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KINDERGARTEN MANAGERS AND PARENTS' AWARENESS TOWARDS CHILDREN'S SECOND LANGUAGE ACQUISITION AT A VERY YOUNG AGE

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ABSTRACT
Everyday activities in kindergartens are supposed to be vital for the children's development and learning, including social skills (Meland, Kaltvedt, & Reikerås, 2016). Learning English as a second language has turned into a must for preschoolers in Iran. Parents insist on enrolling in those kindergartens where they can make sure there is an opportunity for their young children to learn English even before starting to speak in their mother tongue. This paper is to examine the extent to which Iranian kindergarten managers and preschoolers' parents are familiar with the appropriate age of learning a second language. To this end, data were elicited from 120 parents and 6 kindergarten managers at kindergartens. Instrumentation included a questionnaire and a semi-structured interview. The result of the interview revealed that managers agreed on the implementation of second language acquisition programs under the supervision of educated experts in Iranian kindergartens. The findings of the questionnaire revealed that it is better for children to begin learning a second language like English after they have mastered their mother tongue. Besides, our findings revealed that it is better if children start learning a language at an early age (5/6). However, not all research suggests that younger children do necessarily have an advantage over older children.

KEYWORDS: second language acquisition, preschoolers, kindergarten, mother tongue

INTRODUCTION
With the advent of early childhood education programs, people are making huge investments on helping young children to learn a language other than their home language. Every interaction within an early childhood program either encourages the community or prevents it (Comer & Ben-Avie, 2010).“Therefore, excellent early childhood programs have in place a process that pulls the energies and abilities of all the members of the school community together so that everyone children, educators, parents, and community members develop well” (Comer & Ben-Avie, 2010, p.87). For instance,

the race to the Top-Early Challenge was designed to support systems in order to improve the quality of early learning and development programs and increase access to high-quality programs for children to meet their needs and help them enter kindergarten ready to succeed (Early, Maxwell, Ponder, & Pan, 2017). Various aspects of child development and learning including both cognitive abilities and language skills are closely tied to later school achievement (Pearce, Scalzi, Lynch, & Smithers, 2016). Accordingly, Espinosa (2010) postulated that bilingualism or the state of learning two languages presses cognitive, cultural, and economic advantages.

Ellis (2008) used the term SLA to refer to the acquisition of any language after the acquisition of mother tongue. He postulated, "there are two aspects of L2 acquisition; the universal aspects and the variable aspects" (p.19). Variations in the rate of L2 development and in what learners show development is evident among both adults and children (Ellis, 2008). There is great evidence that age, motivation and attitude, learning style/strategy and intelligence are among constituent factors in this area (Ellis, 2008; Ellis, 1985; Skehan, 2002).

Consistent discussions on the role of age and the existence of a critical period hypothesis (CPH) have always attracted the attention of researchers since the inception of second language acquisition (SLA) as a field of study. It is commonly thought that younger language learners achieve more success and indeed researchers have found a significant relationship between age of acquisition and ultimate attainment in at least some aspects of the second language, with age showing itself to be the strongest predictor (Nejadansari, & Nasrollahzadeh, 2011). The Critical Period Hypothesis supports this. The age issue is an important theme for theory building in second language acquisition research, for educational policy-making, and for language pedagogy (Larsen-Freeman & Long, 1991). Krashen, Long, and Scarcella (1979, p.161) as pioneers in studying the role of age in L2 acquisition reviewed a number of studies and came to three main conclusions as follows,

(1) Adults proceed through the early stages of syntactic and morphological development faster than children.
(2) Older children acquire faster than younger children
(3) Acquirers who begin natural exposure to second language during childhood achieve higher L2 proficiency than those beginning as adults.

Originally discussed in the late 1960s by Eric Lenneberg, according to this hypothesis in order for the speaker to reach the native-like fluency, language acquisition must take place before puberty. "Critical period hypothesis (CPH) claims that there is a fixed span of years during which language can take place naturally and effortlessly, and after which it is not possible to be completely successful" (Ellis, 2009, p.24). In other words, after a certain age, the pattern of learning changes and this proves the notion of discontinuity in learning (Ellis, 2009)."Initially, this period was equated with the period taken for lateralization of the language function to the left side of the brain to be completed"

(Nejadansari & Nasrollahzadeh, 2011, p.19). "Overall then, the available evidence speaks against CPH. There is no clear end point beyond which L2 learners will fail to achieve native-speaker proficiency. Rather there is a gradual decline in the ability to learn an L2 with age starting from early childhood" (Ellis, 2009, p.26). Moreover, the CPH postulates that younger leaners are better at language learning than the older ones, and this is considered as a well-known argument based on the CPH as the version of younger-is-better (Hyltenstam & Abrahamsson, 2003).

"Quite different from initial rate of acquisition, ultimate level of attainment, namely the stage at which the learner achieves native-speaker competence (Felix, 1985) favors children, not adults" (Dong & Ren, 2013, p.1). Accordingly, research in support of Krashen, et al. reveals that those learners who start acquiring an L2 in adolescence or as adults learn more rapidly than those who start in childhood. The increasing number of preschoolers learning English as a second language reveals that English language learning is a great fascination for both parents and their preschool aged children (Farzaneh & Movahed, 2015). "There is certainly some reasoning supporting this increasing attention to English language learning throughout the preschool years, including the point that the child's brain is like a sponge, it will absorb everything that they hear" (Farzaneh & Movahed, 2015, p.858). The research to date proposes that the effect may be a minimal one in the case of grammar, but possibly more eminent in the case of pronunciation (Nejadansari & Nasrollahzadeh, 2011). Besides, some researchers believe that teaching English to preschool children could potentially interfere with their future performance in learning their first language in elementary school (Farzaneh & Movahed, 2015). However, considering a number of studies which took whether for or against position toward the CPH, what finally makes learning easy at one age or difficult at another is still under long debate (Twyford, 1987).

LITERATURE REVIEW

The purpose of this section is to review the literature, which is related to the current study.

Critical Period Hypothesis

"The Critical Period Hypothesis refers to a particular time of human life that allows people to acquire a language in a natural environment faster and easier without any outside intervention and formal instruction. Later, a theory called, Biological Foundations of Language, developed by Lenneberg (1967), suggested that natural language acquisition "by mere exposure" could only take place during a critical period, lasting from about age two to puberty" (Rahman, Pandian, Karim, & Shahed, 2017, p.2). In the existing literature on Second Language Acquisition (SLA), the effect of age and the capacity of second language acquisition by humans in relation to the critical period hypothesis was highly appreciated to find out whether there is any association of Critical Period (CP) ending due to the acquisitions of an additional language, or if there are any qualitative differences with late language acquisition (Rahman et al, 2017).

A common belief was hold among EFL practitioners that younger language learners are more successful as they found a relationship between age of acquisition and ultimate achievement of the learners in at least some aspects of the second language, with age showing itself to be the strongest predictor of success (Nejadansari & Nasrollahzadeh, 2011). The Critical Period Hypothesis (CPH) supports this. The current CP Hypothesis holds that humans have a maximum capacity for acquiring languages early in life, if not on the exposure of language during the early time, the capacity will disappear or decline with maturation (Dong & Ren, 2013). Besides, CPH helps us to observe the effects of age on L2 acquisition.

As far as Critical Period Hypothesis is concerned, there is no agreement whether there is such a period or not but they believe that after a certain age, the pattern of learning changes and there are maturational effects evident in L2 acquisition (Ellis, 2008). There is no discontinuity because of age. Sounds like the best age to learn a second language is primary school age. The relationship between gender and L2 acquisition is highly context-sensitive.

Second Language Acquisition and Age

SLA researchers have faced various problems in investigating L2 acquisition and this was a great action taken to explain the enormous variation in the success of individual learners. Variation is evident in both adult and children acquisition both in terms of speed of learning and different aspects of L2 development (Ellis, 2008). While children achieve higher levels of proficiency, adults are better learners in the earlier stages of development especially where knowledge of grammar is taken into consideration (Ellis, 2008).“There are many differences among second language learners and such diversities may have a direct effect on second language learning. Most authors state that age, motivation and attitude, learning style/strategy and intelligence are among determinative factors in this area (Ellis, 1985; Skehan, 2002), with age showing to be the strongest predictor of success” (Farzaneh & Movahed, 2015, p.858).

“The two contradictory implications for age effect role in L2 acquisition are resolved when observing initial rate of acquisition and ultimate level of attainment in the learner of different age, as well as acquisition capacity loss in a critical and a sensitive period evidenced with investigations on age-related decline in acquiring for different area of linguistic domains” (Dong & Ren, 2013, p.2). According to Krashen, Long, and Scarcella (1979), adults gain an advantage over children when it comes to rate of acquisition and older children learn more rapidly than younger children. Unlike the initial rate of acquisition, in terms of ultimate level of attainment, namely the stage at which the learner achieves native-speaker competence, childrens’ performance is proved to be significantly better than adults (Dong & Ren, 2013). However, L2 acquisition, whether observed from initial rate of acquisition or ultimate attainment is dependent on the age at which learning begins.

RESEARCH QUESTIONS

The following research questions were addressed in this study:

1. To what extent are preschooler's parent's familiar with the right age to start the acquisition of a second Language?
2. What viewpoints do Iranian kindergarten managers hold toward the acquisition of English as a second language at a very young age?

METHODOLOGY

Participants

Two groups of stakeholders including 120 parents of preschool children and 6 kindergarten managers (1 MA holder in Early Childhood Education,4 BA holders in General Psychology, and 1 BA holder in Educational Planning and Management) at Iranian child centers participated in this study.

Instrumentation

Two data elicitation techniques were used in this study: a questionnaire (see Appendix A by Gawi, 2012) and a semi-structured interview (see Appendix B). More specifically, the questionnaire which was administered to the parents, consisted of 11 Likert-type items (Gawi, 2012). It provided information on age related factors affecting the acquisition of L2. Each item provided a 4-point ranking scale, which denoted either the level of agreement (A: strongly agree, and B: agree), neutrality (not sure), or disagreement (D: disagree, and E: strongly disagree). The questionnaire was piloted with representative samples of the corresponding participants and the items were further improved. The language of the questionnaire was English and it was then translated into Persian by one of the researchers. An exemplar of the questionnaire is enclosed in Appendix A. The content validity indicators of the questionnaires including relevance and clarity of the items were checked by the researchers.

The semi-structured interviews were intended to elicit information from kindergarten managers to find out what their perception is toward learning a second language at a very young age (English). Semi-structured interviews were conducted with six managers at Iranian child centers. Two core questions served as the basis for the interviews: "What do you think about second language acquisition programs for preschoolers in Iranian Kindergartens?", and "What is the best age to start to learn a second language? Why?"; however, other supportive questions were asked when the need arose. The interviews were conducted in Persian and lasted approximately 15 minutes.

Procedure

The data collection started with the administration of the questionnaires to the corresponding participants. The questionnaire was piloted with representative samples of the participants including at least thirty members. Then, the Cronbach's alpha reliability index for the questionnaire piloted on a group of 30 participants was calculated. After ensuring the internal consistency of the items in the scale the questionnaire was

administered and a total of one hundred and twenty participants filled in it. Then, semi-structured interviews were conducted. The data was elicited from kindergarten managers to find out what their perception was toward young children's learning a second language (English). Semi-structured interviews were conducted with six managers at Iranian child centers. The interview findings will be described in the result section.

Data Analysis

A mixed-methods approach, which integrates both quantitative and qualitative data in a single investigation (Dornyei, 2007) was utilized in this study. The results of the questionnaireswere analyzed through descriptive and inferential statistics using SPSS.

The elicited qualitative data through the interviews were then collected to provide triangulation with the quantitative data (Friedman, 2012). Content analysis and descriptive analysis were applied to the results of the interviews.

RESULTS AND DISCUSSION

Questionnaire Results

The first research question targeted the extent to which preschooler's parents were familiar with the right age to start the acquisition of a second Language. Table 1 and 2 displays the reliability index both for the questionnaire piloted and the main question.

Table 1: Reliability Statistics (Pilot data)

Cronbach's Alpha	N of Items
.816	11

The Cronbach's alpha reliability index for the questionnaire piloted on a group of 30 participants was .816 (Table 1)

Table 2: Reliability Statistics (Main data)

Cronbach's Alpha	N of Items
.903	11

The Cronbach's alpha for the main question administered to 120 parents was .903(Table 2).

Table 3 displays the frequencies and percentages of the responses give to the items of the questionnaire. Based on these results it can be concluded that;

Question 1: Majority of the respondents believed that adult learners are better than young learners in reading skills (30.8 % strongly agree + 22.5 % agree). More the 21 percent did not agree with this idea and another 25 percent held a neutral position.

Question 2: More than 73 percent of the respondents believed that the younger the learners are, the better they learn English (37.5 % strongly agree + 35.8 % agree). On the other hand, 11.7 percent held a negative attitude and another 15 percent were neutral.

Question 3: More than 61 percent of the respondents believed that the younger the learners are, the more fluent they speak (22.5 % strongly agree + 39.2 % agree). On the other hand; 24.2 percent held a negative attitude and another 14.2 percent held neutral position.

Question 4: Majority of the respondents believed that younger learners cannot acquire English vocabulary better than the adults (9.2 % strongly disagree + 31.7 % disagree), while more than 32 percent (9.2 % strongly agree + 23.3 % agree) held the opposite view; and another 26.7 percent held a neutral position.

Question 5: More than 65 percent of the respondents believed that 5-6 is a suitable age to start learning English (31.7 % strongly agree + 32.5 % agree). On the other hand; 18.3 percent held a negative attitude and another 17.5 percent were neutral.

Question 6: More than 76 percent of the respondents believed that the 12-13 is the best age to start learning English (50 % strongly agree + 26.7 % agree). On the other hand; less than ten percent of them (.8 strongly disagree + 13.3 disagree) percent held a negative attitude and about 13 percent were neutral.

Question 7: More than 80 percent of the respondents believed learning English in kindergarten may confuse students with their L1 (30.8 % strongly agree + 50 % agree). On the other hand; less than ten percent of them (1.7 strongly disagree + 6.7 disagree) believed that learning a foreign language in kindergarten will not confuse learners with their mother language. More than ten percent of respondents were neutral.

Question 8: More than 55 percent of the respondents believed learning English should be started after mastering L1 (27.5 % strongly agree + 28.3 % agree). On the other hand; about 16 percent of them (6.2 strongly disagree + 10 disagree) held the opposite view. More than 27 percent of respondents were undecided.

Question 9: More than 50 percent of the respondents believed that the performance of the students who started learning English in 12-13 is not weak (13.3 % strongly disagree + 37.5 % disagree). On the other hand; more than 24 percent of them (7.5 % strongly agree + 16.7 % agree) believed that those who started English in 12-13 had a weak performance and 25 percent were neutral.

Table 3: Frequencies and Percentages of Parents' Attitude towards Right Age of L2 Learning

		Choices					
		Strongly Disagree	Disagree	No Idea	Agree	Strongly Agree	Total
Adult learners are better than younger ones in reading skills	N	5	21	30	27	37	120
	%	4.2%	17.5%	25.0%	22.5%	30.8%	100.0%
The younger students they are, the better they will learn English.	N	0	14	18	43	45	120
	%	0.0%	11.7%	15.0%	35.8%	37.5%	100.0%
Young learners speak English more fluently than adult learners.	N	2	27	17	47	27	120
	%	1.7%	22.5%	14.2%	39.2%	22.5%	100.0%
The young students are much better than the adult ones in acquiring vocabulary.	N	11	38	32	28	11	120
	%	9.2%	31.7%	26.7%	23.3%	9.2%	100.0%
The suitable age to start learning EFL is the age of 5-6.	N	4	18	21	38	39	120
	%	3.3%	15.0%	17.5%	31.7%	32.5%	100.0%
The best age to start learning EFL is 12-13.	N	1	11	16	32	60	120
	%	0.8%	9.2%	13.3%	26.7%	50.0%	100.0%
Learning a foreign language in Kindergarten may confuse students with L1.	N	2	8	13	60	37	120
	%	1.7%	6.7%	10.8%	50.0%	30.8%	100.0%
It is better for students to start L2 after mastering L1.	N	8	12	33	34	33	120
	%	6.7%	10.0%	27.5%	28.3%	27.5%	100.0%
The performance of students who start learning EFL at the age of 12/13 and have studied the language for four years is weak.	N	16	45	30	20	9	120
	%	13.3%	37.5%	25.0%	16.7%	7.5%	100.0%
The performance of students who begin learning a foreign language at an earlier age (5/6) is better than those who start later (12/ 13).	N	21	48	27	10	14	120
	%	17.5%	40.0%	22.5%	8.3%	11.7%	100.0%
Students who start learning English at the ages of (12-13) are better in grammatical rules than younger ones (5-6 years).	N	2	12	12	32	62	120
	%	1.7%	10.0%	10.0%	26.7%	51.7%	100.0%
Total	N	72	254	249	371	374	1320
	%	5.5%	19.2%	18.9%	28.1%	28.3%	100.0%

Question 10: More than 57 percent of the respondents believed that the performance of students who begin learning a foreign language at an earlier age (5/6) is not better than those who start later (12/ 13) (17.5 % strongly disagree + 40 % disagree). On the other hand; 19 percent of the respondents (11.7 % strongly agree + 8.3 % agree) believed that those who started English at an early age (5-6) have a better performance than those who start English at 12-13; while and 22.5 percent were neutral.

Question 11: More than 78 percent of the respondents believed that the students who begin learning a foreign language at (12/13) master grammatical rules better than those who start English at an early age (5-6) (51.7 % strongly agree + 26.7 % agree). On the other hand; about 11 percent held the opposite view; while and 10 percent were neutral.

Interview Findings

To answer the second research question, "What viewpoints do Iranian kindergarten managers hold toward acquisition of a second language at a very young age?", six

kindergarten managers were interviewed to express their opinions about the viewpoints they hold toward appropriateness of implementing second language acquisition programs in Iranian kindergartens. Thus, six interviews were conducted each taking at least 15 minutes and they were recorded so that the researcher would be capable of analyzing and transcribing the managers' viewpoints. The main findings are presented as follows:

Question 1: What do you think about second language acquisition programs for preschoolers in Iranian Kindergartens?

Altogether, the interviewees agreed on the implementation of second language acquisition with the supervision and presence of educated experts in Iranian kindergartens provided that it is rule-governed, systematic, principled, and charming enough to meet the urgent needs of young children. Accordingly, they believed that there is an absence of the right methodology and equipment to teach English to preschoolers in Iranian kindergartens. Most of them claimed that such teaching programs will be to the benefits of the learners if and only if they are accompanied by audio and video tutorials. Some of them highlighted the importance of playing games in any kind of teaching.

Participant 1:"Primarily, kindergartens in Iran cannot play a vital role in language learning because most managers lack the necessary knowledge in the field. Besides, the appropriate scientific tools, including computer hardware and educational software are not available."

Participant 2: "We cannot implement second language acquisition programs in our own kindergartens and the reason is the absence of a single program on behalf of the Organization of Welfare and Education. Unfortunately, we do not have child specialists in Iran since the related field of study does not exist in our country. Before running any program, we need to contact educated people and experts in the field."

Participant 3: "I agree with learning English in kindergartens, of course, if education is accompanied by playing games in order to create the necessary charm."

Participant 4: "In most daycare child centers English language is taught incorrectly and it is more like a taste work. Language-learning system must be performed by standard methods and principles. In our center we can only teach English to children by means of videos and educational books."

Participant 5: "Acquisition of English in kindergartens must be accompanied by video and audio tutorials objectively. In other words, the right tools to be institutionalized in the child's mind must accompany it. This requires active cooperation and involvement of the parents."

Participant 6: "Acquisition of English in kindergartens must be accompanied by audio tutorials. Simple concepts should be taught by playing games. However, other concepts should be taught after the acquisition of mother tongue."

Question 2: What is the best age to start to learn a second language? Why?

Generally, asked about the right age to start learning a second language, one of the interviewees believed that second language acquisition should take place simultaneously with the acquisition of the mother tongue. One of them mentioned that it should be started after the acquisition of mother tongue. Others however, claimed that the best age to start learning English is when the child is 1-year-old and a half, 3 years old, and 4 years old. However, one of them further mentioned that it depends on the teaching methods.

Participant 1: "English is best learnt from birth with the acquisition of mother tongue. Children without any special rule, can become fluent in a second language whether English or any other languages."

Participant 2: "First class in the elementary school. Because the child is has acquired the mother tongue and at the same time he or she has learned how to sit in the classroom"

Participant 3: "In my opinion, at any time a child is interested, learning English can be started. Pressure and coercion only impedes the child from learning."

Participant 4: "One and a half years of age is the best age to learn English."

Participant 5: "According to psychologists and those who have a saying in early childhood education the best age to start second language acquisition is at the age of four. Since the child's mind is active and ready to learn. I highly welcome the implementation of such programs since learning English is a human need in today's world. Our main purpose here is to help our children to be prepared for the upcoming school years of education namely, English or any other languages and subjects."

Participant 6: "If English is taught using auditory and visual tutorials, it would be best to start at the age of 3. But if the teaching style is direct from age 9 onwards."

Discussion

The current research paper offers a contribution to ongoing discussions about the age related factors as far as the acquisition of English as a second language is concerned at a very young age. The results show, as indicated by both questionnaire and interview findings, that managers agreed on the implementation of second language acquisition with the supervision and presence of educated experts in kindergartens provided that it is rule-governed, systematic, principled, and charming enough to meet the urgent needs of young children. According to Farzaneh and Movahed (2015), learning a foreign language like English may seem vital and necessary to many school kids in a non-English-speaking country like Iran. Accordingly, managers believed that there is an absence of the right methodology and equipment to teach English to preschoolers in Iranian kindergartens. Most of them claimed that such teaching programs would be to the benefits of the learners if and only if they are accompanied by audio and video tutorials. Some of them

highlighted the importance of playing games in any kind of teaching. According to Mohabbatsafa and Hüttner (2015), in game lessons, children are more actively involved in the learning process and thus react more to the teacher's instructions.
Besides, asked about the right age to start learning a second language, one of the interviewees believed that second language acquisition should take place simultaneously with the acquisition of the mother tongue. Similarly and in accordance with what McLaughlin (1992) claimed, the best way to learn a second language is to begin at birth and learn two languages simultaneously.

Another interviewee mentioned that language acquisition should take place after the acquisition of mother tongue. However, most of the parents highly welcomed the acquisition of a second language simultaneously, before, or even after the acquisition of mother tongue provided that English is taught using auditory and visual tutorials. Similarly, and in line with J. Piaget's theory of cognitive development stages, children process languages generally through sensory experience, and intelligence develops in the form of motor actions, young learners receive input that is more concrete (Zhao &Morgan, 2004). As Li (2014) observed "… L2 learners, educators, and parents should not conceive the assumption that only the early L2 learning will be effective and thus try to arrange children to learn L2 as early as possible regardless of children's own willing" (p.36). However, our results conflicted the findings of Marinova-Todd, Marshall, and Snow (2000), which observed that we cannot simply assume that the early the better, especially in the case of classroom instruction.

Majority of the respondents believed that adult learners are better than young learners in reading skills. Similarly, Krashen, Long, and Scarcella (1979), proved that adults proceed through early stages of morphological and syntactic development faster than children do, where the amount of time and exposure to the language are held constant.

More than 73 percent of the respondents believed that the younger the learners are, the better they learn English. In line with our findings, Li (2014) observed that younger learners can outperform older learners with respect to ultimate attainment regardless of some older learners who do perform better initially in some aspects of L2.The findings of a study by Gawi (2012), tended to support the common belief that the earlier the better in language learning.

More than 61 percent of the respondents believed that the younger the learners are, the more fluent they speak. According to Farzaneh and Movahed (2015), children are superior in learning to speak a second language with a good accent than adults. In similar terms, Li (2014) claimed that this is largely dependent not only on more amount of exposure but also on more opportunities for communication (Bialystok & Hakuta, 1994; Singleton, 2001). According to Nejadansari and Nasrollahzadeh (2011), only child learners are capable of acquiring a native accent in informal learning contexts. Similarly, Nejadansari and Nasrollahzadeh (2011) found that process differences might occur in second language pronunciation especially in the case of learners beginning after 12 years.

Majority of the respondents believed that younger learners cannot acquire English vocabulary better than the adults can, while more than 32 percent held the opposite view; and another 26.7 percent held a neutral position. However, the findings of the students' tests in a study by Gawi (2012) concerning English skills like conversation, vocabulary learning, reading, writing and grammar revealed that that the performance of students who started learning English at age 5-6 is significantly better than those who did it at the age of 12-13.

More than 65 percent of the respondents believed that 5-6 is a suitable age to start learning English. This was in line with the findings of a study by Long (1990) which puts the critical age at 6 years, but Scovel (1981) proves that there is no evidence to support this and argues for a pre-puberty start.

More than 80 percent of the respondents believed learning English in kindergartens may confuse students with their L1 and therefore it should be mastered after L1. According to Farzaneh and Movahed (2015), the reason is largely dependent on the truth that children who start learning a new language early in life will have a "foreign" accent; this can cause mispronunciation and misunderstandings, and impede future opportunities in using their mother languages professionally. In a similar way, Harley (1986) claimed that there might be negative transfer of age-related L1 production strategies as far as young language learners are concerned. Farzaneh and Movahed (2015) which observed that children might manifest interference or transfer from L2 to their mother tongue (L), especially at those points in L1, which are more similar to L2, significantly proved our findings.

More than 50 percent of the respondents believed that the performance of the students who started learning English in 12-13 is not weak. Accordingly, Krashen, Long, and Scarcella (1979), highlighted that adults are superior to children in both the rate and speed of the acquisition. However, according to Zhao and Morgan (2004), the affective and social factors may act as intervening variables that hinder L2 acquisition in adulthood. In the same way, since learning language involves a certain amount of risk-taking and as learners avoid making mistakes in their language, then the risk-aversion tendency will stop active experimentation with language use.

More than 57 percent of the respondents believed that the performance of students who begin learning a foreign language at an earlier age (5/6) is not better than those who start later (12/ 13). In the same line Stern, Burstall, and Harley (1975), observed that children who had begun language instruction at age eleven performed better on second language proficiency than children who had begun at eight years of age. As one of the age-dependent factors, fossilization affects learners' performance in that, the older second language learners the more likely they tend to fossilize (Palea, 2015). The results of a study by Ghenghesh (2010) revealed that that L2 motivation decreases with age.

More than 78 percent of the respondents believed that the students who begin learning a foreign language at twelve or thirteen master grammatical rules better than those who start English at an early age (5-6). According to Major (2014) "the acquisition of grammar in a second language seems to require that a late learner be unusually interested in and devoted to language structure, and must be consciously aware of grammatical form" (p.12). Similarly, and in accordance with what Ellis (2008) postulated, adults are better learners in the earlier stages of development especially where knowledge of grammar is concerned.

CONCLUSION AND IMPLICATIONS

To deal with the first research question the findings were interesting as they revealed that the younger the learners are, the better they learn English. This is largely because in such cases children become more proficient and fluent in terms of speaking, accent and pronunciation. Majority of the respondents believed that younger learners couldn't acquire English vocabulary better than adults can. Most of the respondents approved that five or six is the appropriate age to start learning a second language. Majority of the respondents believed that adult learners are better than young learners in mastering grammar and reading skills.

As regards the second research question of the study, findings revealed that managers agreed on the implementation of second language acquisition with the supervision and presence of educated experts in kindergartens provided that it is rule-governed, systematic, principled, and charming enough to meet the urgent needs of young children. Concerning the appropriate age to start learning second language kindergarten managers each held a different position. It was concluded that it is good to start learning before, simultaneously, or even after learning a second language. However, the majority believed that learning a second language after the acquisition of L1 is preferred.

Considering the size and scope of the study, any conclusion drawn from the findings will require further research and investigation. As with any other studies, ours is limited and as a result, there is considerable potential for future research in this area. Other studies can be conducted to find out about the viewpoints of EFL practitioners toward second langue acquisition programs in Iran. A needs analysis should be involved and further applied in designing the right syllabus. Furthermore, we hope the findings of our study make a positive contribution to kindergarten managers, teachers, teacher trainers, material developers, syllabus designers, and psychologists.

Although this study can promise a great deal in terms of teaching implications and valuable results, it has certain limitations. First, only a few members of the participants were willing to take part in the interview process. Second, lack of cooperation from some of kindergartens was another limitation in the current research agenda.

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APPENDIX A

This questionnaire helps in the research to evaluate "Age Variable" in learning EFL at Iranian Kindergartens

Childs Age and Gender: (a) Male [ ] (b) Female [ ]

Parents age: (a) 20-30[ ] (b) 30-40 [ ] (c) More than 40 yrs [ ]

Qualifications: (a) Bachelor [ ] (b) Master [ ] (c) PhD [ ] (d) Diploma [ ]

Can you, please, give your input by answering the following questions to contribute to this study? Choose A, B, C, D or E. Answer according to how far you agree with each of them and write it in the box.

A: strongly agree B: agree C: not sure D: disagree E: strongly disagree

Adult learners are better than younger ones in reading skills

The younger students they are, the better they will learn English.

Young learners speak English more fluently than adult learners.

The young students are much better than the adult ones in acquiring vocabulary.

The suitable age to start learning EFL is the age of 5-6.

The best age to start learning EFL is 12-13.

Learning a foreign language in Kindergarten may confuse students with L1

It is better for students to start L2 after mastering L1.

The performance of students who start learning EFL at the age of 12/13 and have studied the language for four years is weak.

The performance of students who begin learning a foreign language at an earlier age (5/6) is better than those who start later (12/ 13).

Students who start learning English at the ages of (12-13) are better in grammatical rules than younger ones (5-6 years).

Appendix B

Name:

Qualifications:

1. What do you think about second language acquisition programs for preschoolers in Iranian Kindergartens?
2. What is the best age in order to start to learn a second language? Why?

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CODE SWITCHING USED BY MATHEMATICS AND SCIENCE TEACHER IN CLASSROOM INTERACTION

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ABSTRACT
This article is entitled Code Switching Used by Mathematics and Science Teacher in Classroom Interaction. This article addresses to find out the types of code switching used by the Mathematics and Science teacher. The study was descriptive qualitative. The subjects of the study were Mathematics and Science teacher in grade one at SD Pelita Kasih Tanjung Morawa. The data of the study were the utterances uttered by Mathematics and Science teacher recorded from the conversations in the classroom interaction. The data were identified, analyzed, and categorized based on Poplack's theory (1980). The findings of the study show that there were three types of code switching found in the teachers' interaction to students namely: intersentential code switching, intrasentential code switching, and tag switching. Based on the findings, the teachers argued that code switching was needed to avoid the misleading sentences uttered to the students. Some suggestions are directed to those who are interested in understanding code switching as found in the practice.

KEYWORDS: *Code Switching, Classroom Interaction, Mathematics, Science, Teacher.*

INTRODUCTION

Globalization era makes English is badly needed. English must be learned both formal and informal education at the early age. That is why some public schools have foreign language classroom by using bilingual. The bilingual happens through code-switching in classroom interaction. The definition of bilingual is a person who has some functional ability in the second language (Spolsky, 1998: 45). In addition, Hamers and Blanc (1987: 265) define bilingual as "an individual who has an access to two or more different codes or languages".

Phenomenon of switching a language with another language occurs in the teachers' daily conversation called code-switching. It is a switching from one language to another, for example, the switching from English into Bahasa Indonesia.

Code-switching can be seen in English foreign language classroom which is done by the teachers when teaching English to their students. Teacher who delivers the lesson to the students use language by conveying some codes. It happens in classroom interaction. Classroom interaction plays an important role in teaching and learning process. It is a bridge for students to understand the lesson that is delivered by the teachers. At the time of communicating in classroom interaction, there are some codes happen. The codes happen among teacher-students interactions, student-teacher interactions, and student-student interaction. Teacher-students interaction is the basic of education since teacher delivers the knowledge to the students.

A study about code-switching has been conducted by Azwani (2012), her study attempted to investigate code switching in teaching English uttered by teachers and students at Public Senior High School. She found that, commonly, teachers switched English to Indonesian when translation session and giving instruction. The students switched English to Indonesia when clarifying the content of the lesson and giving feedback.

Mastura, Azlan and Narasuman (2013) investigated how code-switching functions as a communicative tool in English as a second language teacher education class in a tertiary institution in Malaysia. Their findings revealed that three types of code-switching known as tag switching, inter-sentential switching, and intra-sentential switching were predominant in classroom communication between students and the instructor. The study also found that English was the dominat language of communication while code switching was used to convey ideas in specific situations and to enhance solidarity in the first language.

SD Pelita Kasih Tanjung Morawa is a private school which uses foreign language in classroom interaction. This primary school use two curriculums, government curriculum and overseas curriculum. The government curriculum use Bahasa Indonesia. In the classroom interaction, both teachers and students speak Bahasa Indonesia. In delivering the subjects, the teachers prefer speaking Bahasa Indonesia to English.

Meanwhile, the overseas curriculum use English in delivering the subjects. Teachers speak English in teaching learning process in the classroom interaction. However, the fact does not always occur like that. The teachers assume that their students could not fully understand them if they only use English. It can be understood since grade one is in the process of learning the language which is not widely used in the community. It might be possible for teacher and students to use code-switching in classroom interaction while they study Mathematics and Science. It can be seen in the examples observed in grade one classroom interaction of SD Pelita Kasih Tanjung Morawa.

S: "Miss nomor dua apa Miss? Yang twenty, ajarin la Miss nanti."
*T: "**You write down the question, kamu tulis dulu soalnya.** Coba,*

number five, what is the answer for number five? Who knows for number five? Yes, the answer…"
S: "Ten ringgit."
T:"Ya Aurel, ten ringgit, only ten ringgit?"
S: "Ten ringgit and zero?"

Based on the context, it can be seen that teacher switched English to Bahasa Indonesia language to emphasize the instructions for the students. Teacher uttered the instructions in English and Bahasa Indonesia. However, teacher should used English only in delivered the message. It can be seen from the clause ***kamu tulis dulu soalnya***. Based on the data, it can be seen that Bahasa Indonesia was inserted in the clause boundary where each clause is in different language.

T:"What is number four? Apa itu nak gambarnya? Blackcurrant.. what picture is that? Gambar apa itu?"
S: "Blackcurrent miss.."
S: "Purple…"
T: "Saya paling ga suka saya nerangkan disitu kamu main-main. Perhatikan bukumu. Andre! ***Saya bilang what picture is that… Purple jawabanmu.***

In this case, the utterance ***saya bilang*** *and* ***jawabanmu***can be categorized as intrasentential code switching for the reason that the teacher switched different types of language within the clause boundary.

T: "What is nice smell?"
S: "Bau wangi.."
T: "Bau yang wangi.. Example of nice smells. Contoh dari benda-benda yang berbau wangi, cake kue, rose bunga mawar, soap sabun, shampoo sampo, parfume minyak wangi, coffee kopi, powder bedak. ***Everytime you smell coffee, it smells nice kan?*** *Tiap kali kamu cium kopi, harum kan?"*

The data above could be classified as tag switching. The teacher inserted a tag in Bahasa Indonesia into an utterance which is otherwise entirely in English. It is one of Bahasa Indonesia tag switching as it can be seen that the sentence ***Everytime you smell coffee, it smells nice*** was English at the same time she uttered ***kan*** where it was a tag question in Bahasa Indonesia.

Based on the phenomenon given, it can be seen that teachers must speak English in delivering the subjects. However, the fact does not always occur like that. It might be possible for teacher and students to use code-switching in classroom interaction while they study Mathematics and Science. Therefore, this study aims to analyze the types of code-switching.

LITERATURE REVIEW

Bilingualism and Multilingualism

Most people as speakers usually occupy more than one code and require a selected code whenever they choose to speak with other people. The phenomenon of people having more than one code (language) is called bilingualism or multilingualism (Wardaugh, 1986:101).

To clarify the term bilingualism or multilingualism, Spolsky (1998:45) defines a bilingual as "a person who has some functional ability in the second language". This may vary from a limited ability in one or more domains, to very strong command of both languages. According to Bloomfield (1935), bilingualism is a situation where a speaker can use two languages as well.

Code-Switching

Code-switching is generally defined as the shifting that occurs "between two or more languages simultaneously or interchangeably within one conversation" (Grosjean, 1982). Sert (2005) states that there are two opposing sides on the issue of code-switching in language classroom settings. On one side, there are the teachers who prefer to adhere to the formal rules of second language learning which compels students to speak only in the target language and practice communicative techniques in order to master the language well.

This opinion is supported by Taha (2008) who found that some teachers and students involved in the study of code-switching in an Arabic university believed that "alternation between English and Arabic in the classroom" should be discouraged and that all the members of the classroom were obligated to use the medium of instruction designated for the study. However, language instructors who support bilingual instruction in the form of code-switching believe it to be extremely useful to students in many different aspects, especially in the teaching of beginner students (Sert, 2005).

Code-switching can be defined as the use of more than one language, variety, or style by a speaker within an utterance or discourse, or between different interlocutors or situations (Romaine, 1992:110). Code-switching is a changing from one language or dialect to another language or dialect in a conversation.

Types of Code Switching

According to Poplack (1980) there are three types of code-switching, they are: intersentential, intrasentential and tag-switching.

Intersentential code-switching involves a switch at a clause or sentence boundary, where each clause or sentence is in one language or another. For example: *If you are late again tomorrow, melapor dulu ke kantor.*

Intrasentential code-switching involves switching of different types of language. Different types of switch occur within the clause or sentence boundary. For example: *You are sleepy pagi-pagi, sit nicely lalu lihat booknya.*

Tag-switching involves the insertion of a tag in one language into an utterance which is otherwise entirely in the other language. The following is the example of Indonesian-English tag code-switching: You know.....*Itu tidak begitu menarik.*

RESEARCH QUESTION

What types of code-switching are used by Mathematics and Science teacher in grade one classroom interaction at SD Pelita Kasih Tanjung Morawa?

METHODOLOGY

This research conducted by using qualitative descriptive design. The aim of qualitative research is to truthfully present findings to others who are interested in what you are doing. Qualitative research has five features namely having natural setting, researcher as the key instrument, using descriptive words, concerning with the process rather than simply the product, analyzing data inductively and having meaning as the essential concern.

The type of this study was the observational case study because the major data had been gathered by applying participant observation. The source of data of this study were two teachers, they were one Mathematics teacher and one Science teacher in grade one. The Mathematics and the Science teacher were subject teacher in grade one. The teachers were native speakers of Bahasa Indonesia who graduated from different universities in North Sumatera. Techniques of data collection in this study applied documentary technique suggested by Bogdan and Biklen (1992) in which only the data that support the research question was taken. In this study, the data were all the texts contain code-switching in the teachers' utterances. Since the subject of this study was in written words so the process of collecting and analyzing the data had been done by the researcher, so it could be said that the researcher was the key instrument of this study. The other instrument to collect the data was the recorder.

To fulfill the trustworthiness of the study, the research conducted two of them namely credibility and conformability. To make this research credible, the researcher used triangulation technique. The triangulation technique in this research employed data triangulation and theoretical triangulation. In data triangulation, the teaching learning process in the classroom had been observed in different times to see the robustness of the data. To make this research conformable, as audit trial had been made which consist of raw data, reduce data, and reconstruct data. In addition, some codes and appendices had also been made so the readers can easily understand the data. In this research, the transcription of the teacher's code-switching in the classroom had been served to the readers. The process of analyzing are followed the steps below:

Data condensation is a process of selecting, focusing, simplifying, abstracting, and transforming the row data. The processes are:

- Selecting the best data selection based on the reasons of code-switching used by Mathematics and Science teacher at SD Pelita Kasih Tanjung Morawa.
- Focusing in the particular attention to the suitable data.
- Simplifying to make the data easy to understand based ontypes of code-switching used by Mathematics and Science teacher at SD Pelita Kasih Tanjung Morawa.
- Abstracting the data which is based on the existing theories aboutthe types of code-switching.
- Transforming the data that really relate to the study or based on thetypes of code-switching used by Mathematics and Science teacher.

Data display defines as an organized assembly of information that permits conclusion drawing and action taking. In this study, table was used to distinguish the dominanttypes of code-switching used by Mathematics and Science teacher at SD Pelita Kasih Tanjung Morawa.

The stream of analysis activity is drawing conclusion and verification. Verification may be crossing the analysis mind during writing or it may be through going and elaborate, or with extensive efforts to replicate the finding in another data set. In this study, the result of the problem had found so the objective of the study to elaborate code-switching used by Mathematics and Science teacher at SD Pelita Kasih Tanjung Morawa.

RESULT AND DISCUSSION

Result

There were three types of code switching expressed by the teachers when talking to their students, namely 1) intersentential code switching, 2) intrasentential code switching, and 3) tag switching. It can be seen in the following table:

Table 1: Types of Code Switching

No.	Types of Code Switching	Subjects			
		Maths		Science	
		F	%	F	%
1.	Intersentential code switching	70	54.69	52	52.53
2.	Intrasentential code switching	54	42.19	46	46.46
3.	Tag switching	4	3.12	1	1.01
	Total	128	100.00	99	100.00

Based on the table 1, it described the total codes used by Mathematics teacher consist of 128 code switching. It described the expressions of Mathematics teacher consist of 70 codes of intersentential code switching, 54 codes of intrasentential code switching and 4 codes of tag switching.

Then, the total codes used by Science teacher consist of 99 code switching. The expressions of Science teacher consist of 52 codes of intersentential code switching, 46 codes of intrasentential code switching and 1 code of tag switching. Therefore, the most dominant type of code switching was intersentential code switching.

Intersentential code switching was dominantly used by Mathematics and Science teacher in the classroom interaction. The teachers switched at a clause or sentence boundary where each clause or sentence is in one language or another. It happened since they wanted to make everything really clear for the students and they could understand well without any confusion. Probably, the teacher felt that the sentence in English she used was not familiar for the students so she needed to repeat the whole sentence in Bahasa Indonesia in order to help the students understood what she said and could follow the lesson well.

Discussion

This study found that there was a phenomenon occurred when the teacher switched her language while it was an obligation for them to speak English completely. Poplack's theory (1980) states there are three types of code switching namely: 1) intersentential code switching, 2) intrasentential code switching, and 3) tag switching. This study found that the teachers applied three of them while speaking with their students. It was similar with Kustati (2014) who investigated types of code mixing and code switching made by teachers and students in EFL cross cultural communication class and to identify reasons for the emergence of code switching and mixing in classroom. His finding shows that tag-switching, intra-sentential, inter-sentential, and intra-word were commonly used by EFL teachers and students in classroom.

In this study, the most type used by the teacher in the classroom interaction was intersentential code switching. This is contradictory with the result of the study done by Azwani (2012) who analyzed code switching in teaching English to grade eleven students of senior high school in Tebing Tinggi. She found that intrasentential code switching was frequently used by the teacher in the classroom interaction. She argued that the switching uttered by the teacher was from Bahasa as the translation of the previous clause which is uttered in English. Moreover, she stated that mostly the learning material were English grammar.

Different with the occurrence at SD Pelita Kasih Tanjung Morawa where the students are still elementary students, intersentential code switching was mainly used by the teachers. They tended to switch their language within the clause or sentence boundary. It happened since they wanted to make everything really clear for the students and they could understand well without any confusion. Probably, the teacher felt that the sentence in English she used was not familiar for the students so she needed to repeat the whole sentence in Bahasa Indonesia in order to help the students understood what she said and could follow the lesson well.

CONCLUSION

This study focused on code switching used by the teachers to the students in classroom interaction. It was aimed to find out the types of code switching used by the Mathematics and Science teacher. After analyzing the data, there are three types of code switching used by Mathematics and Science teacher in classroom interaction. They are 1) intersentential code switching, 2) intrasentential code switching,and 3) tag switching. Intersentential code switching was the most dominant type used by Mathematics and Science teacher,followed by intrasentential code switching then the least was tag switching.

The limitation of the study were focused on the types of code switching used by Mathematics teacher and Science teacher in grade one classroom interaction at SD Pelita Kasih Tanjung Morawa. This study addresses to compare or to make disctinction the use of code switching between Mathematics teacher and Science teacher in grade one at SD Pelita Kasih Tanjung Morawa.

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MODULARITY: MYTH OR TRUTH?

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ABSTRACT
Modularity has been an issue of debate in the cognitive sciences for more than three decades. Modularity is a fundamental property of living things at every level of organization; it might prove indispensable for understanding the structure of the mind as well. The concept of modularity (i.e., the degree to which the lexicon, syntax, and other neurocognitive domains operate independently of one another) has played an important role in theorizing about brain architecture and function, both in development and in adulthood. In this paper, an overview of the theoretical and empirical views and arguments germane to modularity such as localization, domain specificity, and massive modularity are presented. It is concluded that although modularity is an accepted view, there are still some controversies on this issue.

KEYWORDS: *modularity, localization, domain specificity, massive modularity*

INTRODUCTION

Generally, questions related to the functional architecture of the mind have been dealt with two different theories (Elman et al., 1996). The first theory can be defined as a horizontal view referring to mental processes which interact with each other such as perception, memory, and judgment which are not domain specific (Sperber, 2002). For instance, a judgment, whether refers to a perceptual experience or to the comprehension of language, remains a judgment. The second theory can be defined as a vertical view since it argues that the mental faculties separated based on domain specificity are genetically determined and associated with distinct neurological structures (Sperber, 2002). This view dates back to the 19th century movement called phrenology and its founder Joseph Gall, who claimed that the individual mental faculties could be associated precisely with specific physical areas of the brain.

In Fodor's (1983) view originated from Chomsky (1965) and the implications of optical illusions, a module is a perceptual input system. According to Fodor (1983), a module is informationally encapsulated; the operations within a module are unconscious; the operation of a module is mandatory; innate modules are localized in particular brain areas; their development is bound to a given time schedule; innate modules are domain specific and they operate exclusively on certain types of input.

Fodor (1983) argued that a module falls somewhere between the behaviorist and cognitivist views of lower-level processes. Low level processes are unlike reflexes in that they are inferential. This can be demonstrated by poverty of the stimulus arguments in which the proximate stimulus, that which is initially received by the brain such as the 2D image received by the retina, cannot account for the resulting output (for example, our 3D perception of the world), thus necessitating some form of computation Fodor (1983).

On the contrary, cognitivists saw lower level processes as continuous with higher level processes, being inferential and cognitively penetrable (influenced by other cognitive domains, such as beliefs). The latter has been shown to be untrue in some cases, such as with many visual illusions, which can persist despite a person's awareness of their existence. This is taken to indicate that other domains, including one's beliefs, cannot influence such processes. Fodor (1983) arrived at the conclusion that such processes are inferential like higher order processes and encapsulated in the same sense as reflexes. In addition, Fodor (1983) proposed a model of perception and cognition (see Figure 1).

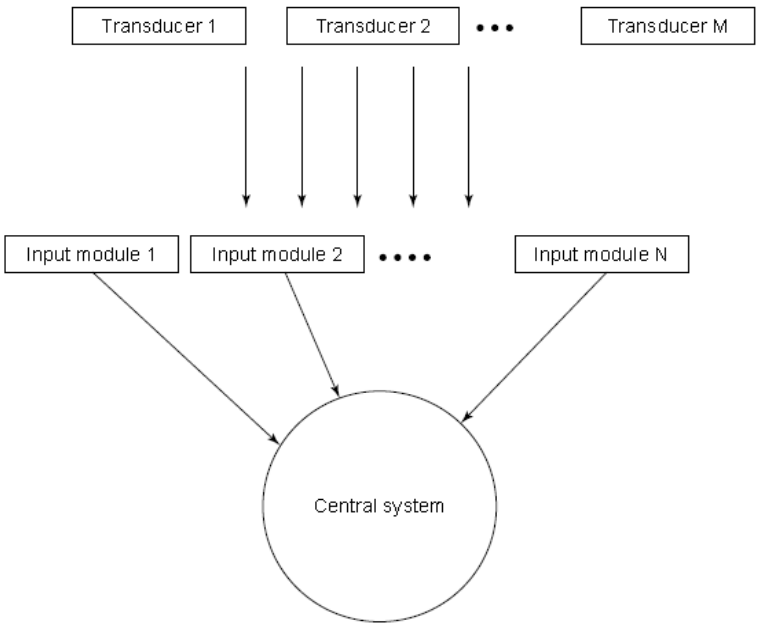

Figure 1: Fodor's Model of Perception and Cognition

In this model three levels are distinguished: the transducers, whose function is to convert physical stimulation into neural signals; the input systems, whose function is to interpret transduced information and responsible for basic cognitive activities such as language and vision; and the central system, which is responsible for more complex cognitive activities such as analogical reasoning, and it is not modular. Fodor is mostly devoted to the input systems and what it means to say is that these are modular.

It is generally accepted that some form of modularity exists in the human brain, but there is little agreement on what exactly it is (Dick et al., 2001). For example, there is little controversy that

highly specialized areas of the visual cortex selectively process specific dimensions of the visual experience of color and orientation. For higher-level cognition, however, modularity has been controversial. In the following sections, main issues germane to modularity, i.e. localization, domain specificity, and massive modularity are discussed. The last two sections of the paper are dedicated to the arguments against modularity and concluding remarks.

LOCALIZATION: AT WHAT LEVEL IS THE BRAIN MODULAR?

A certain function or domain is localized if it is processed in confined regions of the brain (Karmiloff-Smith, 1998). Empirically speaking, damage in specific areas produces selective functional deficit. However, this argument has been refuted by several findings. For example, in language, agrammatic patients revealed some grammatical judgments, although at a weak level (Wulfeck & Bates, 1991).

For decades, much of neuropsychology has focused on where functions and behaviors are localized. Indeed, far more emphasis has been given to the *where* question without paying attention to the *why* question. Beyond claims of genetic specification, very little is understood about why in default circumstances a region takes on certain functions and not others. An argument can be made that in normal circumstances, Broca's area may become specialized for language processing not because it is specifically designed for language but partly because it is the area with the computational characteristics that are particularly well suited to deal with the requirements of this domain (Elman et al., 1996). In other words, a *domain-relevant* region becomes domain specific over developmental time (Karmiloff-Smith, 1998). Hence, many regions may initially compete for the processing of given inputs, with the special computational properties of one region ultimately winning out. However, a full specification of what those computational properties are is as yet largely unknown. These issues are explained in the next section, on domain specificity.

DOMAIN SPECIFICITY: ARE MODULES INDEPENDENT?

The domain specificity question concerns the extent to which the operations of a proposed module, such as syntax, are special and exclusive to that domain (Elman et al., 1996). Elman et al. (1996) pointed to a number of broad notions of domain specificity. Domains can be specific because they have specific input/output systems: visual cortical areas receive input from the retina, whereas auditory cortical areas receive input from the ears. Specificity may also arise because different problems require different behavioral solutions and/or different computational mechanisms. The important question, however, is the extent to which computational mechanisms of a given domain are exclusive to that domain - i.e., modular - throughout development or in adulthood.

Fodor (1983) argued that modules operate using specialized mechanisms dedicated to handling specific types of input, what he called *proprietary inputs*. The question of whether domain specificity is prespecified in the human brain as a result of evolution or arises during ontogenesis from experience-dependent processes, coupled with self-organizing cortical mechanisms, is still

an open one. What is clear, though, is that patterns and regularities in the input can quickly and efficiently lead to progressive specialization of the brain. Evolution is more likely to have given rise to greater flexibility of learning than to increasingly complex prespecified modules (Karmiloff-Smith, 1992).

The idea of progressive modularization challenges the notion that a static model can be used to explain development in both the typical and the atypical case. On the contrary, the developmental process itself is a major contributor to behavioral outcomes (Karmiloff -Smith, 1998). In support of this claim, brain-imaging data from infants and toddlers have shown that over developmental time, there is a pattern of very progressive specialization and localization of important functions for our species, such as face processing (de Haan et al., 2002). In atypical cases, the origins of the behavioral profiles found later in development may stem from differential processing of input and utilization of different strategies beginning early in infancy.

A related hypothesis is that deficits in low-level perceptual mechanisms are contributing factors in developmental disorders. Some possible mechanisms are rapid auditory processing impairment in specific language impairment (Temple et al., 2003). Some have challenged the view that low-level impairment can be viewed as causal in many of these developmental conditions (Rosen, 2003). Because of the fact that such impairments are not found in all cases. The validity of this claim is difficult to assess, for a number of reasons. First, many developmental disorders are diagnosed based on behavioral impairment in a specific area; this sheds doubt on whether it is necessary to look for impairments in other domains, after having *a priori* excluded those whose impairment is less marked. Second, low-level problems need not exist throughout the entire life span. The crucial point is that their presence *early* in development may trigger cascading effects, the *indirect* results of which are found later in development. Third, even if not taken as singular explanatory factors, low-level impairments may play an important role in altering the experience of the child in the environment, providing a possible mechanism by which developmental outcomes are achieved.

In sum, converging evidence suggests that modules are the final outcomes of the developmental process. Furthermore, the progressive development of modules, both in infancy and adulthood, is tightly bound to experience. Even in adulthood, experience continues to play a role in forming brain architecture and processing.

MASSIVE MODULARITY

Massive modularity theory argues that the mind is modular completely, including the parts responsible for high-level cognition functions like problem-solving, planning, etc. The theory has been supported by proponents of evolutionary psychology (e.g., Barrett, 2005; Cosmides & Tooby, 1992; Pinker, 1997; Sperber, 1994, 2002). The worth mentioning point is that the operative notion of modularity differs significantly from the traditional Fodorian one. Carruthers (2006) is explicit on this point:

> [If] a thesis of massive mental modularity is to be remotely plausible, then by 'module' we cannot mean 'Fodor-module'. In particular, the properties of having proprietary transducers, shallow outputs, fast processing, significant innateness or innate channeling, and encapsulation will very likely have to be struck out. That leaves us with the idea that modules might be isolable function-specific processing systems, all or almost all of which are domain specific (in the content [viz. roughly Fodorian] sense), whose operations aren't subject to the will, which are associated with specific neural structures (albeit sometimes spatially dispersed ones), and whose internal operations may be inaccessible to the remainder of cognition. (p. 12)

Proponents of massive modularity have been chiefly concerned to defend the modularity of central cognition. Therefore, this theory for theorists like Carruthers can be best understood as the combination of two claims: first, that input systems are modular in a strong sense (that is, the positive strand of modest modularity), and second, that central systems are modular, but in a considerably weakened sense. In his defense of massive modularity, Carruthers (2006) focused almost exclusively on the second claim.

The centerpiece of Carruthers (2006) consists of three arguments for massive modularity: 1) the argument from design, 2) the argument from animals, and 3) the argument from computational tractability. Each of these arguments is briefly discussed in turn. The argument from design is as follows:

"Biological systems are designed systems, constructed incrementally. Such systems, when complex, need to have massively modular organization. The human mind is a biological system, and is complex. So the human mind will be massively modular in its organization" (Carruthers, 2006, p. 25).

A weakness in this line of reasoning, however, is that even if the mind is massively modular in its organization, it doesn't follow that that the mind is massively modular (i.e., composed throughout of systems that are domain-specific, mandatory, etc.). Another argument which is close to Carruthers' was proposed by Cosmides and Tooby (1992) who put it in this way:

> The human mind is a product of natural selection. In order to survive and reproduce, our human ancestors had to solve a range of adaptive problems (finding food, shelter, mates, etc.). Since adaptive problems are solved more quickly, efficiently, and reliably by modular (domain-specific, mandatory, etc.) systems than by non-modular ones, natural selection would have favored the evolution of a massively modular architecture. So the human mind is probably massively modular. (p. 122)

The force of this argument depends chiefly on the strength of the third premise. Not everyone is convinced, to put it mildly (Samuels, 2000; Fodor, 2000). A related argument is the argument from animals. Unlike the argument from design, this argument is never explicitly stated in Carruthers' (2006). But here is a plausible reconstruction of it, due to Wilson (2008): Animal

minds are massively modular. Human minds are incremental extensions of animal minds. Therefore, human minds are massively modular.

Unfortunately for the proponents of massive modularity, this argument, like the argument from design, is vulnerable to a number of objections (Wilson, 2008). First, it is not easy to motivate the claim that animal minds are massively modular. The problem is that domain specificity is just one of five features characteristic of modularity in Carruthers' account, and he presents little or no evidence to support the attribution of the other four features. Therefore, unless domain specificity alone suffices for modularity (which seems unlikely on its face), the argument falters at the first step. Second, even if animal minds are massively modular, and even if single incremental extensions of the animal mind preserve that feature, it is quite possible that a series of such extensions of animal minds might have led to its loss. In other words, as Wilson (2008) put it, it can't be assumed that the conservation of massive modularity is transitive and without this assumption, the argument from animals cannot go through.

Third and finally, we have the argument from computational tractability (Carruthers, 2006). This is probably the least clear of the three arguments, in terms of its underlying logic:

> The mind is computationally realized. All computational mental processes must be suitably tractable…only processes that are at least weakly (i.e., wide-scope) encapsulated are suitably tractable. So the mind must consist entirely of at least weakly encapsulated systems. So the mind is massively modular. (pp. 44–59)

The main problem here is with the last step. Though one might reasonably suppose that modular systems must be at least weakly encapsulated, the converse does not follow. Indeed, Carruthers (2006) makes no mention of weak encapsulation in his definition of modularity, thus it is difficult to see how one is supposed to get from a claim about pervasive encapsulation to a claim about pervasive modularity. At best, what we get is an argument for the possibility of massive modularity, rather than its actuality.

ARGUMENTS AGAINST MODULARITY

Does modularity entail strong nativism?

It is important to identify any commitments to development entailed by modular approaches that differ substantively from commitments that derive from other views of cognitive architecture. Fodor is a strong nativist. This is obvious in his strong nativist position on innate concepts (Cowie, 1998; Fodor, 1997). Regarding modules, Fodor is clear that modules are “presumed innate barring explicit notice to the contrary” (Fodor, 2000, p. 58). This leaves the issue of the particular commitments about development that are entailed by a modularity hypothesis (Tooby et al., 2003). If what individuates a module is functional specialization, then a modularity hypothesis entails that the functionally specialized design features postulated by the hypothesis emerge in each individual, in each generation, during the developmental process by some process of genes interacting with internal and external environments.

Spatial Localization and Dissociations

Two major categories of argument against the existence of modules have been proposed: architectural and developmental. Generally, psychologists agree that because cognitive architecture is instantiated in brain architecture, the two will be isomorphic at some level (Marr, 1982). However, at a larger, macroscopic level, there is no reason to assume that there must be spatial units or chunks of brain tissue that neatly correspond to information-processing units (Smith & Thelen, 2003). Fodor (1983), however, assumed that functional discreteness at the information-processing level would be reflected in discreteness at the macroscopic level of brain structure. Modules, on this view, would be like snap-in parts in an automobile engine. This led him to predict that modules would exhibit "fixed neural architecture" and "characteristic breakdown patterns," for example, following brain injury (Fodor, 1983, pp. 98–100). If modules are spatially localized and discrete, one might expect an injury that could impair a single module and leave all other brain functions intact.

CONCLUSION

It can be concluded that although modularity is an accepted view, there are still some controversies on this issue. In this line, it can be said that terminological discrepancies have hindered efforts to disentangle important issues surrounding the term modularity. In particular, the equation of modular with *fixed, innate,* and *static* is an understandable consequence of intuitions that underpin the term. The interactionist perspective proposes that all cognitive mechanisms are the result of a developmental process that involves genes and environment as both causally relevant, is relatively uncontroversial. It is believed that the view of modularity is essentially logically entailed by a computationalist perspective, which is committed to mechanisms with formally definable inputs and operations. Another potentially controversial aspect is that the genes that play a causal role in the developmental programs associated with cognition have been selected as a result of the functional outcomes connected with the ultimate products of the developmental systems. It is believed that these programs are likely to have been selected as a result of their history of bringing about functionally specific, architecturally modular structures associated with adaptive problems faced by our ancestors. Recent studies imply that behavior in various contexts is influenced by cues that might have been relevant in ancestral environments even though their use in modern contexts makes little sense from the standpoint of canonical models of economics, even those that incorporate preferences beyond self-interest.

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FILIPINOS CODE-MIXING IN MEDAN

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ABSTRACT
Filipinos wherever they go, have their own capacities to create their own varieties of language and easily tend to use code-mixing in order for them to be more accepted to a particular norm in the society. This study deals to find out the types of code-mixing uttered by Filipinos in Medan, Indonesia. The objective of the research is to find out the types of code-mixing in Medan. The sources of this research are the Filipinos who live in Medan. This research applied qualitative research design. It examines the types of code-mix uttered by Filipinos in the city. The extensive speech data presented here are recorded, and observed the subject in the social gathering and pertinent occasions such as birthday party, wedding anniversary, graduation celebration and casual meetings wherein Filipinos are present. The results revealed that there are three types of code-mixing that can be found in Filipino in Medan. These are: (1) Insertion which was subdivided into: word; phrase, reduplication, idioms, clause and tag insertion but there is no hybrid clause insertion found in code-mixing among Filipinos in Medan while, next is 2) Alternation and 3) Congruent lexicalization.

KEYWORDS: Code-mixing, Filipinos, Varieties and Medan.

INTRODUCTION
Code-mixing often happens when the use of two languages or two cultures cannot be separated from the elements of one language well and often overlap between the two systems is in use. Wardhaugh (2006) stated that: "*Code- mixing is the particular dialect or language one chooses to use on any occasion, and a system for communication between two or more parties"*. The Filipino bilingual lives in a multilingual and multicultural environment. The Filipino bilingual of today possesses a strong national identity but needs to seek to render it more functional for the purposes of national well-being in the modern world. Filipino rather than English can better serve as a medium to express the Filipino's cultural traditions, values, beliefs, and national aspirations.

However, there are certain sociolinguistic realities that challenge the Filipinos. Filipinos, being a multi- lingual race consider English as their second language. However, combining the international language with the vernacular becomes a habitual practice among Filipinos both in rural and urban scenarios. It is commonly used as a marked socio- linguistic activity. Filipino language consists of written and oral communication language becomes a common socio-linguistic practice. Valero (2016). Thus, Filipinos tend to use language mixing which we called them *code-mixing*. Filipinos are one of the few migrants in Medan. According to the initial survey given by the immigration officers of Medan, Indonesia, there are more or less 200 Filipinos in Medan and most of them are teachers. They came from different regions of the Philippines with very diverse ethnicity, dialect and cultural background. Meaning, these Filipinos from different parts of the Philippines carried rich varieties of language with them.

Dealing with the analysis of code-mixing among Filipinos that live in Medan, the objectives of the analysis of this research are to find out the types of code-mixing uttered by Filipinos in the social gathering and pertinent occasions such as birthday party, wedding anniversary, graduation celebration and casual meetings wherein Filipinos are present.

The process consists of types of code-mixing. In this journal, the researcher has analyzed the recorded code-mixing utterances of the Filipinos in Medan. The types of code-mixing utterances of the Filipinos can be seen in the examples below.

Mr. L : Gusto ko magbook ng ticket pauwi ng Pilipinas..
(I want to book a ticket going to Philippines...)
Mr. A : Sir gusto mo tulungan kita magcheck sa internet para makabook ka ng ticket?
(Sir, do you want me to check in the internet so that you could book your ticket?)
Mr. L : Oo , Sir please kung pwede mo akong tulungan ..
(Yes, Sir please if you can help me...)
Ms. N : Sir , Mahal pa naman na ang ticket kasi pick season,
(Sir, the ticket now is very expensive due to pick session.)

From the data above Mr. L said something that he is booking a ticket. The phrases: "*Gusto ko "**magbook** ng **ticket**"*, "*gusto ko"* means I like to and the teacher also inserted the **mag,** an aspectual suffixes of Filipino grammar. Abastillas (2015) added with English word "***book*"** that means will book a ticket. Take a look at the response of Ms N, her response is "***Sir***, *Mahal pa naman na ang **ticket** kasi **pick session"***. They used the same style in code-mixing wherein English words are inserted from the first of the sentence then in the middle and it ends up with the word "pick season". This time code-mixing happens not just inserting the English word in the middle of Tagalog phrase or sentence with the help also of aspectual suffixes ***mag*** which means *will* plus the English form *book* to emphasize that he needs to book a ticket soon.

LITERATURE REVIEW

Chaer and Agustina (2004:115) says that *"campur kode adalah digunakannya serpihan-serpihan dari bahasa lain dalam menggunakan suatu bahasa, yang mungkin diperlukan dengan tanpa disadari, sehingga tidak dianggap suatu kesalahan atau* penyimpangan".

Code mixing is using pieces of another languages maybe needed unconsciously, so that it is not accepted as a mistake). According to Muysken (2000, p.1) explained more that code mixing is typically divided into three main types, they are insertion, Alteration and Congruent lexicalization. In Insertion are subcategorized by word, phrase, hybrid clause, clause, reduplication, idioms and tag insertion.

Insertion

Insertion of material (lexical items or entire constituents) from one language into a structure from the other language are approaches that depart from the notion of insertion view the constraint in terms of the structural properties some base or matrix structures. Here the process of code mixing is conceived as something akin borrowing. The difference would simply be the size and type of element inserted, e.g. noun versus noun phrase.

For example, wei ngana ba lia dance li dorang semester III waktu acara CCU?

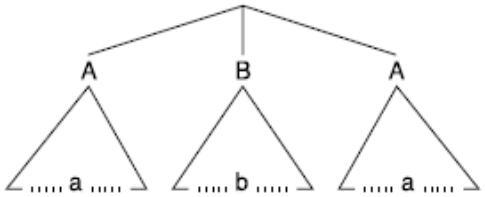

Figure1: Insertion

In this situation, a single constituent B (with the words b from the same language) is inserted into a structure defined by language A, with words a from the language.

Moreover Insertion are sub-categorized into six and here are the following:

Word Insertion

Word insertion is the first subcategory of insertion. Word insertion occurs when the speaker inserts a word expression. See the example below:

1. Trus kirim ke buat mention jawaban kamu.
2. Selamat malam guys semua.

Phrase Insertion

The second type of code-mixing insertion is phrase insertion. Phrase insertion happens when the speaker inserts phrase in the expression. For instance:

1. By the way, hari ini kita bahas apa ya?
2. Halo semua, good evening?

Hybrid Clause Insertion

The third insertion of code-mixing is Hybrid clause. Hybrid clause takes place when the speaker puts varieties of another language in a language that is used. For instance:

1. Selamat pagi sa lahat (good morning to all)
2. Kucing ano Yon? (Cat what is that?)

Reduplication Insertion

The fourth type of code-mixing is Reduplication. Reduplication insertion happens when the speaker inserts the duplicated words. For instance:

1. Ate joke-joke only ha...
2. Baiklah, saya mau speaking-speaking dulu nih.

Idiom Insertion

The fifth type of insertion in code-mixing is idiom. Idiom is when the speaker inserts idioms in the utterances. See the example below:

1. Ganyan talaga siya "He is a man of few words."
2. Sabi nga sa kasabihan "No man is an Island."

Clause Insertion

The last type of insertion is clause insertion. Clause insertion happens when the speaker inserts a clause that which a group of word consisting a subject and verb. For instance:

1. Yauda kita lihat sejenak, ini lagu dari "Little Mix' Hair."
2. So many things yang uda kita bahas hari ini.

Alternation

Alternation structures from languages: Approaches departing from alternation view the constraint on mixing in terms of the capability or equivalence of the language involved at the switch point. In this perspective code-mixing is akin to the switching codes between turns and utterances. Example such English –Indonesian. *" jangan suka nge-judgegithu dong.orang kan beda -beda".*

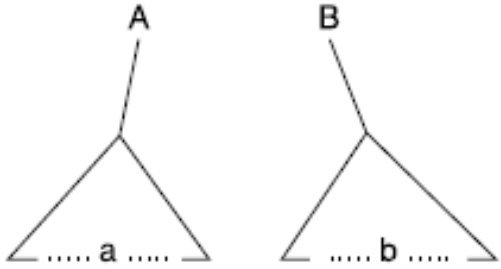

Figure 2: Alternation

In this situation, a constituent from language A (with from the same language) is followed by a constituent from language B (with words from that language).

Congruent lexicalization (dialect)

Congruent lexicalization of material from different lexical inventories into a shared grammatical structure underlies the study of style shifting and dialect/standard variation rather than bilingual language use in proper. For the Example:

1. *"Nice to meet you. I'm Jim. Boleh saya duduk di sini. May I sit here*?

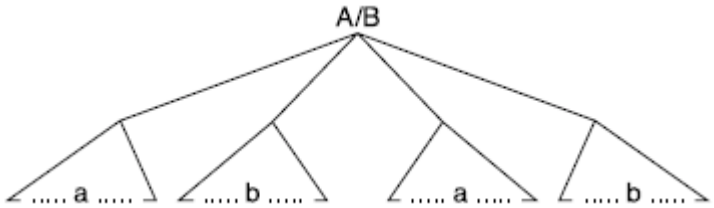

Figure 3: Congruent Lexicalization

Finally, in (3) the grammatical structured is shared by languages *A* and *B*, and words from both languages *a* and *b* are inserted more or less randomly.

RESEARCH QUESTION

What types of code-mixing are found among Filipinos?

RESEARCH METHODOLOGY

This research conducted by using qualitative data analysis. It covers the types of code-mixing uttered by Filipinos in Medan. Qualitative research design, Bogdan and Biklen (1992-58) stated that design is used in research to refer the researcher's plan of how to proceed. The planning is the point what is going on to do when research process happen. Again Bogdan an Biklen (1992:58) stated that proceed is based on theoretical assumption (that meaning and process are crucial in understanding human behavior, and descriptive data are what is important to collect, and the data analysis is based done inductively) and on data collection traditions (such as participant, observation, unstructured interviewing and document analysis).

RESULT AND DISCUSSION

The data of this study were the types of code-mix uttered by Filipinos in the city of Medan. The extensive speech data presented here are recorded, and observed the subject in the social gathering and pertinent occasions such as birthday party, wedding anniversary, graduation celebration and casual meetings wherein Filipinos are present. Each of the code-mixing utterances of Filipinos was analyzed by applying the theory of Muysken .

Table 1: Types of Code-Mixing

No	Extracts	Types of Insertion						
		W	P	HC	R	I	C	T
1.	Ilang *years* kana nagtuturo ate? (How many years have you been teaching already?)	✓						
2.	Sa Pilipinas *4 years* na at *7 years* dito sa Indonesia... (I taught in the Philippines 4 years and 7 years here in Indonesia.)		✓					
3.	Masarap ang *sambal* nila dito *try* nyo! (The chili paste here is delicious try it!)							
4.	And dami naman kumaain dito kasi *weekends*! (There are so many people eating here, because it is weekends.)	✓						
5.	"Ate *nag jojoke* kami ni V, pag-ikakasal daw ako mag praise and worship siya. (Sis, we have a joke that if we will get married, we will have praise and worship.)				✓			
6.	*Manis* parin... (It's still sweet)		✓					
7.	Ok we will eat na.. (Ok it's time to eat.)						✓	
8.	*Be careful with the knife* ha!						✓	
9.	Ganyan lang ... sabi ko sa kay kuya F...maaf maaf... sabi ko pero ganyan lang siya *"a man with a few words."* (That's what he is, I said sorry, he is a man of few words.)					✓		
10.	Ate tinatanong ka ni Elisa tungkol sa damit nya... Gusto kasi nya na siyang ina *appreciate* sya... (Sis, Elisa is asking you about her dress. She wants to be appreciated.)	✓						
11	Mababa ang *confidence* nya. (Her confidence is very low.)	✓						
12.	Gusto ko talaga *her gown* yong *color* ng *kebayanya*... (I like her gown and the color of the kebaya (Female Indonesian dress.)						✓	
13.	Kelihatanya simple *gani tapi* it looks smart (It looks simple but very beautiful I like it!)							✓

Note : W=Word, P= Phrase, HC= Hybrid Clause, R= Reduplication, I= Idioms, C= Clause. And T= Tag insertion clause

Table 2: Types of Insertion

No	Type of Insertion	Total	Percentage
1.	Word	33	31.0
2.	Phrase	25	23.3
3.	Reduplication	9	8.4
4.	Idiom	8	7.5
5.	Clause	29	27.
6.	Tag	3	2.8
7.	Hybrid clause	0	-
	Total	**107**	**100**

The data above showed that there were only 6 types of code-mixing insertion that were found from the utterances of Filipinos in Medan. The first type of insertion is word insertion (31%), clause insertion (27%), phrase insertion (23.3%), reduplication insertion (8.4%) and the last is idioms insertion (7.5%) and Tag insertion (2.8%). The rest hybrid is clause insertion which was not found. From the data above it can be concluded that word insertion is the most dominant among the insertion types of code-mix among Filipinos. See the example of Congruent Lexicalization and Alteration:

Ms. C: *Hello everybody.... candid* ***daw!***
(Hello everybody... pause for picture but it should be candid) (U.2.1)
Ms. V: K*ayo nag-tuo na* **fashion show** ta *ngari!"*
(Do you believe that we are in fashion show?)**.** *(U.4.3)*

From Ms. C, the utterances was "Hello everybody, candid daw", the *daw* here was the only Tagalog word that was inserted, the rest was in English phrase. The third data was a combination of two phrases. The first phrase was Bisaya dialect Phrase " Kay nag-tuo na" which means that they believed that and then inserted with English phrase "*fashion show*" and again Bisayan word "*ta ngari"*. These types congruent lexicalization were the most commonly used of code-mixing among Filipino in Medan.

And then the next type of code-mixing that uttered among Filipinos in Medan is Alternation. Alternation was the least used of types of code mixing among Filipino in Medan.
Here's the analysis on Alternation:

Ms. J: Nag meet na tayo? (U.2.4)
(Have we met before?)
Ms. S: Yes nag meet na tayo. (U.2.5)
(Yes we had meet before.)
Ms. M: Kasi kami mag grab taxi nalang. (U.3.25)
(We will take grab taxi)

From the three data above, the use of Tagalog affixes of "*nag*" and "*mag*" were commonly used in alternation code-mixing. With the Tagalog affixes "*nag*" and "*mag*" with the English word inserted. The use of "*nag"* in Tagalog affixes connotes a past form of an action that has been taken place already and "*mag*" is the future form of action that is yet to take place. So "*nagmeet naba tayo*" means "have we met before?" while "*mag grab taxi nalang tayo*" means "Let's take a grab taxi later".

Table 3: Congruent Lexicalization and Alteration

Types of Code-mixing	Total	Percentage
Congruent Lexicalization	93	86.92
Alteration	14	13.08
Total	**107**	**100**

From the data above it shows that congruent lexicalization has 86.92%. It is the most dominant code-mixing among Filipinos in Medan, while Alternation has 13.08 % and it is the least code-mixing uttered by Filipinos in Medan.
Findings

Filipinos code-mixing utterances in Medan finds the tree types of code-mixing, from the six sub-categories of insertion, the word has 31% and the most dominant among all the types of insertion. Then clause insertion has 27%, next is phrase insertion which has 23.3%, another is reduplication insertion which is 8.4% , idioms insertion has 7.5% and tag insertion which has 2.8% except that there was no hybrid clause insertion found. The congruent lexicalization which has 86.92% is the most dominant among the types of code-mixing while the least dominant is alternation which 13.03 %.

Discussion

Muysken (2000) classified the code mixing into three types: Insertion, Congruent Lexicalization and Alternation. Insertion has been subdivided into seven: word insertion, phrase insertion, phrase insertion, hybrid–clause insertion, idiom insertion and reduplication. Based from the findings from word insertion, only word, phrase, clause, reduplication, idioms, clause and tag insertion were found and these were similar to the previous findings of Muysken while in contrast there was no hybrid clause insertion that was found which made this research work unique. In relation with Osoba (2014) works on Yuruba New Generation about Code-mixing, according to him the Yuruba new generations were bilingual and therefore code-mixing for them was normal. In comparison, the Filipinos who are based in Medan are mostly young of age and are bilinguals and sometimes multilingual. Code-mixing among these Filipinos is normal. Furthermore, the findings also noticed some patterns or codes in word insertion such as Taglish or Tagalog English which had similar findings from the previous works of Go and Gustillo (2013). According to them, the Tagalog was the common language amongst the factory workers and English was a language that made them socially accepted. In this case, Filipinos use Tagalog for usual conversation while English is used as an edge to work abroad such as teachers. Taglish or Tagalog English was also one of the findings similar to the work of Go and Gustilo. (2013) and the results can be found in word insertion, one of the types of code-mixing.

CONCLUSION

After analyzing the types of Filipinos code-mixing in Medan, the conclusions can be drawn as the following: These are: (1) *Insertion* which was subdivided into: word; phrase, reduplication, idioms, clause and tag insertion but there is no hybrid clause insertion, that are found in code-mixing among Filipinos in Medan while, next is 2) *Alternation* and 3) *Congruent lexicalization.*

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