THE ANALYSIS OF CODE - SWITCHING USED BY BILINGUAL SCHOOL TEACHERS

Afridayanti, Endang Komariah
FKIP Universitas Syiah Kuala, Jl. T. Nyak Arief Darussalam Banda Aceh 23111
e-mail: endkomariah@yahoo.co.id

Abstract: The Analysis of Code-Switching Used by Bilingual School Teachers. The purpose of this study is to investigate the frequency of code switching occurences and to find out the condition that causes the code switching use. The subjects of this study are 3 teachers; they are Math, Physics, and Biology teacher from SMPN 1 Banda Aceh who teach the 2nd grade. Each teacher was observed for 3 meetings during the teaching learning process. They were also interviewed to gather more speficic data. The data from observation shows that the frequency of situational code switching happened very often for 85.6% in percentage. Then the condition that causes the teachers to use code switching is mostly in the reiteration process that happened for 30.5%. Teachers used code switching to ease the teaching and learning process, to expand students' comprehension, to help the students stick on the topic, to help the students confident in communicating, and to obey the rule of bilingual school.

Key words: analysis, bilingual classes, code switching

Abstrak: Analisa Alih Kode yang Digunakan oleh Guru Sekolah Dwi Bahasa. Tujuan penelitian ini adalah untuk menginvestigasi frekuensi kemunculan alih kode dan menemukan situasi yang menyebabkan penggunaan alih kode. Subjek penelitian ini adalah 3 orang guru; mereka adalah guru Matematika, guru Fisika, dan Guru Biologi dari SMPN 1 Banda Aceh yang mengajar kelas dua. Masing-masing guru diamati selama 3 pertemuan selama proses belajar mengajar. Mereka juga diinterview untuk mendapatkan data yang lebih spesofik. Data dari pengamatan menunjukkan bahwa frekuensi alih kode situasional sangat sering terjadi sebesar 85.6%. Selanjutnya kondisi yang menyebabkan alih kode adalah untuk memudahkan proses belajar mengajar, untuk memperluas pemahaman siswa, untuk membatu siswa fokus pada topik, untuk membantu siswa percaya diri dalam berkomunikasi, dan untuk mematuhi peraturan sekolah dwi bahasa.

INTRODUCTION

Bilingual education program has been a trend in Indonesia. Bilingual education refers to "the use of a second or foreign language in school for the teaching of content subjects" (Richards et. al., 1992), such as Mathematicss and Physics. Mathematics and Science education is essential to the future success of students, as is proficiency in the English language in this age where science and technology have gained significance in our everyday lives (Mostafa,2009). According to Paulston (1978) cited by Rosmeri (2009:13) bilingual education is the use of two languages, one of which is English, as a medium of instruction for the same pupil population in a well-organized program which encompasses part or the entire curriculum and includes the study of the history and culture associated with the mother tongue.

In the context of the Indonesian multilingual society where English is taught as a foreign language (EFL), bilingual program has become a significant breakthrough to encourage the use of English in non-English subjects such as Mathematics and Science. Spolsky (1998:45) points out that bilingual as a person who has some functional ability in second language. This

ability may vary from one bilingual to another. Bilinguals can choose what language they are going to use. In this line, Spolsky (1998:45-46) point outs bilingual as "*A person who has some functional ability in second language",* he also says that the bilinguals have a repertoire of domain-relate rules of language choice. In other words, bilinguals can vary their choice of language to suit the existing situation and condition in order to communicate effectively. This leads them to alternate two languages within the same utterance or commonly called code switching. Blom & Gumperz (2000:126) introduce two patterns of Code-Switching, namely situational Code-Switching, in which the speaker switches languages according to the change of the situation and metaphorical Code-Switching in which the speaker switches languages to achieve a special communicative effect (Namba, 2007).

Code switching is potentially the most creative aspect of bilingual speech (Hoffman, 1991:109). He further adds that the feature of bilingual speech such as interference, code mixing and code switching are normal phenomenon because bilinguals often find it easier to discuss a particular topic in one language rather than another (Holmes, 1992:44). Similarly, Spolsky (1998) says that bilinguals like to shift their language for convenience. This situation may be the basic reason why people do code switching in their speech. Thus, Hudson (1980) states code-switching is a single speaker uses different varieties at different times.

From the explanations above, it can be concluded that code-switching might be used by the teachers in bilingual class when they talk and explain non-English subjects in teaching and learning process. SMP Negeri 1 Banda Aceh is one of the schools which have implemented bilingual program.. This school has introduced bilingual program since 2008. However, after a few years of the implementation, a problem in teaching and learning process of bilingual class came to the surface. The teachers who are supposed to use English in teaching Mathematics and Science use Bahasa Indonesia more frequently as a formal language in teaching and learning process. They rarely use English when they teach the specific subjects in English such as Mathematics and Science. They still find difficulties to explain specific term though they have been prepared to teach math and science in bilingual class before. Both teachers and students tend to encounter difficulties especially in classroom discourse. It emerges because neither teacher nor students have adequate proficiency of English. Therefore, Bahasa Indonesia is used to ease the pupils as a transitional language of instruction. In this case, the code-switching is one of the ways to explain teachers' mean when they are teaching. There are some functions of code switching: topic switch, affective function, quotations, addressee specification, interjections, reiteration, and message qualification. Topics switch happens when someone changes a topic in a discussion, affective function serves the expression of emotion that is built to deeper communication. Quotations then exists when code switch is used as reported speech.The function of addressee specification as the switch serves to direct the message to one of several possible addressees. It happens when a speaker turned to someone aside from the conversation. And Interjection functions as sentence filler. Furthermore it marks an exclamation. Then, reiteration is to repeat the message in other code, either literary or in somewhat modified form. This can be used to clarify the message and to emphasize the idea. Finally, Message qualification is to qualify contractions such as sentence and verb compliments (Gumperz: 1982, 75-81).

This study tries to analyze the frequency of code-switching used by the teachers in teaching and learning process in bilingual class and also investigate the functions of code-switching used by the teachers. Therefore this study aims at finding how often the teachers use code-switching and in what

conditions the teachers use code-switching in bilingual class.

This study can show how bilingual teachers communicate with the students during teaching learning process in bilingual class so that it can be used as a consideration to improve the quality of teaching learning process to achieve the goals of learning.

METHOD

This research employs a descriptive qualitative research design. The study was conducted at SMP Negeri 1 Banda Aceh under the consideration that it is one of the state junior high schools which has been declared as bilingual school since 2008 by the government. The source of the data and research subject in this research is junior high school teachers at second grade. The data were collected from three teachers who teach Mathematics, Biology and Physics in SMP Negeri 1 Banda Aceh for 3 meetings for each class.

The data for this study were gathered through classroom observation ,recording, field notes, and interviews. The focus is on the frequency of code switching used by bilingual school teachers and in what condition the teachers did use it.

In order to obtain the accuracy of the data, the data triangulation is used. The triangulation is done by comparing the data obtained from observation, field notes, interview, recordings, and documents. The data are divided based on the characteristics of data and kinds of instruments used.

Type of data analysis of this research is inductive analysis. Inductive analysis is done – during and after the research – either to support or answer the research questions. The study employs three main procedures to analyze the data included data collection, data reduction and data display (Miles and Huberman, 1987:21).

RESULT AND DISCUSSION

There are two types of code-switching used in each classes; situational and metaphorical. The data shows that situational type of code switching is extremely used at the most. As we can see that it is 85.4% . Physics teacher used it at the first most for 31.2%, next comes the Math teacher with 29.3%, and lastly is the Biology teacher with 25%. This happened when all teachers needed to change the topis or do another function of code switching depend on the situational deal which leads to the use of types of situational code switching. For more specific information, we can see that math teacher used 9.6% of situaional code switching in her first meeting, 9.3% in her second meeting and 10.4% in her las meeting. Physics teacher used 10.6% in the first meeting, 10.4% in the second meeting, and 10.1% in the third meeting. Meanwhile Biology teacher used 7.4% in her first meeting, 8% in the second meeting, and 9.6% in the last meeting. While the meataphorical type of code switching was only used for 14.6% among all—4% by Biology teacher, 5% by Physics teacher, and 5.5% by Math teacher. Specifically, math teacher used 1.6% of situaional code switching in her first meeting, 1.8% in her second meeting and 2.1% in her las meeting. Physics teacher used 2.1% in the first meeting, 1.8% in the second meeting, and 1.3% in the third meeting. Meanwhile Biology teacher used 1.1% in her first meeting, 1.3% in the second meeting, and 1.6% in the last meeting.

To see the functions of code switching used by the teachers in all subjects—Math, Physics, and Biology—from the whole meetings, the following table can show the findings.

The data explains that teacher who used more code switching is physics, followed by math teacher the runner up, and lastly the biology teacher. We can see that Physics teacher used 38.2% of code switching of all, Math teacher used 33.7% of code switching,

and Biology teacher used 28.1% of code switching function. The highest code switching used under condition where the teachers need to repeat or to clarify their explanation, and this happens in the function of reiteration. Math teacher has the highest percentage in using code switching for reiteration; it is 11.7%, then Physics teacher is 11.8%, and Biology teacher is 7%. While the least code switching used is in the function of addressee specification where the teachers need a little specific information from the students. Last, Biology teacher used the least; it is 1.3%, then comes the physics and Math teachers for 1.6%, respectively.

From the whole perspective, we can see that all teachers used the function of reiteration at the most—30.5%—because they believed that the students needed repetition while learning, so that the teachers decided to switch constantly under the condition of reiteration. The least function that was used by those teachers was addressee specification where the teachers tried to find another specific information from the students by asking a certain student to specify the certain term but in this teaching and learning process it rarely happened as the percentage was only 4.5%. The function of topic switch is 20.1% as the teachers frequently changed the topic while they were teaching, especially Biology teacher who used 7.8% personally among all. Next, the function of interjection serves the percentage of 15.5%, and this happened as the teachers rarely used the "interjection" sentences in their teaching process— where Biology teacher used 4.3%, Math teacher used 5.3% and Physics teacher used 5.9%. Then the function of message qualification serves 13% as there were only several explanations needed to be qualified by the teachers because most of the students already understood the materials. The function of affective function shows up 10.6% as all teachers rarely used any terms to build emotional relationship with their students. Last but not least, the function of quotation was used at the minimum range of percentage, it is 8.5% of all and this

clarifies that all teachers hardly used quotation from the textbook to be translated to their students, especially Math teacher who used the least, it is 1.6%, and then come the Physics teacher 2.9% and Biology teacher 4%, respectively.

From the graph we could see that the largest area, which is colored green, is showing the reiteration of code switching function which obviously is the most function used, that is 30.5%. Then, the narrowest area which is colored white is showing us the use of addressee specification function, the least used for only 4.5%. then we can see the use of function of topic switch—colored blue— which actually has the second largest area in the graph that goes for 20.1% of all, followed by the use of interjection function for 15.5% and then message qualification which is the brown area goes for 13%. The affective function which is red area comes earlier for 10.6% before we can see the purple area marks quotation function that only has 8.5% in percentage.

In addition to the earlier expalanation, the writers would like to add about the optimum usage of code switching function. The less percentage a teacher has in switching codes means that the better she teaches, such as Biology teacher, for instance, who only used 28.4% among all. On the other hand, the more code switching happen in a teaching and learning process, the more teachers has confused the students and distracted their comprehension from the topis of the day in teaching a bilingual class that goes for Physics teacher who has 38.2% rage of percentage, and Math teacher who has the percentage of 33.7%, and these teachers were using English-Indonesia code switching at the most. As suggested by Cook (2001) Code switching causes error proneness nature that's why it should be strongly avoided in classroom. Coleman, Educational consultant in British Council, as cited in kompas.com states that RSBI schools should use minimum English in the lesson deliverance, English is only used in the lesson introduction and not for the whole

teaching process. This is the aim of RSBI schools which is to mold students who are able to cope with international knowledge but proud of their nationwide culture.

The result shows Function of code-switching, the situational and metaphorical code switching used by the teachers. It presents the percentage of the use of both situational and metaphorical code switching. Math and Physics teacher used code switching frequently, except the Biology teacher who rarely used code switching while teaching because she used Bahasa Indonesia in the class. This is caused by the lack of vocabulary and grammar knowledge that leads to the use of less English in teaching a bilingual class.

This finding shows, those teacher used code switching to facilitate and explain the content of the lesson. They sometimes shifted the topics in order to have their students attention. Then they also built the emotional deal by using the affetive function of code switching. They used the quoted material from the book to facilitate the student by using quotation function of code switching. Addressee specification was also used by those teachers to have certain students answer their question as well as pay attention to them. The function of interjetion was only used for the filler for teachers while they were teaching the lesson. Next, they also repeat what they have said before by shifting to Indonesian language or English or vice-versa to make the students clearer about the topic of the lesson, and this is called reiteration code switching. Lastly, they used the fuction of message qualification in order to explain deeper about the lesson.

There are several reasons ofr using the code switching as stated by the teachers, they are:

1. to ease both themselves and also the students to cope with unfamiliar words or expressions.
2. to expand the comprehension of the material.
3. to have the students stick on the topic and not wandering out of it.
4. to make the students confidence in communicating both teaher using English.
5. to obey the procedures and direction of the bilingual school.

All teachers claim that their English mastery was not excellent since they have only got a few training to teach bilingual class. So they have to be well-prepared each time they are going to teach the class. They also used code switching for clarification and comprehending the command and the content. Most of the teachers got problems in pronunciation, grammar, and vocabulary. They constantly used unacceptable pronunciation, unstructured sentenses, and less vocabulary. However, the students were not getting confused because the teacher only used the constant vocabulary which are the most familiar to the students, so it did not take a long time for the students to encode and decode what their teachers said. So, we can conclude that their ability in English is good enough.

Concerning with the use of situational and metaphorical code switching, it can be concluded that all teachers were constantly using situational code switching. This happens because the materials of the subjects are easily wandering out of the topic, so that the teacher needed to use more situational code swithing to have their students stick clingly to the topic and not to think that the subject is intricatedly difficult. For clarification, we can see that those two subjects have formulas and also different persperctive of the comprehension—when teaching topic is about prism, it has to involve the complex drawing (front, back, left-sided, and right-sided prism) to make the students understand, and also the formulas derivations—which cannot be explained simply without changing the topic and swicthing the language. Biology teacher used the least code switching because she has less vocabulary and knowledge about English and its grammar, while the two other teachers have more vocabulary and knowledge as they

had been well trained inside and outside this country.

In the regard of answering the research questions, the writers would serve the forthcoming explanation. The first research question which asks the frequency of the use of code switching in bilingual classes—whether it is often or not often—can be seen from the most frequent function of code switching occur, that is the reiteration function that goes for 30.5% and has the largest area in the graph. Reiteration function happens when teacher needs to reiterate the idea to help the students understand the topic of the lesson, for instance; **//dicotiledonae is plant that has two seed chip//** *dicotil adalah tumbuhan yang berkeping dua//*. Then, in type of code switching, the most type occurs is situational code switching for 85.4% when the teacher needs to explain more about a lesson by changing the topic depends on the situational deal, for example; // **let's give the example!//,** as Wardaugh (1986: 103) states that the teacher changes the topic from mentioning certain features of dicotiledonae into mentioning its examples. Shortly, we can say that the teachers used code switching **very frequently**.

As for the condition that makes code switching mostly happen can be seen from previous tables and the graph of the code switching function where we could see that the reiteration function is dominantly happened for it is 30.5% of all, and we can see that the largest area belongs to the reiteration function of code switching. This means that the condition where the teachers need to explain more to the students by reiterating the ideas from English into Indonesia or from Indonesia into English causes the code switching to happen dominantly as also stated by Romaine in Reini (2008: 26). In other words, the condition the code switching happens more is mostly under the condition of reiteration.

CONCLUSION

There are two types of code switching used by the bilingual teachers, they are: situational code switching and metaphorical code switching. Situational code switching happened more often that goes for 85.4%, this means that while teaching, the teachers switched the topic a lot in facilitating the lesson.

All of the functions of code switching occurred in all classes. 1). Topic switch, 2). Affective function, 3). Reiteration, 4). Quotation, 5). Addressee specification, 6). Interjection, 7). Message qualification. The reiteration of code switching function is obviously the most function used is 30.5%. This means that the reiteration function of code switching is the cause for the teachers to use more code switching in the class while teaching. It is the condition where the techer had to reiterate or repeat their explanation in Indonesian to make the students understand the topic well. Then, the use of addressee specification function is the least used for only 4.5%.

It is also found that Math and Physics teacher used code switching more than Biology teacher. There are some reasons stated by the teacher why they use code switching 1). To ease the learning process, 2). To expand students' comprehension, 3). To make the students stick on the topic, 4). To help the students have confidence in communicating in English, and 5). To obey the bilingual school regulation.

REFERENCES

Blom and Gumperz J.J. 2000. Methaporical Code switching. Social Meaning in Linguistic Structures. Code witching in Northern Norwey in John Gumpez and Del Hymes (eds) Directions in Sociolinguistics.The Ethnography of Communication. New York. Holt Rinehart and Winston.

Cook.G. 2001. *Discourse.* London. Oxford University press.

Ellis, R. 1994. *The Study of Second Language Acquisition*. Shanghai: Shanghai Foreign Language Education Press.

Grosjean. 1994. *Individual bilingualism.* Retrieved on January 22th 2012 from http: www.bilingualfamiliesconnect.com/Individual.pdf.

Gumperz, J.J. 1982. *Language and Social Identity.* Retrieved on february 20th, 2012 from:http://books.google.co.id/books?id=onepage&q=gumperz

Hasniwati. 2003. *Code Switching in Acehnese* (An Ethnography of English Department Student Syiah Kuala University).Thesis. Universitas Syiah Kuala.

Hamers, J. F., & Blanc, M. H. 2004. *Bilinguality and Bilingualism.* Cambridge University Press.

Hoffman, C. 1991. . *Introduction to Bilingualism*. New York: Longman.

Holmes, J.2001. An introduction to Sociolinguistics. Harlow: Pearson Education Limited.

Hudson, R.A. 1980. *Sociolinguistics*. USA: Cambridge University Press.

Joppe, M. (2000). *The Research Process.* Retrieved on January 5th, 2012, from http://www.ryerson.ca/~mjoppe/rp.htm

Kirk, J., & Miller, M. L. (1986). *Reliability and validity in qualitative research. Beverly Hills: SagePublications.* Retrieved on January 5th, 2012, from http://books.google.co.id/books/about/Reliability_and_validity_in_qualitative.html?hl=id&id=YDFZlq_KM88C

Maytyara, C. D. 2009. *The Functions and Reasons of Teacher's Code-Switching in Bilingual classroom*.Thesis.Universitas Syiah Kuala.

Marasigan, E. 1983. *Code-switching & Code-Mixing in Multilingual Societies.* Singapore: Singapore University Press

for SEAMEO Regional Language Centre.

Miles, M.B & Huberman, A.M. 1984. *Qualitative Data Analysis: A sourcebook of new method.* Newburry Park, CA: sage publication.

Moleong. Lexy. J. 2002. Metode Penelitian Kualitatif. Bandung: Remaja Rosdakarya.

Mostafa, N.A. 2009. *Teacher Beliefs and the Teaching of Mathematics and Science in English*. From English Language Journal Vol 3, (2009) 83-101 ISSN 1823 6820 pdf.

Myers-Scotton, C. 2006. *Multiple Choice: Introduction to Bilingualism.* Oxford: Blackwell Publishing.

Namba, K. 2007. *What is Code-Switching?* Retrieved on Oktober 20th, 2011 from yayoi.senri.ed.jp/research/re10/Namba.pdf.

Palmer, Deborah K. 2009. *Code-Switching and Symbolic Power in a Second-Grade Two-Way Classroom: A Teacher's Motivation System Gone Awry*: University of Texas, Austin, USA. Bilingual Research Journal, 32:1, 42 — 59 Retrieved on January 12th, 2012 from http://www.informaworld.com/smpp/title~content=t909204797.pdf

Richards, J.C. et al. 1996. *Reflective Teaching in Second language classrooms*. Cambridge. Cambridge University Press.

Romaine, S. 1995. *Bilingualism*. Oxford: Blackwell Publishers.

Santoso, T. 2006. *The benefits of bilingual education and its applications in Indonesia.* Jurnal Pendidikan Penabur 5(6). Retrieved in December 24th 2010 from http://www.bpkpenabur.or.id/files/Hal.42-45%20The%20Benefits.pdf

Siegle, Del. (2010). *Likert Scale*. Neag School of Education - University of Connecticut. Retrieved on January 5th, 2012, from

http://www.gifted.uconn.edu/siegle/res earch/instrument%20Reliability%20an d%20Validity/Likert.html

Schmitt, E. C. 1985. *The 3 teaching methods in bilingual classes.* Retrieved on January 22th 2012 from http: www.nytimes.com/.../19851110Bilingual. pdf

Spolsky, B. 1986. *Sociolinguistics*. New York: Oxford University Press.

Stephen, B. 2010. *Researching English Bilingual Education in Thailand, Indonesia, and South Korea*. CRELLA, University of Bedfordshired. © British Council 2010 ISBN: 978-086355-645-6. Retrieved on March 12th, 2011 from www.britishcouncil.org/accessenglish

Sudijono, A. 2003. *Pengantar Evaluasi Pendidikan.* Jakarta: Raja Grafindo Persada.

Tarigan, H. G. 1988. *Pengajaran Kedwibahasaan*. Bandung: Angkasa.

Tarigan, H. G. & Tarigan, D. 1995. *Pengajaran Analisis Kesalahan Berbahasa. Bandung*: Angkasa

The Role of Ministry of National Education Republic of Indonesia. 2003. *Act of the republic of Indonesia Number 20, year 2003 On National education system.* Published by The Ministry of National Education Republic of Indonesia :Jakarta. Retrieved on April 20th 2011 from www.planipolis.iiep.unesco.org/uploa d/Indonesia/Indonesia_Education_Act. pdf.

Wardhaugh, R. 1986. *An Introduction to Sociolinguistics*. UK: Basil Blackwell Inc.

Xiaou, Y. 2006. *Teacher Talk and EFL in University Classrooms.* Retrieved on March 12th, 2011 from www.asian-efl-journal.com/thesis_M_Xiaou.pdf