word that comes from English. In this sentence, the verb ‘*kori*’ is a function word since there is already a main verb ‘ready’, and ‘*kori*’ provides completes the structure of the sentence. It also adds more context to mean the action of preparing the power point slides. The word ‘*tai*’ is also a function word since it indicates the connection of the previous action of preparing presentations using obs software with the way P9 prepares her presentations page by page. These are, therefore, system morphemes. One function word which is supplied by the English language is the adverbial phrase ‘page wise’ it adds to the

context of the sentence on how P9 prepares her slides. The Bangla word ‘*ami*’ (I) is a content word in the sentence. Since it is the main subject of the sentence and carries important meaning. The majority of the function words which are system morphemes come from the Bangla language in this sentence. While content words were provided in equal proportions by both Bangla and English languages. The entire sentence, however, follows the word order of the Bangla language. The last code-switched sentence contains the nouns ‘miss’, ‘page’, and ‘para (paragraph)’ which are content words in the English language. While the Bangla inflection ‘-e’ in this context refers to the preposition ‘on’ which indicates the location of the previous lesson and it is a system morpheme. Similarly, the possessive pronoun ‘*apnar*’ (your) referring to the pronoun ‘you’, the interrogative pronoun ‘*koita (koyta)*’ meaning ‘how many’ are both function words. The last function word is the verb, ‘*ache*’ which adds to the context of ‘*baki*’ and refers to the number of paras that are left to be explained. In this sentence the function words, inflections i.e., the system morphemes were provided by the Bangla language and the content words came from the English language. Like the previous code-switched texts this sentence also followed the sentence structure of the Bangla language. Hence, in all of P9’s code-switched texts, Bangla is the matrix language while English is the embedded language.

4.4 Variation of code-switching among the different aged participants

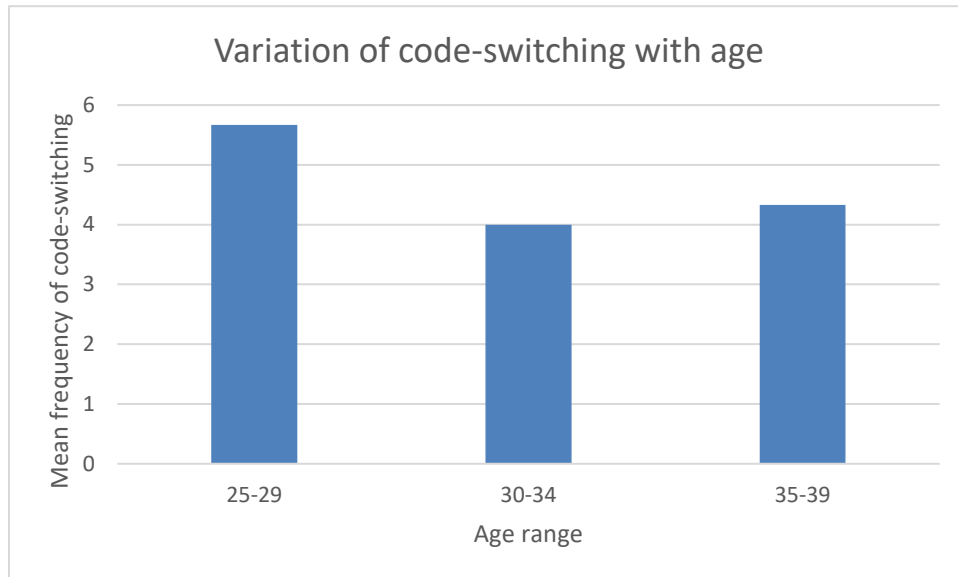
From participant 1 to participant 9 intra-sentential code-switching was the common form of code-switching found in their texts. However, in P1’s text tag switching was also identified and P2’s text exhibited inter-sentential code-switching. Lastly, P7’s text also exhibited inter-sentential code-switching. Thus, the age group 25-29 consisting of P1, P2, and P3 showed more variation in the different types of code-switching. Contrarily, in the next age group 30-34, all of the participants’ (P4-P6) texts have only one type of code-switching (intra-sentential). And the last

age group, 35-39, consisting of P7, P8, and P9, only P7 showed two types of code-switching, while the other two participants showed one type. Hence, the texts of the younger age group showed the most variation in code-switching, the next group with variation in code-switching was the last age group 35-39. Therefore, there is no consistent pattern in the variation of code-switching with age.

4.5 Frequency of code-switching among the different aged participants

The frequency of code-switching varied among all the participants. For example, P1's texts exhibited code-switching eight times- intra-sentential code-switching seven times, and tag-switching occurred one time. P2's texts exhibited code-switching five times- intra-sentential code-switching occurred four times and inter-sentential code-switching occurred one time. P3's texts exhibited intra-sentential code-switching four times. This sums up the total number of code-switching for the age group 24-29 to seventeen times. From the next age group, P4's texts showed intra-sentential code-switching seven times, while P5's texts showed intra-sentential code-switching three times and P6's texts showed intra-sentential code-switching two times. This totals the number of code-switching for the age group 30-34 to twelve times. The last age group exhibited a consistent frequency of code-switching among all three participants. In P7's texts, code-switching occurred four times- intra-sentential code-switching three times and inter-sentential code-switching one time. P8's texts showed intra-sentential code-switching four times, while P9's text showed intra-sentential code-switching five times. This sums up the total number of code-switched texts in the age group 35-39 to thirteen times. To get an idea about the average frequency of code-switching in each age group, the mean for all three groups can be calculated by dividing the total number of code-switched texts by the number of participants per age group. Hence, for the first age group, the mean frequency of code-switching is $(8+5+4=17/3=)5.67$ times, for the second age group the mean is $(7+3+2=12/3=) 4$ times, and for the last age group the mean is

($4+4+5=13/3=$) 4.33 times. These numbers can be plotted in a bar graph against the range of ages to notice the variation.



This bar graph reveals that the average frequency of code-switching is highest among the 25-29 age group, while it is lowest among the 30-34 age group. The average frequency of code-switching for the 35-39 age group is slightly higher than that of its preceding age group. Hence, no consistent pattern can be concluded between code-switching and age.

4.6 Incidence of Bangla/English as a matrix language varying with age

Interestingly in all the instances when the participants' texts exhibited intra-sentential code-switching, Bangla was always the matrix language while English was the embedded language. Since it satisfied the two premises of the model, where the Bangla language and English language had varied influences on the structure of the sentence and there were variations in the type of content morphemes and system morphemes both Bangla and English language provided. An example of both premises being followed can be the instances of intra-sentential code-switching

where almost all the participants' texts followed the sentence structure of the Bangla language. In the majority of the sentences nouns and verbs were the most common content morphemes supplied by the English language. While determiners, prepositions, adjectives, and some function words (pronouns) were the common system morphemes that were supplied by the Bangla language. Except in one of P4's code-switched texts '*Shob business*' which can be translated to 'Everything is business' where the text can be interpreted as following both the English language sentence structure with the S-V-O (subject-verb-object) word order and the Bangla language sentence structure which sometimes also follows the S-V-O word order since there is an implied verb 'is' when the text is completely translated to Bangla '*Shob (holo) baebsha*'. It has also been seen that the text structures satisfied the Morpheme Order Principle and the System Order Principle of the Matrix Language Frame model as most of the participants' intra-sentential code-switched texts had system morphemes supplied from the matrix language and had most of its grammatical structure decided by the matrix language respectively. An exception could be one intra-sentential code-switched text of P2 - 'I mean like *koto pay kora laagbe* and all', a content word 'like' was provided by the English language. The topic of P1, and P6's conversations was regarding script checking and P9's context was about teaching a subject, all of which can be categorized as professional conversational contexts. While P2 and P3 talked about university fees and university assignments respectively, which can be categorized under educational context. While P5's topic was her illness and attending school, which can be related to personal and professional contexts. And P4's topic was moving abroad, while P8's topic was her hobby of reading books, both of which can fall under personal context. Lastly, P7's topic of conversation was the possible side effects of taking the Covid-19 vaccine, and it can be categorized as a social conversational context. The different contexts of conversation between each of the participants and the researcher had

negligible impact on the matrix language being Bangla or English since all of them produced texts that had Bangla as the matrix language.

Both the graph and the descriptive analysis revealed that there is no sequential upward or downward trend in either the frequency of the code-switching with differing ages or the types of code-switching with age. However, this can be said that participants from ages 24-29 switched codes the most, while participants from age group 35-39 switched codes the second most. Lastly, another interesting finding is that all the participants used transliteration i.e., the use of English script to write Bangla words to communicate, regardless of their age. These results are in line with the results from a study by Ellison and Si (2021) where the ratio of inter-sentential code-switching and intra-sentential code-switching of both older and younger groups was not very prominent. This made researchers hypothesize that the difference in variation is not due to age but due to the differences among each individual. Hence, this research also comes to a similar conclusion, that aside from age there could be other sociolinguistic factors at play for causing the variation observed from the data.

CHAPTER 5: DISCUSSION

This study intended to determine any variation in the types of code-switching among participants of three different age groups, any changes in the frequency of code-switching as well as the variation of the incidence of Bangla/English as a matrix language with age.

The results revealed that all nine participants' texts contained intra-sentential code-switching. This is in line with the study by Tasnim (2018), where the author also found that intra-sentential code-switching was the most common type of code-switching used by young social networking site users. In the participants' text where intra-sentential code-switching occurred, Bangla was identified as the matrix language as per the Matrix Language Frame Model (1993b [1997], 2002, as cited in Myers-Scotton, 2006) where most of the system morphemes in all the participants' texts were provided by the Bangla language. Similarly, this result also matches those from a study on code-switching between Russian and Sanzhi (an indigenous language) by Forker (2018) where Sanzhi was found to be the matrix language that supplied most of the system morphemes.

The major findings of this study revealed that in terms of variation of the different types of code-switching with age, it was seen that the youngest age group 25-29 had the highest variation and frequency of code-switched texts. While the age group 35-39, had the second highest variation and frequency of code-switched texts. Surprisingly, the age group, 30-34, had the lowest variation and frequency of code-switched texts. This shows that there is no consistent pattern among the code-switching behavior of the participants with age. This result is similar to those revealed in a study by Ellison and Si (2021), where the ratio of inter-sentential code-switching and intra-sentential code-switching among young and older Bollywood celebrities was not very significant.

Other major findings include the fact that in all the participants' intra-sentential code-switched texts Bangla was the matrix language. Since it followed the two premises of the model, where both Bangla and English languages contributed disproportionately in supplying the content and the system morphemes as well as influencing the word order of the sentence. Such that the verbs were present at the end of the intra-sentential code-switched texts. So, in most of the code-switched texts, it can be said that the verbs were placed according to the subject-object-verb word order of the Bangla language. An exception to be noted is one of the code-switched texts of P4, '*Shob* business' which when fully translated to English appears as 'Everything is business' and when translated to Bangla appears as '*Shob (holo) baebsha*'. The word order can be identified as following the rules of both the English language (S-V-O order) and the Bangla language which can occasionally also form sentences in the subject-verb-object order. The participants' intra-sentential code-switched texts also followed the Morpheme Order Principle where the texts followed the word order of the Bangla language with the Bangla inflections appearing in between English words and sometimes between Bangla words and the verbs appearing near the end of the sentences, in most of the texts. In addition, the texts also followed the System Order Principle, where Bangla being the matrix language provided most of the system morphemes in the code-switched texts, with the exception being one of P2's texts where one system morpheme was provided by the English language. The results of this study regarding the word order correspond to an article by Couto and Gullberg (2019) where code-switching between three languages was explored. The results revealed that in the case of code-switching between adjectives and nouns, the adjectives were placed according to the word order of the matrix language.

Another noticeable finding includes the fact that all the participants used transliteration i.e., using the English script to write the Bangla part of their texts instead of using Bangla script. This

result is partly in line with the study on code-switching behavior of young Bangladeshi citizens by Sultana (2017) which revealed that the young generation of Bangladesh use transliteration to communicate their thoughts and feelings which undermines the significance of the Bangla language. However, in this current study, all age groups were found to use transliteration to communicate, revealing that there are other factors aside from age which is causing the change in code-switching behavior.

The results conclude that there is no gradual upward or downward trend of code-switching with age, whether it be the various types of code-switching or the frequency of code-switching. In addition, the context of the conversation does not affect the incidence of Bangla as a matrix language, as all participants' intra-sentential code-switched texts indicate Bangla as a matrix language. Whether the conversational context was professional, social, personal, or educational, none of the participants' texts identified English as a matrix language.

CHAPTER 6: CONCLUSION AND LIMITATIONS

The objective of this qualitative study was to investigate the different types of code-switching tendencies, the frequency of their occurrence, and how they vary with age among the different aged teachers of an English medium school in Dhaka. It also explored the contexts in which the matrix language (Bangla/English) occurs frequently and its variation with age. This study utilized the Matrix Language Frame (MLF) Model (Myers-Scotton, 1993b [1997], 2002, as cited in Myers-Scotton, 2006), to distinguish the Bangla and English matrix languages and point out the variation with age. Myers-Scotton's (2006) categorization of matrix and embedded language and Poplack's (1980) definition of tag switching was used to differentiate the types of code-switching present in the participants' texts and identify any variation with age.

The results revealed that the age group 24-29 had the highest variation in code-switching with intra-sentential (P1, P2, P3), inter-sentential (P2), and tag switching (P1) present in the participants' texts. The group also had the highest frequency of code-switched texts, compared to the other two age groups. While the age group 35-39 had the second highest variation in code-switching with intra-sentential (P7, P8, P9) and inter-sentential code-switching (P7) present in the participants' texts. The same pattern was noticeable in the frequency of code-switched texts in this group. The age group 30-34, had the lowest variation and least frequency of code-switched texts. Therefore, there is no upward or downward trend in the variation and frequency of code-switching with age. However, it is noticeable that the age group 24-29 switched codes the most. In addition, the context of the conversation between the participants and the researcher did not have any impact on determining the matrix language as Bangla or English, since all the participants' intra-sentential code-switched texts identified Bangla as the matrix language as the texts followed the two

premises and principles of the MLF model. Hence, it can be concluded that differing ages did not exhibit a consistent trend in the variation of code-switching among participants. Thus, the difference between each group's code-switching behavior can be attributed to other sociolinguistic factors such as the number of years of teaching experience each teacher had or differences among each individual. This could be a topic for further study with the above factors in mind since the variation among code-switching behavior of teachers was correlated to the number of years of teaching experience each teacher had in an Omani university (Al- Qaysi & Al-Emran, 2017).

As with all other research, this study also has some limitations. The time to complete this study was limited hence, less data was collected and analyzed. The number of participants for this study was low, so a more holistic conclusion could not be reached. The stakeholders approached for this study were only of one single profession, more variation in professions or other socio-economic background would have made the data richer and allowed for a more insightful analysis from different perspectives. Lastly, only age has been taken into account as the sociolinguistic factor. But if other factors were taken into account, it would have helped in identifying a pattern between age, other sociolinguistic factors, and the frequency and type of code-switching prevalent in individuals' texts.

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