

# CODE MIXING IN WRITING BY PUPILS WITH HEARING IMPAIRMENT

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## Abstract

The focus of this study is to analyse the use of code-mixing by the hearing impairment pupils in writing the Malay language and to explain the factors that cause the code-mixing to occur among them. This study is an instrumental case study using a qualitative approach. The sample of the study are six hearing impairment pupils at one of the National Schools of Federal Special Education in Malaysia. The data collection methods used are observation and document analysis methods. Observations were made 'non-verbally' for 5 months. The documents analysed were ten sets of worksheets. The worksheets require pupils to construct sentences in Malay. The results show that code mixing occurs a lot among the hearing impairment pupils when writing sentences in Malay language. Code mixing among the hearing impairment pupils occur due to lack of interest in the Malay language, limited vocabulary acquisition, similarities between the code signals in English and Malay language and also the extra linguistic context. This study is important as a guide for special education teachers to encourage them to plan educational strategies and innovations to overcome the problem of code mixing in the writing of hearing impairment pupils.

**Key Words:** code mixing, hearing impairment pupils, Malay language, writing

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# PERCAMPURAN KOD DALAM PENULISAN MURID PEKAK

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## Abstrak

Fokus Kajian ini ialah untuk menganalisis percampuran kod yang dilakukan oleh murid pekak dalam penulisan bahasa Melayu dan menjelaskan faktor-faktor yang menyebabkan berlaku percampuran kod dalam kalangan mereka. Kajian ini berbentuk kajian kes instrumental yang menggunakan pendekatan kualitatif. Sampel kajian ialah enam orang murid pekak di salah sebuah Sekolah Kebangsaan Pendidikan Khas Persekutuan di Malaysia. Kaedah pengumpulan data menggunakan kaedah pemerhatian dan analisis dokumen. Pemerhatian dilakukan secara 'non-verbal' selama 5 bulan. Dokumen yang dianalisis adalah sebanyak sepuluh set lembaran latihan murid. Lembaran latihan tersebut berbentuk penulisan binaan ayat dalam bahasa Melayu. Dapatan kajian menunjukkan bahawa murid-murid pekak banyak melakukan percampuran kod dalam ayat dalam penulisan bahasa Melayu. Murid-murid pekak melakukan percampuran kod disebabkan faktor kurang minat terhadap bahasa Melayu, penguasaan kosa kata yang terhad, persamaan kod isyarat antara bahasa Melayu dan bahasa Inggeris dan juga faktor ekstralinguistik. Kajian ini penting untuk dijadikan panduan kepada guru-guru pendidikan khas bagi mendorong mereka untuk merancang strategi dan inovasi pendidikan bagi mengatasi masalah percampuran kod dalam penulisan murid-murid pekak.

**Kata kunci:** , murid pekak, percampuran kod, penulisan, bahasa Melayu

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## 1.0 Introduction

Code mixing is one of the language confusion that occurs in language use. The phenomenon of code-mixing Malay with English referred to as '*bahasa rojak*' - a mix of languages (Roksana Bibi, 2015). Code mixing is usually acceptable in the context of everyday communication. However, code mixing is not acceptable in formal situations or in the educational language, especially in writing. The issue of code mixing among primary school pupils is at an alarming level, especially among the hearing impaired. They often use two linguistic codes in one conversation to overcome vocabulary constraints when speaking (Siti Rahimah, Raja Masittah & Normahdiah, 2014). They also prefer code mixing in their writing. Researches reveal that pupils frequently code mix nouns and discourse markers when writing essays in Malay language (Nor Hashimah Jalaluddin & Adriana Santa Tinggom, 2016).

Language acquisition in hearing impaired pupils varies from the typical pupils. These pupils' hearing constraints have caused them to be unable to recognize the sound form of an object. If the pupil does not know the special signal that symbolizes a word, the pupil will not be able to spell the word correctly. This is said so because the writing of the hearing-impaired pupils is limited to signal codes that they recognise and know only. Sign language replace oral function for hearing impaired pupils. When pupils are unable to capture the signs in the Malay language, the pupils will tend to allow code mixing to happen when writing. (Abdullah Yusoff & Che Rabiaah, 2010). The variety of sign language used by hearing impaired individuals can contribute to writing problems as no specific sentence structure can be used (Aidah Alias et al., 2016). As a result, they are weak in essay writing. Therefore, the factors that cause hearing impaired pupils to code mix should be identified and analysed in detail to overcome the pupils' mistakes when writing in the Malay language. In addition, the limitations of studies on code mixing among the pupils with hearing impairment causes the problem to be unresolved. Studies on hearing impairment pupils focuses a lot on language literacy, pedagogy and mastery of aspects of the pupils' language system. There are still many areas of improvement that can be worked on to help the hearing impaired to overcome code mixing problems, especially in writing. Therefore, this study was conducted to identify code mixing and the factors that causes code mixing when writing in Malay language.

## 2.0 Literature Review

Nor Hashimah Jalaluddin and Adriana Santa Tinggom (2016) studied on code mixing among 80 Chinese pupils at a tuition centre. The study found that Chinese pupils prefer to mix the code of English or Chinese when writing essays in Malay language. They face confusion in the use of adjectives and have vocabulary errors, errors in the use of personal pronouns as well as common errors such as the use of abbreviations in sentences and the use of prepositions. Amy Lyne (2016) in her study conducted in Halifax found that children tend to code mix at home, imitating the language used by their parents when communicating with children. The study also found that children with bilingualism had better vocabulary than children with only one language. A study of code mixing in the title or slogan of contemporary, commercial printed Spanish advertisements conducted by (Nor Shahila et al., 2016) shows that there are five code



mixing processes that are often used in a society. The first is the insertion or mixing in terms of units. Second, code mixing in terms of phrases. Next is the mixing in terms of sentences and clauses. Fourth, the insertion of figurative words or collocations and the lastly, the addition of inflection (prefixes and suffixes) and reduplication.

The research on language mixing in South Africa conducted by Mabule (2015) shows that code mixing occurs consciously as well as unconsciously. Speakers usually change languages when they start a conversation with an alternate selected language. The findings of Mohammad Fadzeli (2016) on code mixing in Malay literature shows that code mixing in intra-sentence (code mixing within a sentence) occurs more frequently used than inter-sentence (code mixing between sentences) in Malay literature. Speakers are more likely code mix between Malay and English in formal situations and will use only Malay language in informal situations. Monica Adhiambo Ouma (2014) has studied the behaviour of primary school pupils towards English as a second language and the study found that pupils often mix languages when communicating. In writing, pupils often replace words in their native language if they are unable to find the appropriate word in the desired language.

Similarly, the study conducted by Sumarsih et.all (2014) related to oral communication was done on speakers of North Sumatra, Indonesia. The results of the study found that code mixing in Indonesia is divided into code mixing in terms of words, phrases and sentences. Word-level code mixing recorded the highest percentage which is 57.3% followed by phrases, 40.4% and lastly sentences-17.3%.

Meanwhile, the study by Hazlina Abdul Halim (2012) on the influence of Malay and English language in code mixing among Malay pupils who took French course as a foreign language found that there are five factors of the occurrence of code mixing:

- Crutching - a strategy used when a person does not remember a word.
- Borrowing - a strategy of using a more proficient language to describe something.
- Providing clarification / emphasis
- Conjoining is used to connect one description to another.
- Untranslability is used to express something that does not exist in the target language.

In addition, a research conducted on code mixing in aspects of frequency and attitude of lecturers and pupils in an English class in a public university reveal that code mixing happens frequently to explain a concept clearly. At the same time, the pupils also code mix during a presentation due to lack of English vocabularies (Kamisah & Misyana Susanti, 2011). Most of the studies mentioned above focus on code mixing among second speakers and normal language users who do not have vision or hearing problems. The studies did not provide complete and clear information on the problem of code mixing among hearing impaired pupils, especially in writing. Therefore, this study is relevant because it covers the scope of code mixing among the hearing impairment



pupils when writing in Malay language and the factors that cause code mixing to occur among the hearing-impaired pupils. This study limits the discussion to code mixing within each sentence and code mixing between the sentences and its focus is on word classes.

## 2.1 Concept of Code Mixing

Code mixing in communication uses more than one language code in a single sentence chain (Nor Hashimah & Adriana Santa, 2016). Code mixing usually occurs when the speaker is unable to find words that have the same meaning as the meaning they want to convey. Code mixing also refers to the transfer of linguistic elements in one language to another (Monica Adhiambo Ouma, 2014). In other words, code mixing is when words or phrases of another language are inserted into the main language or the target language. Moreover, code mixing can be considered as the process of substituting other languages into the primary language with the aim of communicating effectively (Amy Lyne, 2016). Code mixing is a common phenomenon that often occurs in bilingual or multilingual societies which takes place when the lexical and grammatical context of two or more languages are present in the same item (Kenali et.al, 2016).

This study uses Teo Kok Seong (2006)'s *Model Keracuan Bahasa* to explain the form of code mixing. This model shows that there are at least four forms of code mixing. However, this study only revolves on two of these forms, namely code mixing in sentences and code mixing between sentences.

## 2.2 Code Mixing in Sentences

The form of code mixing in a sentence occurs when another language is included in the language spoken in a sentence. For example, in the sentence "*Kulit album yang simple boleh menggambarkan penerbitan yang ala kadar*" (Teo Kok Seong, 2006), (*English Translation of the sentence: Simple album cover may resemble low quality publication*). The word 'simple' is not a borrowed word in the Malay language but is used in written form in the same sentence. If studied in-depth, the subject of the sentence (*Kulit album yang simple*) contains both the Malay and English language, while the predicate (*boleh menggambarkan penerbitan yang ala kadar*) is written entirely in Malay language. This is an example of code mixing within a sentence.

In most code mixing studies that have been done by previous researchers, occurrences of code mixing within a sentence recorded the highest percentage among language speakers. A study by Sumarsih et. al (2014) found that code mixing in Indonesia has been divided into three categories, namely word class, phrase class, and sentence class. The findings of the study found that code mixing in sentences recorded the highest number of code-mixing occurrences in Indonesia which is 57.3% of all data.

## 2.3 Code Mixing Between Sentences



The form of code mixing between sentences occurs as a result of mixing one language to another language between sentences. For example, “*Saya berharap perkara begini tidak berlaku lagi*. I promise you it won’t happen again. Every possible step will be taken from now on to keep this promise. *Maaf atas segala yang berlaku.*” (Teo Kok Seong, 2006), (*English Translation of the sentence*: I hope such matter does not happen again. I promise you it won’t happen again. Every possible step will be taken from now on to keep this promise. Sorry for everything that happened. The first sentence in the above example uses the Malay language, “*Saya berharap perkara begini tidak berlaku lagi*”. The next sentence, the second and third sentences are written in English, namely, “I promise you it won’t happen again. Every possible step will be taken from now on to keep this promise.” Followed by a fourth verse written in Malay again. This is considered as code mixing between sentences.

A study by Nor Hashimah Jalaluddin and Adriana Santa Tinggom (2016) supports code mixing between sentences. The study showed that all seven Chinese respondents replaced their mother tongue in sentences to convey the meaning they wanted to express. All respondents had an idea to make a sentence, but vocabulary constraints have caused them to code mix. Mohammad Fadzeli (2016) who studied on the language in the Malay literary works have found code mixing between sentences or recognized it as inter-sentence code mixing. However, he revealed that it is not widely used by the characters in the Malay literary works as compared to intra sentence code mixing (code mixing within a sentence). This is said to be because, inter-sentences code mixing requires higher language proficiency, i.e. balanced bilingual speakers whereby the speaker is proficient in both languages.

### 3.0 Methodology

In this study, the researcher used instrumental case study design using qualitative research approach. The sample is a total of six Year 5 pupils at one of the National Schools of Federal Special Education in Malaysia. The sampling technique used is purposive sampling. The justification for the selection of respondents is that they can meet the objectives of the study and that they already have the basic writing skills and are able to write in Malay as proposed by Ilker, Sulaiman, Rukayya (2016). The data collection method used are observation and document analysis. Non-verbal observations were made for 5 months to investigate on the actual situation and behaviour of the respondents. The researcher observes respondents during Malay language periods as well as in the hostel. Observations were recorded based on the observation items that have been modified from the study of Nor Hidayah (2016). Every observation made is also recorded in the field notes. The results are reviewed and filtered to describe the factors that lead to code mixing by the respondent when writing in the Malay language.

The documents analysed were ten sets of worksheets. The worksheets require pupils to construct sentences in Malay. The worksheets are examined in aspects of code mixing within a sentence and code mixing between sentences based on the *Model Kerancuan Bahasa* (Language Code Mixing Model) by Teo Kok Seong (2006). The identified words overlaps with a list of code mixed words that are grouped and analysed according to the



word classes of Malay language. These words are included in *Kamus Tatabahasa Dewan* (Malay Grammar Dictionary) published by *Dewan Bahasa dan Pustaka* (Institute of Language and Literature). In addition, the researcher also refer the KTBM and SEE sign language dictionaries to examine the sign codes of the English words that are used in the Malay sentences.

#### 4.0 Findings

Language acquisition among normal or typical pupils differs as compared to the hearing-impaired pupils. These pupils' hearing constraints have caused them to be unable to recognize the sound form of an object. The pupils are unable to spell a word correctly if the particular pupils does not know the designated signal code (sign language) of the word. This is also because the pupils with hearing impairment are able to write only what they can sign. Signals replace oral function for pupils with hearing impairment. When pupils are unable to capture the signal in the Malay language, they tend to code mix when writing. (Abdullah Yusoff & Che Rabiaah, 2010). The signals used in the Malay language is Malay hand sign language (KTBM). KTBM is an invention whereby the codes are designed specifically to meet the formulas of Malay language. However, not all words can be explained by KTBM. In addition to KTBM, said pupils also learn Sign Exact English (SEE) signals which is in English. The function of SEE is the same as KTBM. Usually, pupils will use the SEE signal when writing the target Malay words if there are no exact codes in KTBM. Data analysis showed that code mixing indeed occurs among the pupils with hearing impairment. The two types of code mixing that were analysed in this study were code mixing within a sentence and code mixing between sentences.

##### 4.1 Code Mixing within a Sentence

Code mixing within a sentence occurs when pupils use a few English words in the place of the Malay words alternately. Code mixing within a sentence is also known as intra-sentence code mixing. It usually involves mixing or mixing at the word, clause and phrase levels. Analysis of the data found that code mixing within a sentence is most often done by pupils. Pupils like to mix words from other languages in a sentence to convey the desired meaning in the sentence.

A total of 51 words out of 136 sentences were categorised as code mixing within a sentence, in which 31 words were nouns, 12 words were verbs, while four words were other words classes and adjectives. The percentage of word groups involved in code mixing is as shown in Table 1.

**Table 1:** Percentage of Word Classes Involved when Code Mixing Occurs

Nouns	Verbs	Other word classes	Adjectives
60.79 %	23.53%	7.84%	7.84%



Based on the Table 1, code mixing involving nouns has the highest percentage which is 60.79% followed by verbs about 23.53%. Other words classes (prepositions and conjunctions) and adjectives has the lowest percentage which is 7.84%. An in-depth analysis is explored in the following elaboration.

## 4.2 Nouns

**Table 2: Nouns**

Item	English	Malay language
1	camera	<i>kamera</i>
2	fish	<i>ikan</i>
3	ciken (chicken)	<i>ayam</i>
4	flower.	<i>bunga</i>
5	grass	<i>rumput</i>
6	ice-cream	<i>aiskrim</i>
7	boy	<i>budak lelaki</i>
8	train	<i>kereta api</i>
9	bus	<i>bas</i>
10	paper	<i>paper</i>
11	ballon (balloon)	<i>belon</i>
12	hammer	<i>penukul</i>
13	horse	<i>kuda</i>
14	family	<i>keluarga</i>
15	vase	<i>pasu</i>
16	rope	<i>tali</i>
17	tree	<i>pokok</i>
18	bag	<i>beg</i>
19	banana	<i>pisang</i>
20	picture	<i>gambar</i>
21	bird	<i>burung</i>
22	goat	<i>kambing</i>
23	book	<i>buku</i>
24	rice	<i>nasi</i>
25	fire	<i>api</i>
26	tent	<i>khemah</i>
27	water	<i>air</i>
28	jungle	<i>hutan</i>
29	school	<i>sekolah</i>
30	ball	<i>bola</i>
31	hat	<i>topi</i>

Data analysis for Table 2 found that code mixing for nouns category only involves common nouns. All respondents did not code mix proper nouns and pronouns. This is said so because, pronouns usually do not have a new spelling in different languages. As for pronouns, they are rarely used when writing short sentences where there a no dialogue forms in the sentence.





Common nouns that are code mixed are concrete objects that can be seen and felt. Examples are "ball", "hat", "book" and "tree". All these nouns are concrete and can be touched.

**Table 3:** Categories of Nouns Involved in Code Mixing

<b>Living Common Nouns (Human)</b>	<b>Living Common Nouns (Non-human)</b>	<b>Non-living Common Nouns (Non-institutional Concrete)</b>	<b>Non-living Common Nouns (Non-institutional Uncountable Abstract)</b>
boy	fish	camera	fire
	ciken (chicken)	ice-cream	water
	flower	train	
	grass	bus	
	horse	paper	
	tree	ballon (balloon)	
	bird	hammer	
	goat	family	
		vase	
		rope	
		bag	
		banana	
		picture	
		book	
		rice	
		tent	
		jungle	
		school	
		ball	
		hat	

Table 3 shows the categories of nouns involved in code mixing. Common nouns can be divided into small groups based on their appropriate characteristics. The two main groups of common nouns are living and non-living common nouns. The living common nouns are then broken down into human and non-human common nouns. There is only one word that belongs to the living, human common noun which is "boy". On the other hand, the non-living, non-human common nouns used are flora and fauna. There are eight words found in this category which are for example fish, flower, grass, tree and etc.

Non-living common nouns can also be broken down into two parts, namely institutional and non-institutional common nouns. Institutional common nouns are not used in the respondents' sentences because these types of common nouns are more specific and are used to refer to something more specific. This



is in contrast with common, non-institutional nouns that are used widely by the respondents. Non-institutional, non-living common nouns recorded the highest number of words used in code mixing which are 22 words.

From these 22 words, it can be broken down into two more subgroups such as concrete and abstract nouns. 20 of the words are in the concrete subgroups, that is, in existing forms such as bus, paper, book and ball, while the other two words are in non-countable, abstract noun subgroup, which are words such as fire and water. They are known as uncountable nouns because their exact number cannot be determined. The division of common nouns involved in code mixing is described in more detail in Table 4.

**Table 4:** Analysis of Nouns

Item	English	Num. of syllables	Malay language	Num. of syllables
1	camera	3	<i>kamera</i>	3
2	fish	1	<i>ikan</i>	2
3	ciken (chicken)	2	<i>ayam</i>	2
4	flower.	2	<i>bunga</i>	2
5	grass	1	<i>rumput</i>	2
6	ice-cream	2	<i>aiskrim</i>	2
7	boy	1	<i>budak lelaki</i>	5
8	train	1	<i>kereta api</i>	5
9	bus	1	<i>bas</i>	1
10	paper	2	<i>paper</i>	2
11	ballon (balloon)	2	<i>belon</i>	2
12	hammer	2	<i>penukul</i>	3
13	horse	1	<i>kuda</i>	2
14	family	3	<i>keluarga</i>	4
15	vase	1	<i>pasu</i>	2
16	rope	1	<i>tali</i>	2
17	tree	1	<i>pokok</i>	2
18	bag	1	<i>beg</i>	1
19	banana	3	<i>pisang</i>	2
20	picture	2	<i>gambar</i>	2
21	bird	1	<i>burung</i>	2
22	goat	1	<i>kambing</i>	2
23	book	1	<i>buku</i>	2
24	rice	1	<i>nasi</i>	2
25	fire	2	<i>api</i>	2
26	tent	1	<i>khemah</i>	2
27	water	2	<i>air</i>	2
28	jungle	2	<i>hutan</i>	2
29	school	1	<i>sekolah</i>	3
30	ball	1	<i>bola</i>	2
31	hat	1	<i>topi</i>	2



Referring to Table 4, out of the 31 words, there are 12 words that have the same number of syllables in both Malay and English languages. Among the words are words that have one syllable such as *beg* (bag) and *bas* (bus). The word has two syllables in English and Malay as *bunga* (flowers) and *gambar* (photo). While words that have three syllables are words such as *kamera* (camera). A total of 18 words indicate that the number of syllables in English are lower than the number of syllables in Malay of the same word. For instance, train (*kereta api*), family (*keluarga*) and school (*sekolah*). Only one word detected showed it has more syllables in English than in Malay language which is banana (*pisang*).

English words used by respondents are more compact in spelling as compared to the Malay words. For example, the word boy (English) refers to the 'budak lelaki' in Malay. The word boy only represents one syllable as compared to the word *budak lelaki* which has five syllables. It is most likely that pupils choose to use the word boy in sentences because of its simpler spelling and easier to remember.

### 4.3 Verbs

**Table 5: Verbs**

Item	English	Malay language
1	eat	<i>makan</i>
2	play	<i>main</i>
3	run	<i>lari</i>
4	read	<i>baca</i>
5	talks	<i>cakap</i>
6	hear	<i>dengar</i>
7	slide	<i>menggelungsur</i>
8	dance	<i>menari</i>
9	jogging	<i>jogging</i>
10	win	<i>menang</i>
11	cook	<i>masak</i>
12	take	<i>ambil</i>

As for verbs, there are 12 words involved in code mixing within a sentence described in Table 5. It's condescending of nouns, verbs recorded a percentage of 23.53% which is the second highest percentage of word classes involved in code mixing. Analysis of the data prove that code mixing for verbs involved two main groups of verbs which are intransitive verbs and transitive verbs. Six of the twelve words are intransitive verbs while the other six words are transitive verbs.

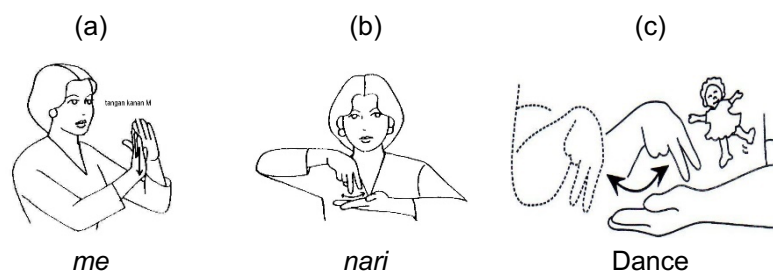


**Table 6:** Sub-categories of Verbs Involved in Code Mixing

Intransitive Verbs (Complementary)	Intransitive Verbs (Non-complementary)	Transitive Verbs
slide	run	eat
take	talks	play
	jogging	read
	win	cook
		hear
		dance

The data collected showed that respondents used intransitive verbs. Data analysis recorded four words used were non-complementary verbs, namely run (*lari*), talk (*cakap*), win (*menang*) and jogging (*joging*). While the other two words use complementary intransitive verbs, namely slide (*menggelungsur*) dan take (*ambil*). Respondents tend to use intransitive verbs because these verbs do not require an object or preposition to complete the meaning of the constructed sentence. This is in accordance with the level of writing proficiency of hearing-impaired pupils who are still at a low level. Details of the division of verbs involved with code mixing are shown in Table 6.

Transitive verbs are more commonly used by respondents, i.e. as many as seven words in all. The verb used is in the form of a single word that is formed without reward. Five of the six words are in the singular form, namely (*eat*), main (*play*), baca (*read*), masak (*cook*) dan dengar (*hear*). It is common for hearing impaired pupils not to use the word reward in communication because the signal system to indicate reward is separate from the base word. Study Aidah Alias et al. (2016) indicated that structure that emphasizes the meaning of sign language without being bound by Malay grammar cause hearing impaired pupils is difficult to accept the suffixes and prefixes of the words. This results in constructing sentences that does not conform to the structure of the language. For example, for the word 'dance' used by pupils in the sentence refers to 'dancing' which is '*menari*'. In the Malay language signal codes, the word dancing has a prefix 'me' in front of the root word 'tari' as shown in Figure 1.



**Figure 1:** Sign for *Menari* dan Dance



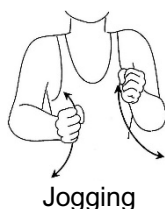
(Source: *Kamus Bahasa Isyarat Jilid 1* (Sign Language Dictionary Volume 1))

Figure 1 shows the signal codes used for the words 'menari' and 'dance'. In the Malay language, there is no one typical signal that is specific to the word 'dance'. The word 'dance' is symbolized by the signals 'me' and 'tari' as in examples (a) and (b). While in English the word 'dancing' is indicated as in example (c). This causes the respondents choose to remember cues in English as compared to in Malay as the word 'dance' is understood in oral communication.

**Table 7: Verbs**

Item	English	Num. of syllables	Malay language	Num. of syllables
1	eat	1	<i>makan</i>	2
2	play	1	<i>main</i>	2
3	run	1	<i>lari</i>	2
4	read	1	<i>baca</i>	2
5	talks	1	<i>cakap</i>	2
6	hear	1	<i>dengar</i>	2
7	slide	1	<i>menggelungsur</i>	4
8	dance	1	<i>menari</i>	3
9	jogging	2	<i>jogging</i>	2
10	win	1	<i>menang</i>	2
11	cook	1	<i>masak</i>	2
12	take	1	<i>ambil</i>	2

All English words that are used in the Malay language sentences has a lower total number of syllables as compared to the syllable in Malay words as shown in Table 7. Nine of the Malay word has two syllables, like *baca*, *masak* and *cakap* as compared to the English word with just one syllable, which is read, cook and talks. Two other Malay word has three and four syllables, which are *menari* and *menggelungsur* as compared to the English word that has just one syllable which is dance and slide. Only one word has the same number of syllables in both the English and Malay word which is *joging* (jogging).



**Figure 2: The word Jogging**

(Source: *Kamus Bahasa Isyarat Jilid 1* (Sign Language Dictionary Volume 1))

The word '*joging*' is an English word which has been accepted into the Malay language as a borrowed word and spelling with adjustments, which is by dropping the 'g' in the spelling. Since it is a borrowed word, then there is no specific signal of the word jog in Malay as shown in Figure 2. This causes them to not be able to spell the word jogging correctly since they are following the signal codes and spelling in English.

#### 4.4 Other Word Classes

**Table 8:** Other Word Classes

Item	English	Malay language
1	and	<i>dan</i>
2	with	<i>dengan</i>
3	to	<i>ke</i>
4	how	<i>bagaimana</i>

Words of other word classes are used in a sentence to carry a specific syntax meaning and purpose. These words can be categorised into four groups based on their characteristics and functions in sentences. Data analysis found that there are four task words involved with code mixing in sentences which are *dan* (and), *bagaimana* (how), *ke* (to), and *dengan* (with) as shown in Table 8. These four words are from three different word classes, namely conjunctions, WH-questions and prepositions.

**Table 9:** Categories of Other Word Classes Involved in Code Mixing

Connectors Word (Conjunction)	Pre-clausal Phrase (Question Word)	Prepositional Phrase (Kata Sendi Nama)
and	how	to
		with

The word 'and' (*dan*) is a conjunction as shown in Table 9. Conjunctions belong to the group of words that connect the sentences because of their function to connect between two sentences of the same status or nature. Three out of six respondents used the word 'and' in the written sentence as opposed to the word '*dan*'. The number of letters is the same only differs in terms of order causing students to be confused and more likely to use English words.

Next, the word 'how' (*bagaimana*) is a question word grouped in a group of pre-clausal words because usually the question word is placed at the front of the sentence. Nevertheless, the respondent did not place the word in the correct place in the sentence. This may be due to the respondent experiencing confusion with the signal. Pre-clausal words are used in less in the respondents' sentence as the use WH-questions in a sentence requires good command of a language. Sentences written by the respondent only uses the



statement sentence. This proves that respondents are still limited to constructing various types of sentences.

The third group is the prepositional phrase. The words ‘to’ (*ke*) and ‘with’ (*dengan*) are among the words used by the respondents in the sentence. These words belong to noun conjunctions located in front of noun phrases. For example, in a sentence;

- *Hanif dan Hafizan bual with cikgu.*
- *Murid-murid permainan balloon with ball.*

Sentence (i) involves the use of the word ‘with’ mixed in the sentence to show two students chatting with their teacher. While sentence (ii) shows the phrase ‘balloon with ball’ is used in the sentence. This phrase is the only phrase that was code mixed since the other code mixing involved one or two words mixed in a sentence.

**Table 9:** Analysis of Other Word Classes

Item	English	Num. of syllables	Malay language	Num. of syllables
1	and	1	<i>dan</i>	1
2	with	1	<i>dengan</i>	2
3	to	1	<i>ke</i>	1
4	how	1	<i>bagaimana</i>	4

In terms of number of syllables, all the words in English have a syllable shorter than the syllable in Malay as shown in Table 9. There are two words that have the same syllable which are and (*dan*) and to (*ke*). The other two words have two and four syllables in a language other than English which are with (*dengan*) and how (*bagaimana*).

#### 4.5 Adjectives

**Table 10:** Adjectives

Item	English	Malay language
1	beauty	<i>cantik</i>
2	happy	<i>gembira</i>
3	fast	<i>laju</i>
4	love	<i>sayang</i>

The last word class is the adjectives as indicated in Table 10. Adjectives serve to indicate the nature or meaning of a word. Data analysis found that four words



from the adjective group were involved in code mixing. Although adjectives and other word classes only involve a small part of the code mixing but it still occurs in student sentences.

**Table 11:** Division of Adjectives Used

Attributive Adjectives	Adjectives of Feeling	Adjectives of Quality
beauty	happy	fast
	love	

Adjectives can be divided into nine types, but only three types are used by the respondents, namely adjectives from the types of attributes, feelings and ways as shown in Table 11. Attributive adjectives and adjectives of quality are used once which are *cantik* (beauty) and *laju* (fast), while adjectives that shows feelings involved two words, namely happy (*gembira*) and love (*sayang*).

Four out of six respondents used the word 'happy' to refer to feeling happy. It is said so because, the code signal used in Malay and English is to use the same code. The same gestures cause respondents to be confused and they decide to spell in English because the spelling in English is shorter and has lesser syllables that are easier to remember.

**Table 12:** Analysis of Adjectives

Item	English	Num. of syllables	Malay language	Num. of syllables
1	beauty.	2	cantik	2
2	happy	2	gembira	3
3	fast	1	laju	2
4	love	1	sayang	2

The four (4) English words used in sentences, three of them have a shorter syllable of the word in English. The word analysis involved with code mixing within a sentence is 51 words. Of all the words, it is found by 36 of the Malay word has a syllable longer than the syllables in the English word (70.59%), 14 Malay words has the same number of syllables with the English words (27.45%), and only one word in the Malay language has shorter syllable as compared to the word in English (1.96%) as shown in Table 12.

#### 4.6 Code Mixing Between Sentences

Code mixing between the sentences occur when students uses another language other than Malay in a whole sentence. Code mixing between sentences is also known as inter-sentence code mixing. Data analysis showed that there were ten sentences involved with code mixing between sentences.





Respondents fully used English words in the sentences when writing as shown in Table 13..

**Table 13:** Code Mixing Between Sentences

Sentence	Nouns	Verbs	Other word classes	Adjectives	Number of words in the sentence
iii. 1. Hena And Husna Play Ball.	Ball	Play	And		5
iv. 2. Rutran Run Fast		Run		Fast	3
v. 3. Ng Sun Da Take Picture	Picture	Take			3
vi. 4. Yi Ying Cook Rice	Rice	Cook			3
vii. 5. Rutran Love Vino				Love	3
viii. 6. Siti Read Book	Book	Read			3
ix. 7. Train Fast	Train			Fast	2
x. 8. Salihin Read Paper	Paper	Read			3
xi. 9. Vino Read Book	Book	Read			3
xii. 10. Boy Dance	Boy	Dance			2

Code mixing done in the whole sentence requires high language proficiency. It is different with hearing impaired pupils because they depend on the sign language that they know and the ability to sign the word properly and correctly in accordance with the language learned either Malay or English.

Although respondents code mix each word in a sentence, respondents only use basic words as a substitute for the Malay word. This indicates that the respondents are not proficient English users as well. The examples are as follows:



(xiii)

English:	<i>Hena</i>	<i>and</i>	<i>Husna</i>	<i>play</i>	<i>ball.</i>
Malay language:	Hena	dan	Husna	main	bola.

(xiv)

English:	<i>Rutran</i>	<i>run</i>	<i>fast.</i>
Malay language:	Rutran	lari	laju.

(xv)

English:	<i>Ng Sun Da</i>	<i>cook</i>	<i>rice.</i>
Malay language:	Ng Sun Da	masak	nasi.

(xvi)

English:	<i>Boy</i>	<i>dance.</i>
Malay language:	Budak lelaki	menari.

In examples (xiii) to (xvi), all nouns and verbs used are singular. Respondents have difficulty choosing the appropriate word to include in the sentence because they are used to communicating in the sign language that does not take into account of the prefixes and suffixes. The words written in the sentences are as simple as in verbal conversations. Example (xvi) shows a simple sentence that does not conform to the sentence structure of the Malay language grammatically. However, these written sentences can be understood and accepted in oral communication.

Respondents in the study only used two to ten words to form a full sentence. The number of words used in the whole sentence is only five words, for example in the sentence 'Hena and Husna play ball', while the shortest sentence consists of two words such as the sentence 'Train fast.'

#### 4.7 Factors Causing Code Mixing

In order to investigate on factors that causes code mixing, the researcher has made non-participant observations. Eight observations were done when respondents are returning to the hostel and during school hours in the library and screening room. The condition and layout of the respondents' classes were also observed when no lessons were being conducted because the researcher did not want to interfere and disrupt the learning session of other pupils.

Observations are made based on the items that have been processed from the study of Nor Hidayah (2016) to suit the requirements of this study. Based on the result of these observations, the researcher found that factors causing code mixing can be divided into four which are lack of interest in the Malay language, limited vocabulary acquisition, similarity signal code (sign language) in Malay and English languages and also extra linguistic context. Each of the identified factors is described and detailed in this section.



#### 4.8 Lack of Interest in Malay language

Based from the results of the observation (qualitative methods) shown among respondents did not express interest in the Malay language. This is evidenced by the behaviour of the respondents while learning the Malay language and their attitudes at the hostel. Respondents often chat and do not pay attention while the teacher is teaching in a Malay language lesson. The researcher's observation also reveals that respondent 1 preferred drawing comics while the teacher was teaching in front. Furthermore, the researcher believes that the respondents showed less interest in the Malay language subject as they went to the toilet frequently when the Malay language lessons were being carried out. Among the respondents, those who conducted such deeds were mainly male respondents. Respondents also used the long route to the toilet with the purpose of delaying some time. Respondents also did not make a correction in the worksheets when there are mistakes and there are also those who did not complete the worksheet that was given before the school holidays. Lack of interest in learning the Malay language can also be due to other factors such as the language and teacher.

Malay is the second language of the respondents which results in the respondents having difficulty in mastering the said language. Sign language is considered the first language for the hearing impaired because it has its own language rules. Pupils felt that Malay language is a foreign language and is difficult to learn. Teachers also play a role in determining the pupils' interest in learning the Malay language. During the observation, the researcher found that teachers do not use supporting materials that can help attract pupils to learn Malay. The material used when teaching is not suitable for hearing impaired. Pupils with hearing impairment rely on sight to get information. If the material is used in text form, the pupil will not be able to fully understand the material given.

Through observations made in the dormitory, respondents did not review or do school work in the evening. They prefer to play and chat with other friends. If the pupil management assistant (PPM) does not monitor school work, then the work will not be completed. Through the observations made, the respondents are not interested in referring to the KTBM code dictionary placed in the classroom instead they prefer to use the signal code commonly used in daily communication.

#### 4.9 Limited Vocabulary

Vocabulary proficiency is very important in language learning. For the hearing impaired pupils, Malay language is learned as a second language while the sign language is considered as a first language. Therefore, the respondent's Malay vocabulary are very limited. Vocabulary in Malay is translated in KTBM. KTBM is a sign language that is adopted in oral form, and when used in written form, it will also not cause a difference in the meaning of the word (Aznan Che Ahmad, Mohd Zuri Ghani & Salizawati Omar, 2012).



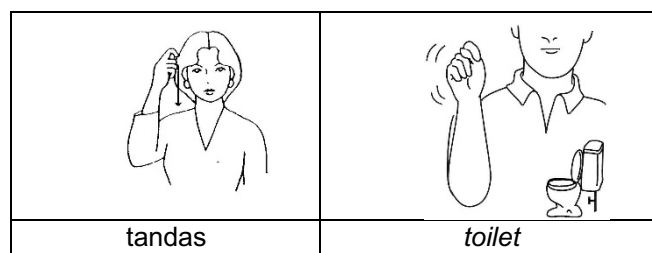
Respondents were reluctant to use standard Malay language in everyday communication because the KTBM signal codes has a complex structure as compared to the sign language. This causes respondents to face constraints in mastering the Malay words. Pupils with hearing impairment find it easier to remember words that are concrete in nature than words that are abstract. Respondents also find it easier to remember words that are shorter or shorter in spelling than words that are longer or more complex.

During observations, there was a question and answer session between the teacher and respondents and the researcher finds that the respondent cannot answer the questions in full sentences in Malay. They were only able to provide short answers. Sometimes respondents were not able to understand the signal signed by the teacher because they have not mastered the vocabulary used by the teacher. This will affect the pupils' writing skills because oral skills are closely related to writing skills (Abdul Rasid Jamian, 2011). When respondents do not use good verbal skills, they could not spell and write the Malay words correctly.

#### 4.10 Similarity between Malay and English Signal Codes

The next factor is the similarity in terms of the signal code between English and Malay language in verbal communication. The code mixing in writing is influenced by the pupil's oral communication. During the observation, it was found that pupils did not use complete sentences in a conversation. For example, respondents would like to ask to go to the toilet. Respondents only hinted the word 'toilet' in sign language and the signal could still be understood by the teacher. Only five respondents were able to use the Malay language in complete sentence whereby they signed '*boleh saya pergi ke tandas*' (May I go to the toilet?). Each word is signalled by the pupil and is understood by the teacher.












The use of complete Malay sentences when communicating affects the writing skills of the pupils with hearing impairment. It is said so because, the researcher has found through the KTBM sign language dictionary and the SEE sign language dictionary that there are a huge number of words that have similar or almost similar signs in both languages. If the respondent only signs the '*tandas*' (toilet) signal orally, it is likely that the respondent intends to express the word 'toilet' and not '*tandas*'. This is in contrast to the respondents who used complete Malay sentences when communicating, whereby it is understood that the signal code used is definitely in Malay language.



**Figure 3:** *Tandas* and Toilet in sign language

Figure 3 shows the signals for the words *tandas* and toilet. The signals used by the respondents are the same for both words. When requesting permission to go to the toilet, the pupil may mean to say 'toilet' in English. If the word toilet needs to be written in sentence form, pupils will definitely be confused to use the spelling of *tandas* or toilet in the written sentence. This happens when pupils do not use complete sentences in Malay language when communicating.

When the hearing-impaired pupils communicate using sign language that has the same signal codes between the Malay and English, teachers can only know the language the pupils are using by asking pupils to write and spell. Therefore code mixing often occurs in the writing of the hearing-impaired pupils.

					
<i>boleh</i>	<i>saya</i>	<i>Pergi</i>	<i>ke</i>	<i>tandas</i>	
					
<i>may</i>	<i>I</i>	<i>Go</i>	<i>to</i>	<i>the</i>	<i>toilet</i>

**Figure 4:** Difference is sign codes between Malay language dan English

Figure 4 shows the difference in signal if the student uses the complete sentence to go to the toilet. There are some words that have the same signal, but when used orally, teachers know that pupils are using the Malay language to when communicating. However, for some words that have the same signal, it is possible for pupils to spell in English because as in the previous discussion, English words have shorter syllables and its spelling is easier for pupils to remember.

For example, for the word 'saya' in Malay and 'I' for English. The cues or sign used for both the words are the same causing pupils to tend to spell in English because in terms of spelling it is easier to remember in English as compared to Malay. Respondents should familiarize themselves with the correct structure of the Malay language as verbal communication can help the hearing-impaired pupils to write sentences in Malay correctly.

Hence, it shows that verbal communication using sign language in this case is crucial because it helps pupils to increase their Malay vocabulary. From the observations conducted, respondents did not use KTBM when socializing with friends either at school or in the hostel. KTBM signals are only used when



talking to teachers or normal individuals only. This is the factor that causes the hearing impaired pupils to not be able to master the writing skills well.

#### 4.11 Extralinguistic Factors

The fourth factor influencing code mixing in writing is the extra linguistic context. Extra linguistic context are factors that do not involve language which are the environment and motivation from the family. Appropriate environment is necessary to help pupils achieve the learning objectives of the Malay language. Observations were made in three places such as in the screening room, the library and also in the dormitory; Boys and girls dormitory. Observations have found all three of these places do not have the relevant and appropriate materials in Malay language as a reference for the respondents. However, these are places used by respondents to learn the Malay language other than class.

Since all respondents live in dormitories, they spend a lot of time in dormitories. But there is no corner or space to exhibit the materials in languages other than English, if there are Malay reading materials they do not provide the sign codes which makes it difficult for the respondents to associate what they are reading to their existing knowledge. In other words, the respondent did not understand what was being read. The teaching and learning of Malay language is also conducted in the library. However, the results of the observation reveal that learning in the library is not suitable for teachers to give explanations because there is no projector or whiteboard to write. If the lesson focuses on the searching for information, the library is the perfect place since it has a comfortable environment and a door that can prevent respondents from disrupted by circumstances beyond. The attention of pupils with hearing impairment is very easily distracted because they only receive information from sight (Abdullah, 2014). Therefore, a closed environment can help pupils stay focused throughout the learning process.

In addition to the school environment, the home environment also contributes to code mixing. During the observation, when the teacher wanted to review the homework given before the school holidays, four out of six respondents did not complete the worksheet despite having a one week to complete it. In another observation, there were also respondents who did not make corrections when the exercise book was checked by the teacher. This proves that the pupils hail from families that do not provide motivation and encouragement for them to learn better. Monitoring and encouragement from the family can help pupils to be more advanced in their studies at school.

Encouragement from the family is important in the development of pupils' language. This is said so because parents can help pupils to develop their language by communicating using the correct the Malay language. Pupils code mix in writing because they are used to speaking (gestures) using the sign language.



## 5.0 Discussion

The findings of the study found that code mixing does occur in the writing among the hearing-impaired pupils. All in all, the code mixing in the sentence involves 51 words. Code switching at the word level is more frequent because it does not require high language proficiency to code mix. This is supported by a study from Sumarsih et. all (2014), who stated that code mixing at the word level recorded the highest number compared to the three cities where the research was conducted which is 43 out of 75 words (57.3%) compared to code mixing at the phrase level 19 words (40.4%) and in sentence level of 13 sentences (17.3%). The code-mixing involving nouns shows the highest number which is 31 words compared to verbs (12 words), other words classes (four words) and adjectives (four words). This can be supported by the findings of the study by Hazlina Abdul Halim (2012) which is to analyze the influence of Malay and English among pupils studying French. The study found that the percentage of pupils code mixing nouns is 60.79% compared to other word groups. The code mixing between the sentences in this study involved only ten sentences. For normal pupils, code mixing when writing in the whole sentence requires high language proficiency (Mohammad Fadzeli, 2016). It is different with hearing impaired pupils because they depend on the knowledge and ability to sign the correct signal codes in the sign language be it in Malay or in English.

Although respondents code mix each word in a sentence, respondents only use root words as a substitute for the Malay word. This is so because, when communicating in sign language, prefixes, suffixes and also tenses are not given much importance which results in the sentence construction in both Malay and English to be grammatically incorrect (Aidah Alias et al., 2016). There are four main factors that causes code mixing to occur among the respondents. The structure of the Malay language has various grammatical formulas which makes it difficult for the hearing-impaired pupils to master it. This is because the sign language used by most hearing-impaired people has its own language rules (Abdullah Yusoff & Che Rabiaah, 2010). When pupils are unable to master the skills and grammatical formulas of languages other than English, pupils will not learn the language. It is agreed by Nor Hidayah (2016) in her study that the process of teaching and learning the Malay language would be a problem for the hearing impaired pupils since they are not interested in learning any language. Pupils felt that they are forced to learn the Malay language and also have a negative view on the language itself. Such assumption will cause pupils to be left behind in lessons involving language (Abdullah, 2014). Interest in a lesson will have an effect on the attitude during the lesson and ability focus in the lesson. Abdullah (2014) stated that if hearing impaired pupils do not look and focus on the teacher, they will not be able to understand what is stated during the lesson because the understanding on the lesson of these pupils comes only from what they see. A study conducted by Nor Hidayah (2016) through an interview with two hearing impaired pupils stated that they only focus a little and prefer to play. When they prefer to play they do not understand what the teacher is teaching. The results of the interviews with the respondents also found that they are lazy to learn and the pupils admit that what the teacher teaches is very boring.



Next, respondents have constraints in terms of Malay vocabulary so they tend to use English words instead. The findings of this study are further strengthened by many other studies such as a study from Abdullah Yusoff and Che Rabiaah (2010) who stated that the constraints of vocabulary by students cause them to not be able to arrange the appropriate words to form sentences. Reviews from Sardar, Mahdi, and Mohd (2015) assert that six Iraqi students code mix for not having the appropriate vocabulary and also a review by the Kamariah Abd Rahim and Siti Raihanni Selamat (2017) found that students use English when they cannot express their views clearly in Malay. Similarities between the signal code in Malay and English can cause code mixing to occur. Code signal is either in English or Malay language when translated by the symbol. The formation of symbols is determined by the movement and position of the hands that form the communication signal (Abdullah Yusoff & Che Rabiaah, 2010). The same and almost identical symbols in oral communication cause respondents to confuse to translate symbols into written form. This is the factor that students write in English because English words are easier to spell for the respondent. This finding demonstrated in the study by Azlinda Abd Rahman (2013) on the Malay language disorder, the study found that fourth factor that causes code mixing to take place is due to the tendency of the speakers to choose words that are simple and not complex.

Factors other than language can also cause code mixing. Extra linguistic factors found in this study refer to environmental factors as well as encouragement from the family. The findings of this study are supported by the study of Shahrul Arbaiah Othman, Norzaini Azman & Manisah Mohd Ali (2008) in a retrospective case study of parents of hearing-impaired pupils who successfully continue their studies to a higher level either diploma or degree.

## 6.0 Conclusion

Code mixing among hearing impaired pupils occurs in two parts, namely code mixing within a sentence and code mixing between sentences. Code mixing within a sentence mostly take place with the nouns which is 31 words. The code mixing is done mostly in a single form because the single form is widely used in verbal (sign language) communication. Code mixing between sentences also takes place in the singular and in short sentences. If examined, the word chosen to be written in a sentence is the same word used in spoken speech. Limitation of Malay vocabularies cause pupils to not be able to construct sentences in English with good grammar. Code mixing in writing of the respondents is driven by many factors. The first factor is interest and attitude showed by respondents when learning the Malay language. Interest is affected by two things which are; the Malay language is a second language and the second aspect is that Malay language teachers do not create a suitable learning environment for the hearing-impaired pupils.

The next major factor is the mastery of the Malay language vocabulary is limited. Limited mastery on the Malay vocabulary results in pupils to not be able to use the Malay language in complete sentences. The following factor is confusion between English and Malay language. Similar signal codes in both languages cause confusion and respondents prefer to use the English spelling since they are simpler and shorter. The final factor is extra linguistics. Respondents learning environment and





encouragement of family is very important to help them master the Malay language well, especially in writing.

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