

## **How Bilingual Malaysian Bilinguals Are? A Snapshot of the Different Bilingual Categories in Malaysia**

### **ABSTRACT**

Almost all literate Malaysians are able to communicate in at least two different languages. Hence, ideally, conducting research involving bilinguals should not be a problem mainly because Malaysia can be regarded as a country with an abundant supply of participants for bilingual studies. However, in reality, conducting research on bilinguals in Malaysia, particularly those that regard bilinguals as a variable, is indeed a challenge; bilingualism at individual levels vary depending on, among others, the frequency and amount of input, interaction opportunities, and the perceived need for certain languages. To understand the multifaceted nature of bilingual individuals in Malaysia, an online survey was conducted on 234 Malay-English bilingual undergraduates (205 females and 29 males) from a research university in Malaysia to investigate their language profile from various aspects of bilingual experiences. Results demonstrate that although the respondents can be categorised as Simultaneous Early Bilinguals, Sequential Early Bilinguals, and Late Bilinguals, these Age of Acquisition-based categorisation cannot determine whether they are Dominant (unbalanced) Bilinguals, Balanced Bilinguals, Passive Bilinguals, or Active (Productive) Bilinguals. This suggests that, although Malay is the National Language of Malaysia and English is its Official Second Language, when conducting research on bilingual individuals in Malaysia, researchers must not consider the bilinguals as homogeneous; instead, the bilinguals' language profile should be investigated so as to ensure that the right conclusions will be made in their studies.

**Keywords:** Age of acquisition, bilingual categories; language profile, Malay-English bilinguals, psycholinguistics

### **INTRODUCTION**

Malaysia is one of the countries with the highest population of bilinguals (Guagdart, 1987; Mohamed Salleh et al., 2020). It is a multiracial country comprising a multilingual society in which the use of two or more languages side-by-side is commonplace among its people. The Malay language, the English language, and Mandarin are the three most dominantly spoken and practiced languages among more than 80 languages that co-exist in Malaysia (Soon et al., 2021; Asmah, 2004, as cited in XiaoMei & Daming, 2018). The Department of Statistics Malaysia (2023) has reported that until the year 2022, there are 30.4 million Malaysians; with 17.6 million (57.8%) Malays, 6.9 million (22.7%) Chinese, 2.0 million (6.6%) Indians, and the remaining 0.2 million (0.7%) from other ethnic groups. The Malays have their own language, known as Bahasa Melayu (or the Malay language, or Malay). The Chinese, on the other hand, speak Mandarin and a few other heritage languages (or ancestral, or community languages, i.e., languages spoken, used, and experienced at home (Ortega, 2019), such as Cantonese, Hokkien, Hakka, and Foochow. The majority of the Indians speak Tamil, and minority languages (i.e., "languages spoken by the smaller population of a particular country" (Bulusan, 2019, p. 231)) such as Telugu, Punjabi, and Malayalam are also used as a means of communication among the Indians. Iban, Bidayuh, Kadazandusun, Bajau, and Bahasa Orang Asli (which includes Senoi and Negrito) are examples of indigenous languages that are spoken among the indigenous people in Malaysia (Abury, 2018; Xiaomei & Daming, 2018; Woo & Riget, 2020).

Historically, Malaysia has come a long way in becoming a multilingual nation. The Malay language used to be the Lingua Franca in the Malay Archipelago; it was the language spoken by the majority of the people then, with different minority, regional, and local languages

as well as other languages of the traders existing side-by-side in the region (Manan et al., 2015; Mansor et al., 2018). However, under the British colonisation, the English language gradually became the language used in administration, law, education, and in formal and/or informal communication, particularly in the urban areas. After gaining independence, the English language continues to be used and spoken by its people.

One of the means to form a national identity in a newly-formed nation is through language. As a country that lies in the Malay Archipelago, the Malay language has been chosen as the National Language of Malaysia, or Bahasa Kebangsaan (The 1963/67 National Language Acts, 2006). To materialise this nation-building effort, the National Education Policy has made Bahasa Melayu a compulsory subject to be taught and to be passed at the major public examination in Malaysian schools, known as 'Sijil Pelajaran Malaysia' (SPM, or the Malaysian Certificate of Education) (The 1961 Education Act, 2016). The Malay language has become the medium of instruction in the Malaysian education system, namely at the primary school and secondary school levels upon independence. The 1961 Educational Act has also made the Malay language a compulsory subject in Chinese and Tamil primary schools (Saw, 2010).

However, the English language, which had been the language of administration, education, diplomacy, and commerce during Malaysia's pre-independence era, continues to be acknowledged as an important language for the nation and has been chosen as the nation's Official Second Language (The 1967 National Language Act, 2016). To materialise this, the English language has been taught as a second language in primary and secondary schools as well as at higher learning institutions to all its people (Azar & Tanggaraju, 2020). Hence, all teachers teaching English in schools in Malaysia, i.e., those majoring in the Teaching of English as a Second Language, are known as TESL teachers (Salehuddin, 2018). The English language has been taught as a compulsory subject – although not a compulsory subject to be passed in SPM– to all students (Salehuddin, 2018). The importance of English continues to be emphasised with the upgrading of the SPM English paper by coordinating it with the 1119 General Certificate Examination English so that the subject is graded according to the British standard (Thairusanku & Yunus, 2014). Although English is still not a compulsory subject to pass at the secondary level, the introduction of the Malaysian English University Language Test (MUET) in 1999 as a pre-requisite for all pre-tertiary students prior to admission to Malaysian public universities is evidence of the importance of the English language in the Malaysian context (Chan & Abdullah, 2015).

This continuous effort to emphasise the importance of the Malay and the English languages is further strengthened by the *Memartabatkan Bahasa Melayu dan Memperkukuhkan Bahasa Inggeris* (MBMMBI, which is translated into English as Upholding the Malay Language and Strengthening the English Language) policy which was launched in 2011 (Yamat et al., 2014; Mohd Tohar et al., 2017). These concerted effort by the government should result in all literate Malaysians being able to communicate in at least two different languages, namely, the Malay language and the English language. Since Malaysia can be regarded as a country with an abundant supply of participants for bilingual studies, conducting research involving bilinguals in Malaysia should not be a problem. In reality, however, conducting research involving bilinguals in Malaysia (particularly those that regard bilinguals as a variable), is actually not as straight forward as one might think as it does not just mean making a comparison between the performance of monolinguals with the performance of bilinguals. This is because the degree of bilingualism among Malaysians may vary in many ways; it depends on, among others, the frequency and amount of input, interaction opportunities, and the perceived need for certain languages.

## BILINGUALISM

Generally, an individual is considered as a bilingual when he/she is able to speak or use two different languages. However, bilingualism is “intrinsically a multifaceted and heterogeneous construct” that studies on bilingualism are not only limited to the field of linguistics, but also to many “other scientific and applied fields like psychology, neuroscience, education, and speech-language pathology” (Kaščelan et al. 2022, p. 29). Regardless of how multifaceted bilingualism is, concepts like First Language (L1), Second Language (L2), Foreign Language (FL), and Mother Tongue are inevitable in discussing issues related to bilingualism. First language refers to the language that an individual is first exposed to at birth, or the language first learnt and acquired by an individual (Dodson, 1985; Mizza, 2014; Schmid & Karayayla, 2020). Second language, on the other hand, is the language that the individual is exposed to, or the language that an individual learnt and acquired, after his/her first language. Salehuddin (2018) emphasises that an individual’s mother tongue (native language) may not necessarily be his/her first language unless his/her mother tongue is the first language that he/she is exposed to and has acquired since birth. As a matter of fact, a person’s mother tongue can even be a foreign language to him/her if the individual’s mother tongue is not readily available in his/her environment and that the language has to be formally learned.

The complexity of bilingualism has long been highlighted by Mackey (1962). Bilingualism, according to him, is more of a reflection of an individual’s self-attainment in the language he/she uses, particularly the second language. This includes (a) degree (i.e., how well the bilinguals know the language they use); (b) function (i.e., how the bilinguals define the role and usage of the second language in their total pattern of behaviour); (c) alternation (i.e., how the bilinguals code switch or change from the first language to the second language); and (d) interference (i.e., how well the bilinguals differentiate and fuse both languages). When one reports his/her self-attainment as a bilingual, these four aspects are said to be influenced by many factors, including the bilingual’s language contact, the impact of home languages, school languages, community languages, mass media, language pressure as well as the age of acquisition (Mackey, 1962; Edwards, 2012; Bonifacci et al., 2019).

Due to the complexity of bilinguals, it is important to understand the different meanings and types of bilinguals when conducting studies involving bilinguals (Bylund et al., 2019). “Bilinguals” have been defined in past studies from different perspectives. Table 1 lists the most-commonly used terms that have been used to describe bilinguals.

TABLE 1. Types of Bilingualism

Type	Descriptions	Additional notes	Example of studies mentioned and defined the types
Simultaneous Early Bilinguals (SIM)	Simultaneous early bilinguals are individuals who learn and acquire two languages from birth. They also include those who are exposed to two languages from birth or shortly after. These individuals appear to have a high level of bilingualism.	A child who has early exposure to a second language before the age of 3 can be described as a SIM. A child whose parents practice 1 Person/1 Language (1P/1L) at home from birth (e.g., the father speaks Language A, the mother speaks Language B) is also regarded as SIM.	De Houwer (2011), Hoff & Core (2013), Moradi (2014), Summer (2016), Thordardottir (2019), de Bruin (2019), Mohamed Salleh et al. (2020), Gil et al. (2021), Bylund et al. (2021)

Sequential Early Bilinguals (eSEQ)	Sequential early bilinguals are individuals who learn and acquire a second language (L2) after partially acquiring the first language (L1) in childhood. Because the child requires time to learn the L2, the language production in L2 is usually not as strong as SIM.	Exposure and influence on L2 usually begin when the bilinguals enter school (e.g., after the age of six (Schlenter, 2023). eSEQ may also occur in the context of childhood immigrants (e.g., an L1 Spanish-speaking Latin American child who emigrated to Sweden between the ages of 3 to 8 years old and acquired Swedish as his L2) (Bylund et al. 2021).	De Houwer (2011), Hoff & Core (2013), Moradi (2014), Nagel et al. (2015), Thordardottir (2019), Smolander et al. (2020), Mohamed Salleh et al. (2020), Gil et al. (2021), Bylund et al. (2021)
Late Bilinguals	Late bilinguals are bilinguals who learn a second language after a critical period, which typically occurs during adulthood or adolescence. They can further be classified into two different acquisition contexts, namely, a) immersion learning (e.g., a Spanish native speaker learns English as L2 during childhood/teenagehood after migration - see Soares-Silva et al., 2021) and b) classroom learning.	Late bilinguals become bilinguals as a result of migration, living in a monolingual society, or learning a foreign language in a classroom setting.	Geneese et al. (1978), Moradi (2014), Novitskiy et al. (2019), Baigorri et al. (2019), de Bruin (2019), Soares-Silva et al. (2021), Bylund et al. (2021)
Dominant (unbalanced) Bilinguals	Dominant bilinguals are bilinguals who are more proficient and fluent in one of the languages they acquire. They can be considered as native-like speakers in one of the languages. They are also known as unbalanced bilinguals (e.g., Peal & Lambert, 1962) or functional bilinguals (Nagel et al. 2015).	This is related to the common distinction between a dual competence acquired naturally through contextual demand, where one language is primary, and the other is secondary.	Moradi (2014), Nagel et al. (2015), Dosi (2019), Ovu & Anyanwu (2019), Moreno (2022)
Balanced Bilinguals	Balanced bilinguals are bilinguals with comparable levels of proficiency and competency in both languages. They are considered to be equally skilled and well versed in both languages.	Balanced bilinguals may have higher level of fluency and proficiency in both languages as compared to dominant bilinguals (Moradi, 2014). Furthermore, Summer (2016) adds that balanced bilinguals are considered "true bilinguals" because their fluency in both languages is incomparable to native speakers of the respective languages.	Peal & Lambert (1962), Edwards (2012), Moradi (2014), Summer (2016), Dossi (2019), Soares-Silva et al. (2021)

Passive Bilinguals (receptive bilinguals, incipient bilinguals)	Passive bilinguals are speakers who can understand much of a L2 without being able to translate this ability into production” (p. 303, as cited in Wald, 1974), or in other words, they cannot speak the L2. They are also known as <i>incipient bilinguals</i> (Diebold, 1961) and <i>receptive bilinguals</i> (Hockett, 1958, as cited in Pousada, 2000; Moradi, 2014; Nakamura, 2019).	Individuals who are regarded as passive bilinguals have restricted capability in language activities. They can only understand the L2 spoken or written but will have difficulty to produce it (Pousada, 2000; Edwards, 2012).	Pousada (2000), Edwards (2012), Moradi (2014), Nagel et al. (2015), Nakamura (2019)
Active bilinguals (productive bilinguals)	Active bilinguals can utilize both languages actively since their acquisition without having to rely solely on one language. This may occur when a person actively practices both acquired languages rigorously (Hartanto & Yang, 2019).	Active bilinguals may be better at controlling and monitoring their language production as they may have experienced “high demands on coordinating two activated languages and inhibiting the irrelevant language” (Hartanto & Yang, 2019, p. 5)	Edwards (2012), Hartanto & Yang (2019), Wagner et al. (2022)
Equilingual (or Ambilingual)	Equilinguals are bilinguals who are “able to use their two languages with equal ease, if they are heard consistently using both languages in apparently the same context, e.g., the home or at work, whether or not to different individuals” (Dodson, 1985, p. 327). They can grasp and master both languages equally. Despite this, equilingual speakers may have a preferred language in some or most situations or areas.	This may occur when a bilingual can master two languages equivalently smooth and is also considered communicatively competent bilingual.	Dodson (1985), Pousada (2000), Soares-Silva et al. (2021),

As shown in Table 1, the degree of fluency and competency of bilinguals includes the mechanism of language representation (i.e., types of bilinguals are placed under language representation based on age, context of language acquisition and learning as well as manner of acquisition), and the most commonly known terms that are used to describe bilinguals are early/late bilinguals, balanced bilinguals, and dominant bilinguals (Moradi, 2014). Although some terms may seem interchangeable (e.g., ‘unbalanced bilinguals’ and ‘dominant bilinguals’) they are used in different studies due to the different aims and perspectives of the respective studies.

More recent studies have even categorised bilinguals from the cognitive perspective, particularly on how the two languages are processed by the bilinguals. Compound bilinguals are bilinguals who are “deemed to “store” e.g., lexical items corresponding to two different languages independently, but these items link to shared concepts” (Stachowiak-Szymczak, 2019, p. 24). Coordinate bilinguals are those who have acquired both L1 and L2 “in two separate contexts and the words are stored separately” (Amenorvi, 2019, p. 1). Subordinate bilinguals are individuals who show interference in their language usage “by reducing the patterns of the second language to those of the first” (Li, 2000, pp. 6-7, as cited in Kabir, 2019). From the cognitive perspective, because coordinate bilinguals may have the ability to learn and grasp languages in different environments (Amenorvi, 2019), the coordinate bilinguals are said to have the potential to become a native speaker of both L1 and L2 (Kabir, 2019). Both compound and subordinate bilinguals, however, are incapable to develop such a potential.

Despite the different terms used, bilinguals can generally be categorised into two larger categories, namely:

- a. Age of Acquisition (Simultaneous Early Bilinguals, Sequential Early Bilinguals, and Late Bilinguals)
- b. Language Dominance (Dominant/Unbalanced, Balanced/Equilinguals/Ambilinguals, Passive Bilinguals)

The term “Age of Acquisition” (AoA) in studies on bilinguals refers to the age when a monolingual first begins to learn or acquire a new or a second language (Kovelman et al., 2008). This is an important milestone to be observed because, while the acquisition of the first language begins from the moment a person is born, the acquisition of a second and the succeeding language can begin at any point of time in a person’s life. However, if the second language is acquired not very long (under three years) after the acquisition of the first language, the person can be regarded as having two first languages. As shown in Table 1, such bilinguals are regarded as early bilinguals; although their acquisition seems to be sequential rather than simultaneous, they are no different from the other set of early bilinguals who are exposed to both their L1 and L2 simultaneously from birth (Schlenter, 2023). However, bilinguals are regarded as late bilinguals if their L2 is acquired after the age of six (Schlenter, 2023).

Studies on the second language acquisition of bilinguals have shown that AoA affects the processing of words, word frequency, and the phonological system (Juhasz, 2005; Kaushanskaya & Marian, 2007). Additionally, AoA is also reported to impact one's language performance in various psycholinguistic tasks, for example, picture naming, word naming, or lexical decision (Luniewska et al., 2019). Discussions on AoA are usually done from the perspective of individual differences in acquiring the second language while maintaining the proficiency of the first language.

According to De Bruin (2019), there are certain circumstances in which AoA effects can be interpreted differently, such as when immigrants start to become fluent in their L2 and/or when they start to use both L1 and L2 interchangeably on a daily basis. Her study also shows that the proficiency level of L2 among early bilinguals can surpass the proficiency level of L1 due to early exposure of AoA effects. A study of AoA effects among Hindi-English early bilinguals shows that the AoA of their L2 interfered with the AoA of their L1, resulting in better L2 proficiency, particularly when they started school due to more exposure on L2 (Singh & Mishra, 2013, as cited in de Bruin, 2019). In some scenarios, AoA may have worked differently on certain bilinguals based on their period of acquiring and learning L2; there are late bilinguals who are more likely to become more proficient speakers of L2 rather than their L1 (Bylund et al., 2021). Bylund and colleagues also discuss the concepts of “nativelikeness” and “non-nativelikeness” in relation to the notion of “innateness”. They describe “nativelikeness” as a result of language exposure beginning before birth, and “non-nativelikeness” as a result of language exposure beginning after birth. However, a more typically acceptable definition of “native-like” proficiency is the ability to speak the language “like a native” (e.g., Mashwani & Noori, 2023, p. 19).

## **THE CURRENT STUDY**

From the above, it is clear that bilingualism, as Kaščelan et al. (2022) describe, is “intrinsically a multifaceted and heterogeneous construct” (p. 29). As a multi-ethnic nation with Malay as its National Language and English as its Official Second Language, Malaysia has always been known as a bilingual country (Chan & Abdullah, 2015). However, researchers should be aware of the fact that conducting research involving bilinguals in Malaysia is not the same as

conducting research involving bilinguals in other countries, for example, in China (Cheng, 2022), where conducting studies to compare the performance of bilinguals from monolinguals is still possible. This is due to the complexity of bilingualism that may exist among Malaysians as a result of the multilingual society that Malaysians live in. However, to the best of the authors' knowledge, no study that investigates the kind of bilinguals Malaysians are has ever been conducted. Such a study is important given that studies conducted on "bilingual individuals" in Malaysia and in countries like Iran have yielded different findings (e.g., Mohamed Salleh et al., 2016 vs. Keshavarz, 2007; Chong et al. (under review) vs. Rahimi & Eftekhari 2011). Therefore, the current study aims to investigate the less addressed issues on bilinguals in the Malaysian context, particularly the different kinds of bilinguals that are mentioned in past studies.

The current study presents a snapshot of the possible composition of bilinguals that exists in Malaysia. It was conducted on a small group of undergraduates in Malaysia as a preliminary effort to showcase the complexity of bilingualism among the people in Malaysia. Specifically, the current study hopes to answer the following research objectives:

- a. To describe the language profile of bilingual undergraduates in Malaysia, and
- b. To categorise the undergraduates into the different types of bilinguals (based on the categories mentioned in Table 1).

## METHOD

### PARTICIPANTS

A total of 234 (205 females; 29 males) undergraduates from a research university in Malaysia who speak the Malay and English languages participated in and completed an online survey from June to August 2021. They are considered as bilinguals based on the fact that Malay is the National Language of Malaysia, and that English is the Official Second Language of the country. Invitations were sent to all students of the Bachelor of Arts in English Language Studies (ELS) and the Bachelor of Social Sciences in Linguistics programmes at the Centre for Research in Language and Linguistics, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia (i.e., The National University of Malaysia, henceforth, UKM). At the time the survey was conducted, there were altogether 324 undergraduates who enrolled in both programmes. Out of the 324 undergraduates, 234 (72.2%) responded to the questionnaire. The background information of the 234 respondents is shown in Table 2:

TABLE 2. Background information of the respondents.

	Students	Numbers	Percentage (%)
<i>Undergraduate</i>			
<b>Ethnicity</b>	Malay	209	89.3
	Chinese	9	3.8
	Indian	10	4.3
	Others	6	2.6
<b>Gender</b>	Male	29	12.4
	Female	205	87.6
<b>Year of study</b>	1 <sup>st</sup> year	65	27.8
	2 <sup>nd</sup> year	83	35.5
	3 <sup>rd</sup> year	86	36.8
<b>Total</b>		<b>234</b>	

## INSTRUMENTS

To investigate the linguistic background of undergraduates at the Centre for Research in Language and Linguistics, a set of questions was developed. The 29 items in the questionnaire were designed to gather information regarding the students' linguistic backgrounds (i.e., languages the students have acquired or learnt from birth), language profiles (i.e., students' language learning history), and bilingual experiences. The questions were constructed in both the Malay and the English languages, as shown in Figure 1. The questions were validated by two linguists with PhD qualifications, from the centre, who are also Malay-English bilinguals. Throughout the validation process, the questions were examined; comments, as well as suggestions, were given by the experts for improvement. Both linguists agreed with all 29 items, and the suggestions and recommendations given were mainly on the structure of the questions to ensure the clarity of the questions. All their suggestions and recommendations were taken into consideration and revisions were made at the final stages of design. All 29 items were included in the questionnaire, and they were in the form of nominal data questions with multiple-answer choices and rating scales. The questionnaire was then transferred in the form of a Google Form for easy distribution.

The screenshot shows a Google Form titled "Your Language Profile | Profil Bahasa Anda". The form is presented in both Malay and English. It contains four questions (1-4) about language exposure and communication. Question 1 asks about the first language learned. Question 2 asks about the language of exposure at school. Question 3 asks about the language of exposure in university. Question 4 asks about the language used for communication in Malay. Each question has multiple-choice options and a "Check all that apply" section with radio buttons for various social contacts like parents, siblings, neighbours, friends, school teachers, and lecturers.

FIGURE 1. Screenshot of the questionnaire

The online survey link was then distributed by the heads of the ELS and Linguistics programmes to their respective undergraduate students via WhatsApp. All participants were informed by their programme heads that their participation was on a voluntary basis. Students were free to respond to the survey at any time while the survey was accessible to them. All the participants remained anonymous to protect their privacy and confidentiality.

## DATA ANALYSIS

The data collected from the survey were then analysed using the Statistical Package for Social Sciences (SPSS) version 28 for Windows by a statistician. The analysis was done via descriptive statistics, where the mean and standard deviation calculation are recorded. To achieve the validity and reliability of the data, the likelihood of the items from non-probability sampling on English as a Second Language (ESL) learners in a research university in Malaysia were evaluated via a significant value of Standard Deviation and a Chi-Square Test. To ensure anonymity, participants are referred to as P1, P2, P3, ..., P234 in this study.

## RESULTS

### DESCRIPTIVE ANALYSIS

The results of the data analysis revealed a relationship between the respondents' Age of Acquisition (AoA) (of the Malay and English languages) and the proficiency and frequency of usage as adults. Specifically, participants exposed to the Malay language since birth reported the influence of AoA on proficiency levels than those exposed to English. This relationship remained significant even after comparing it with the other independent variables, such as the frequency of using both Malay and English languages, either spoken or written. The following subsection provides the details of the findings.

#### TO DESCRIBE THE LANGUAGE PROFILE OF BILINGUAL UNDERGRADUATES IN MALAYSIA

Two hundred and thirty-four participants who enrolled in this study are classified into early exposure to the Malay language group and early exposure to the English language group based on their language profile. The mean score was 1.62, suggesting that more respondents (N=155) were exposed to the Malay language first (66.2%) than those who acquired the English language first (N=12, 5.1%). Sixty-seven (i.e., 28.6%) of the participants were those exposed to and acquired the Malay and English languages since birth (See Figure 2).

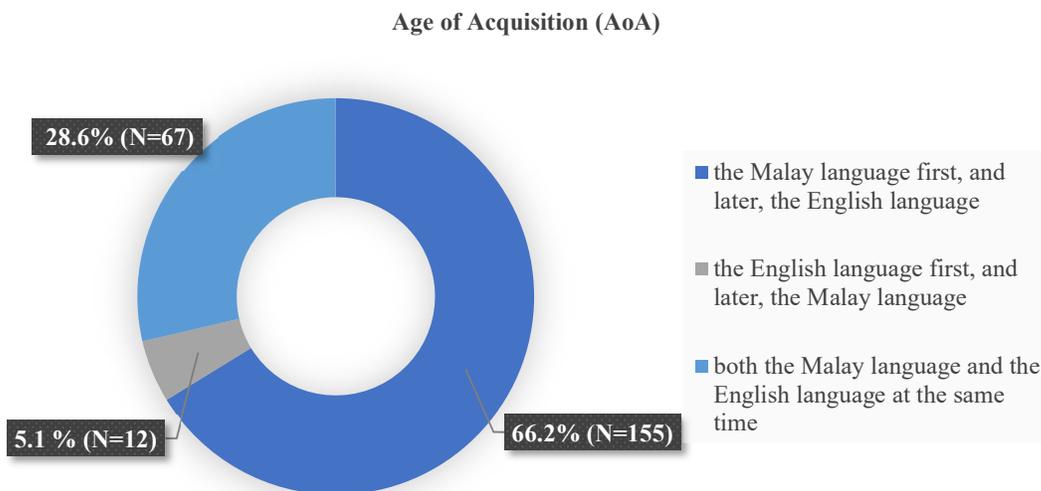


FIGURE 2. The number and percentage of the respondents' Age of Acquisition (AoA)

As illustrated in Figure 2, only 155 respondents acquired Malay as their first language (L1), even though 209 were Malays. However, another 64 acquired Malay as their L1 concurrently with English, making a total of 219 respondents who acquired Malay as their L1. This suggests that the ethnicity of the respondents does not determine their L1. More respondents acquired Malay as L1 than the number of Malays, suggesting that their ethnicity does not influence their AoA.

Table 2 below shows the frequency of responses based on respondents' exposure to the languages from birth and before school. It reveals that 85 respondents were among those who received exposure to L2 during school. The percentage of respondents exposed to L2 since birth was 20.5%, i.e., the lowest percentage compared to those who acquired L2 before schooling but after their L1 (43.2%), and those who received L2 exposure during school (36.3%). The numbers (Table 2) do not depict the same numbers as Figure 2 as it explains that the respondents may not have adequate knowledge of what it means by the "first exposed" language.

TABLE 2. Frequency responses (percentages in parentheses) on the exposure to Malay (L1) and English (L2) (N=234)

	From Birth N (%)	2 <sup>nd</sup> , before school/other languages N (%)	2 <sup>nd</sup> , after school/other languages N (%)
Malay 1 <sup>st</sup>	179 (76.5)	27 (11.5)	28 (12.0)
English 1 <sup>st</sup>	48 (20.5)	101 (43.2)	85 (36.3)

As shown in Table 2, more than half of the respondents acquired the Malay language since birth, and only 12% started to receive exposure to Malay after school-going age. This suggests that 88% of the respondents are early Malay acquirers. While 20.5% of respondents acquired English since birth, 3% acquired languages other than Malay and English as their L1. Interestingly, although only a fifth of the participants acquired English since birth, about two-thirds of them acquired the language before they even went to school. The data clearly shows that for both Malay and English, participants of this study were early bilinguals since the second language (either Malay or English) were acquired before they went to school.

In order to determine the reliability of the association between spoken and written language among participants, a Chi-Square test was done to measure its significance with the results (on written and spoken languages). This test was done to determine if there is any difference between observed data and expected data to identify the relationships between different groups, namely written and spoken groups.

TABLE 3. The association between spoken and written language among participants

	Better in English N (%)	Writing Better in Malay N (%)	Better in both N (%)	p-value
<b>Speaking</b>				
Malay	0	68	19	<b>0.000</b>
English	29	4	37	0.252
Equally	3	32	75	<b>0.004</b>

*Pearson chi-square*

Based on Table 3, the association of those who spoke and wrote in Malay was significantly associated with their ability to speak and write in Malay with a p-value of 0.000. However, no significant association was found between those who are able to speak and write in English. On the other hand, the result was significant for writing and speaking equally in

Malay and English, with a p-value of 0.004. This means that those with early AoA in L2 after L1 acquisition are highly proficient in the language and frequently use it. In other words, early L2 acquires are equally good at writing and speaking in Malay and English most probably because of the same amount of exposure received since young.

It is important to note that, based on the Chi-Square test presented in Table 3, there is a significant value ( $p=.005$ ) in the relationship between exposure to languages and proficiency level. Therefore, it is sufficient to conclude that there is a strong relationship between the categorical variables: the Age of Acquisition (i.e., the exposure to language) can affect the proficiency level of both acquired languages among the participants. The relationship remained significant even after considering the other factors, such as the language used during primary, secondary, and tertiary levels. Thus, students who acquired Malay as their L1 before learning English as their L2 can benefit from early AoA in L2, even if the language used differs due to the other factors mentioned previously.

To investigate if the respondents have improved their languages over the years, the mean responses of their perceived frequency of language used were measured. The mean frequency in the Malay and English languages and the percentage for the analyses are shown in Table 4 for the proficiency levels in both languages.

TABLE 4. Level of proficiency (based on the respondents' perceived proficiency and the frequency)

Frequency of Language Used	Perceived Proficiency	
	Malay N (%)	English N (%)
All the time	78 (33.3)	11 (4.7)
Almost all the time	93 (39.7)	64 (27.4)
Equally with the other language (s)	48 (20.5)	79 (33.8)
Rarely, only when required	15 (6.4)	80 (34.2)

TO CATEGORISE THE UNDERGRADUATE INTO THE DIFFERENT TYPES OF BILINGUALS (BASED ON THE CATEGORIES MENTIONED IN TABLE 1)

In order to determine and categorise the undergraduates into different types of bilinguals, the comparison and identification should be made accordingly based on the results and findings depicted in Table 2, Table 3, and Table 4. Therefore, Table 5 presents the categories of different types of bilinguals as detailed in Table 1.

TABLE 5. Categories of bilinguals of the respondents (Malaysian undergraduates)

Language and AoA	Current frequency use of the language	Perceived proficiency	Bilingual category
Malay since birth	Acquired Malay first, now more frequent use of Malay.	Better in speaking and writing in the Malay language than in English.	Late bilinguals (late acquisition in English as L2), Passive bilinguals (passive in English)
Malay before school, but after English	Acquired Malay shortly after English, dominant in English, but at the same time frequently use both English and Malay.	Equally proficient in speaking and writing in both languages.	Dominant bilinguals (i.e., in English), Balanced bilinguals,

Malay during school, after English	Acquired English first, now, frequently use English. Receptive or passive in Malay.	Better in speaking and writing the English language, poor language production of the Malay language.	Passive bilinguals (passive in Malay),
English since birth	Acquire English first, now, frequently use English.	Better in speaking and writing the English language than the Malay language.	Simultaneous Early Bilinguals (SIM), Sequential Early Bilinguals (eSEQ)
English before school, but after Malay	Acquired English shortly after Malay, now, dominant in Malay, proficient and frequently use both Malay and English.	Equally well in speaking and writing both languages.	Equilinguals
English during school, after Malay	Acquired Malay first, now frequently use Malay but receptive or passive in English.	Better in speaking and writing the Malay language, poor language production of the English language.	Late bilinguals, Passive bilinguals (passive in English)
Equally both	Acquired both Malay and English at the same time, therefore proficient in both languages equally and frequently use both languages.	Equally and actively speaking and writing both languages.	Balanced bilinguals, Equilinguals, Active bilinguals

As mentioned above, it can be said that the respondents' Age of Acquisition (AoA) can influence the proficiency and frequency of usage in L1 and L2 as adults. This suggests that early acquisition leads to greater proficiency in the language (Malay and English); for example, learning Malay first leads to greater proficiency in Malay. Adults who acquire the language early use it more frequently. It is important to note that, despite Malay being the National Language, there are Malaysians who are not able to speak and write in the language. Although they reported that they are more Dominant in the English language, they considered themselves as proficient in both languages. Hence, where the respondents of this study are concerned, although some of them are dominant bilinguals (because they use one language more than the other language), they are balanced bilinguals because of their equal proficiency level in both languages.

## **DISCUSSION**

The current study was aimed at investigating the less addressed issues on bilinguals in the Malaysian context, mainly the different kinds of bilinguals mentioned in past studies. In relation to this, this section discusses the findings and results of the language profile of a small group of undergraduates in Malaysia. Therefore, the discussion is guided by the research objectives posed earlier:

### **THE LANGUAGE PROFILE OF BILINGUAL UNDERGRADUATES IN MALAYSIA**

The language profile of undergraduates in Malaysia exhibited the exposure and input they received to become grown-up bilinguals. Even though the Malay language is regarded as the National Language and the English language as the Official Second Language in Malaysia,

not all of its citizens have acquired either Malay or English as their first or second language. The analysis shows that most Malaysian undergraduates from the research university were first exposed to the Malay language since childhood and later exposed to the English language when they enrolled in primary schools. This agrees with previous studies that found that some Malaysians are only exposed to the second language after their admission into kindergarten or primary school (e.g., Mohamed Salleh et al., 2020). To illustrate further, some of the participants in this study acquired English as their second language before they went to school. In contrast, some were only exposed to the language when they were in their primary school through formal instruction. Thus, in Malaysia, based on the current study, the following can be made:

- a) a person's Mother Tongue is not necessarily his/her First Language,
- b) a person may have two (2) First Languages,
- c) a person may acquire his/her Second Language,
- d) a person may learn his/her Second Language, and
- e) English can be the First Language to some others.

#### **THE DIFFERENT TYPES OF BILINGUALS AMONG MALAYSIAN BILINGUAL UNDERGRADUATE (BASED ON THE CATEGORIES MENTIONED IN TABLE 1)**

The bilingual undergraduates can be categorised as either early (i.e., simultaneous, sequential) bilinguals or late bilinguals. Some acquired Malay and English as their first languages rather than L1 or L2, respectively. With regard to those who acquired both Malay and English as their L1 since childhood, the measure can be made based on the exposure they have received since they were little from their parents, which has made them develop into early bilinguals. Mohamed Salleh et al. (2020), in their study, argue that home language practice and input from the parents' language practice has influenced their children to acquire more than one language at a young age. For example, in a study that shows the linguistic ecology of Malaysia, Hashim (2014, as cited in Mohamed Salleh et al., 2020) has agreed that Malaysian parents in urban areas tend to use and speak English at home to encourage their children to be fluent in the language compared to the parents from rural areas. This study suggests that most of the respondents come from a family whose parents or caregivers have chosen English as the medium to interact and communicate with their children. This has resulted in their children growing up as simultaneous early bilinguals, with English as their L1 rather than an L2, despite Malay being the National Language.

In general, Malaysian bilingual undergraduates are among simultaneous/sequential early or late bilinguals, consistent with data demonstrating similarities in the association between learning Malay as a first language (L1) and learning English as a second language (L2) shortly after the acquisition of their L1 or before starting school. Based on descriptions in Table 1 and Table 4, the students can be classified as simultaneous early bilinguals and sequential early bilinguals, respectively. The relationship between respondents' age of acquisition (of the Malay language and the English language) and the proficiency and the frequency of usage as adults (during the tertiary level) can be concluded based on the following:

- a) Early acquisition, for example, acquiring Malay as L1, leads to greater proficiency in the Malay language. Early bilinguals who acquired English simultaneously with or shortly after acquiring Malay and late bilinguals are still proficient in the Malay language.
- b) However, more frequent language use as an adult (e.g., acquiring Malay first, then English later and using more Malay as an adult) make them be either dominant bilinguals (i.e., speaking and writing more in Malay (L1) than English (L2)) or passive bilinguals (i.e., speaking and writing in Malay (L1) but only understanding but not responding in English (L2)).

Hence, it can be drawn that, Malaysian undergraduates in this study fall under the following categories:

- i. Malay-English simultaneous/sequential early bilinguals,
- ii. Malay-English late bilinguals,
- iii. Malay-English balanced bilinguals, and
- iv. Malay-English equibilinguals

## CONCLUSION

The current study shows that although Malay may be a person's Mother Tongue and First Language, the first exposure to the Malay language may not necessarily be the Age of Acquisition (AoA) of a particular language affects the performance and frequency of the language; for example, the acquisition of English as L1 results in better performance in and more frequent use of the English language. Besides, the frequency of language used in the spoken discourse has impacted the frequency of language use in the written discourse; for example, a person who reads more in English writes more in English than in Malay.

This study shows that while English is the Official Second Language in Malaysia, to some other Malaysians, English is their first language (first exposed language). Given the scenario, researchers conducting research involving Malaysian bilingual individuals as their subjects may need to be aware of the different types of bilinguals when reporting their findings. This, on the other hand, is probably why discrepancies exist in the results of similar studies conducted in other parts of the world; the discrepancies could be due to the different kind of exposure the subjects got in those studies.

Hence, when conducting linguistic research on Malaysians, future researchers should consider the multifaceted nature of Malaysian bilinguals when explaining the findings to provide an accurate picture of the linguistic scenario of bilinguals in Malaysia. Although this study has investigated the less addressed issues on bilinguals in the Malaysian context, more studies must be done in the future due to some limitations this study has posed. Since the current study only represents a group of bilingual undergraduates from one particular research university in Malaysia, future studies can be conducted on a larger group of bilinguals to provide wider insights into the language profiles of bilinguals in bilinguals.

## ACKNOWLEDGEMENT

## REFERENCES

- Amenorvi, C. R. (2019). Languages in contact and interference: A case of reference among some coordinate bilinguals. *Journal of Humanities and Social Sciences Studies*, 1(6), 1-12.
- Azar, A. S., & Tanggaraju, D. (2020). Motivation in second language acquisition among learners in Malaysia. *Studies in English Language and Education*, 7(2), 323-333. <https://doi.org/10.24815/siele.v7i2.16506>
- Baigorri, M., Campanelli, L., & Levy, E. S. (2019). Perception of American-English Vowels by Early and Late Spanish-English Bilinguals. *Language and Speech*, 62(4), 681-700. <https://doi.org/10.1177/0023830918806933>

- Baigorri, M., Campanelli, L., & Levy, E. S. (2019b). Perception of American–English Vowels by Early and Late Spanish–English Bilinguals. *Language and Speech*, 62(4), 681–700. <https://doi.org/10.1177/0023830918806933>
- Bonifacci, P., Lombardo, G., Pedrinazzi, J., Terracina, F., & Palladino, P. (2020). Literacy skills in bilinguals and monolinguals with different SES. *Reading & Writing Quarterly*, 36(3), 243-259.
- Bulusan, F. (2019). Language Policies and Challenges in Promoting Minority Languages in Asia: A Systematic Literature Review. *Asian EFL Journal*, 24(4.2), 230-247.
- Bylund, E., Abrahamsson, N., Hyltenstam, K., & Norrman, G. (2019). Revisiting the bilingual lexical deficit: The impact of age of acquisition. *Cognition*, 182, 45–49. <https://doi.org/10.1016/j.cognition.2018.08.020>
- Bylund, E., Hyltenstam, K., & Abrahamsson, N. (2021). Age of acquisition – not bilingualism – is the primary determinant of less than nativelike L2 ultimate attainment. *Bilingualism: Language and Cognition*, 24(1), 18–30. <https://doi.org/10.1017/s1366728920000188>
- Chan, S. H., & Abdullah, A. N. (2015). Bilingualism in Malaysia: Language education policy and local needs. *Pertanika Journal of Social Sciences and Humanities*, 23(3), 55-70.
- Cheng, N. H. (2022). Explore the Difference Between Bilingual and Monolingual Children. In *2021 International Conference on Public Art and Human Development (ICPAHD 2021)* (pp. 686-691). Atlantis Press.
- Chong, Y.S., Salehuddin, K., Amzah, N. & Abdul Hamid, B. (under review). Triggered code-switching: A Bottom-up Approach to Code-Switching among L2 Teachers. Submitted to *Issues in Language Studies*.
- De Bruin, A. (2019). Not All Bilinguals Are the Same: A Call for More Detailed Assessments and Descriptions of Bilingual Experiences. *Behavioral Sciences*, 9(3), 33. <https://doi.org/10.3390/bs9030033>
- De Houwer, A. (2011). Language input environments and language development in bilingual acquisition. *Applied Linguistics Review*, 2(2011), 221–240. <https://doi.org/10.1515/9783110239331.221>
- Department of Statistics Malaysia. (2023, February 9). *Demographic Statistics Fourth Quarter 2022, Malaysia*. Department of Statistics Malaysia Official Portal. Retrieved March 20, 2023, from [https://www.dosm.gov.my/v1/index.php?r=column/cthemByCat&cat=430&bul\\_id=VndFcmkvVTZoVTNYOTN2MzRtNy9zQT09&menu\\_id=L0pheU43NWJwRWVSZklWdzQ4TlhUUT09#:~:text=Malaysia's%20population%20in%20the%20fourth,\(8.0%25\)%20Non%2DCitizens](https://www.dosm.gov.my/v1/index.php?r=column/cthemByCat&cat=430&bul_id=VndFcmkvVTZoVTNYOTN2MzRtNy9zQT09&menu_id=L0pheU43NWJwRWVSZklWdzQ4TlhUUT09#:~:text=Malaysia's%20population%20in%20the%20fourth,(8.0%25)%20Non%2DCitizens).
- Diebold, A. R. (1961). Incipient Bilingualism. *Language*, 37(1), 97. <https://doi.org/10.2307/411253>
- Dodson, C. J. (1985). Second language acquisition and bilingual development: A theoretical framework. *Journal of Multilingual and Multicultural Development*, 6(5), 325–346. <https://doi.org/10.1080/01434632.1985.9994210>
- Dosi, I. (2019). The production of telicity in balanced and dominant bilinguals. *European Journal of Research in Social Sciences*, 7(4).
- Edwards, J. E. (2012). Bilingualism and Multilingualism: Some Central Concepts. *The Handbook of Bilingualism and Multilingualism*, 5–25. <https://doi.org/10.1002/9781118332382.ch1>
- Education Act 1996. (2016). *Laws of Malaysia Act 550*. <<https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/95631/112655/F-541090934/MYS95631%202016.pdf>> accessed 22 March 2023

- Gaudart, H. M. (1987). A typology of bilingual education in Malaysia. *Journal of Multilingual and Multicultural Development*, 8(6), 529–552. <https://doi.org/10.1080/01434632.1987.9994310>
- Gil, L. A., Stahnke, J., & Müller, N. (2021). On the Acquisition of French (Null) Subjects and (In)Definiteness: Simultaneous and Early Sequential bi-, tri- and Multilinguals. *Probus*. <https://doi.org/10.1515/probus-2021-0004>
- Hartanto, A., & Yang, H. (2019). Does early active bilingualism enhance inhibitory control and monitoring? A propensity-matching analysis. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 45(2), 360–378. <https://doi.org/10.1037/xlm0000581>
- Hoff, E., & Core, C. (2013). Input and Language Development in Bilingually Developing Children. *Seminars in Speech and Language*, 34(04), 215–226. <https://doi.org/10.1055/s-0033-1353448>
- Juhasz, B. J. (2005). Age-of-Acquisition Effects in Word and Picture Identification. *Psychological Bulletin*, 131(5), 684–712. <https://doi.org/10.1037/0033-2909.131.5.684>
- Kabir, M. M. N. (2019). Reviewing translation and L1 in language pedagogy from translanguaging lenses. *BELTA Journal*, 3(1), 32–46.
- Kaščelan, D., Prévost, P., Serratrice, L., Tuller, L., Unsworth, S., & De Cat, C. (2021). A review of questionnaires quantifying bilingual experience in children: Do they document the same constructs? *Bilingualism: Language and Cognition*, 25(1), 29–41. <https://doi.org/10.1017/s1366728921000390>
- Kaushanskaya, M., & Marian, V. (2007). Age-of-acquisition effects in the development of a bilingual advantage for word learning. *Proceedings of the Boston University Conference on Language Development*, 213–224.
- Keshavarz, M. H. (2007). Morphological Development in the Speech of a Persian–English Bilingual Child. *Journal of Psycholinguistic Research*, 36(4), 255–272. <https://doi.org/10.1007/s10936-006-9044-5>
- Kovelman, I., Baker, S. A., & Petitto, L. (2008). Age of first bilingual language exposure as a new window into bilingual reading development. *Bilingualism: Language and Cognition*, 11(2), 203–223. <https://doi.org/10.1017/s1366728908003386>
- Łuniewska, M., Wodniecka, Z., Miller, C. A., Smolík, F., Butcher, M., Chondrogianni, V., Hreich, E. K., Messarra, C., Razak, R. A., Treffers-Daller, J., Yap, N. T., Abboud, L., Talebi, A. A., Gureghian, M., Tuller, L., & Haman, E. (2019). Age of acquisition of 299 words in seven languages: American English, Czech, Gaelic, Lebanese Arabic, Malay, Persian and Western Armenian. *PLOS ONE*, 14(8), e0220611. <https://doi.org/10.1371/journal.pone.0220611>
- Manan, S. A., David, M. K., Dumanig, F. P., & Naeqebullah, K. (2015). Politics, economics and identity: mapping the linguistic landscape of Kuala Lumpur, Malaysia. *International Journal of Multilingualism*, 12(1), 31–50. <https://doi.org/10.1080/14790718.2014.905581>
- Mansor, N. R., Azmy, S. N. M. S., & Yusoff, S. F. M. (2018). Malay as the Language of Advanced Knowledge: Scientific Review in National Academia Scholarship. *International Journal of Asian Social Science*, 8(9), 694–705. <https://doi.org/10.18488/journal.1.2018.89.694.705>
- Mackey, W. C. (1962). The description of bilingualism. *Canadian Journal of Linguistics*, 7(2), 51–85. <https://doi.org/10.1017/s0008413100019393>
- Mashwani, H. U., & Noori, A. (2023). Afghan English Major Students' Attitudes Toward Native-Like Proficiency in the English Language. *Journal of Foreign Language Teaching and Learning*, 8(1), 19–41. <https://journal.umy.ac.id/index.php/FTL/issue/view/964>

- Mizza, D. (2014). The First Language (L1) or Mother Tongue Model Vs. The Second Language (L2) Model of Literacy Instruction. *Journal of Education and Human Development*, 3(3). <https://doi.org/10.15640/jehd.v3n3a8>
- Mohamed Salleh, R. T. A., Kawaguchi, S., Jones, C., & Di Biase, B. (2016). The development of plural expressions in a Malay-English bilingual child. *Asiatic: IIUM Journal of English Language and Literature*, 10(2), 111-131. <http://irep.iium.edu.my/84591/>
- Mohamed Salleh, R. T. A., Di Biase, B., & Ramlan, W. N. M. (2020). The Acquisition of English Grammar Among Malay-English Bilingual Primary School Children. *GEMA Online Journal of Language Studies*, 20(4).
- Mohd Tohar, S. N. a., Halim, A. A., & Samsu, K. H. K. (2017). Pengukuran Tahap Pemartabatan Bahasa Kebangsaan dalam kalangan Mahasiswa Institusi Pengajian Tinggi (Measuring the Level of Upholding the National Language among Institute of Higher Education Students). *GEMA Online Journal of Language Studies*. <https://doi.org/10.17576/gema-2017-1702-07>
- Moradi, H. (2014). An investigation through different types of bilinguals and bilingualism. *International Journal of Humanities & Social Science Studies*, 1(2), 147-154.
- Moreno, M. R. (2022). Spanish Lexical Accessibility and Vocabulary Acquisition: Catalan Dominant Bilinguals and Spanish Monolinguals Compared. *Anuari De Filologia. Estudis De Lingüística*, 12(12), 109–124. <https://doi.org/10.1344/afel2022.12.5>
- Nagel, O. V., Temnikova, I., Wylie, J., & Koksharova, N. F. (2015). Functional Bilingualism: Definition and Ways of Assessment. *Procedia - Social and Behavioral Sciences*. <https://doi.org/10.1016/j.sbspro.2015.11.625>
- Nakamura, J. (2019). Receptive bilingual children's use of language in interaction. *Studies in Language Sciences: Journal of Japanese Society for Language Sciences*, 18, 46-66.
- National Language Acts 1963/1967. (2006) Laws of Malaysia 32. <<https://www.lawyerment.com/library/legislation/acts/1963/32/cite/?s=2>> accessed 22 March 2023
- Novitskiy, N., Shtyrov, Y., & Myachykov, A. (2019). Conflict Resolution Ability in Late Bilinguals Improves With Increased Second-Language Proficiency: ANT Evidence. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.02825>
- Ortega, L. (2020). The Study of Heritage Language Development From a Bilingualism and Social Justice Perspective. *Language Learning*, 70(S1), 15–53. <https://doi.org/10.1111/lang.12347>
- Ovu, B. F., & Anyanwu, Q. E. (2019). Bilingualism Problems in Nigeria: Implications for ESL Pedagogy. *Journal of Languages, Linguistics and Literary Studies (JOLLS)*, (8), 13-21.
- Peal, E., & Lambert, W. E. (1962). The relation of bilingualism to intelligence. *The Psychological Monographs*, 76(27), 1–23. <https://doi.org/10.1037/h0093840>
- Pousada, A. (2000). The competent bilingual in Puerto Rico. *International Journal of the Sociology of Language*. <https://doi.org/10.1515/ijsl.2000.142.103>
- Rahimi, A., & Eftekhari, M. (2011). Psycholinguistic code switching in Iranian university classroom context. *The Journal of Language Teaching and Learning*, 1, 54–63.
- Salehuddin, K. (2018). *Psikolinguistik: penerokaan minda berlandaskan bahasa*. Penerbit Universiti Kebangsaan Malaysia.
- Saw, O. L. (2010). Assessment profile of Malaysia: high-stakes external examinations dominate. *Assessment in Education: Principles, Policy & Practice*. <https://doi.org/10.1080/09695940903319752>
- Schlenter, J. (2023). Prediction in bilingual sentence processing: How prediction differs in a later learned language from a first language. *Bilingualism: Language and Cognition* 26, 253–267. <https://doi.org/10.1017/S1366728922000736>

- Schmid, M. S., & Karayayla, T. (2020). The Roles of Age, Attitude, and Use in First Language Development and Attrition of Turkish–English Bilinguals. *Language Learning*, 70(S1), 54–84. <https://doi.org/10.1111/lang.12361>
- Smolander, S., Laasonen, M., Arkkila, E., Lahti-Nuuttila, P., & Kunnari, S. (2021). L2 vocabulary acquisition of early sequentially bilingual children with TD and DLD affected differently by exposure and age of onset. *International Journal of Language & Communication Disorders*, 56(1), 72–89. <https://doi.org/10.1111/1460-6984.12583>
- Soares-Silva, J. P., Brandão, L. E. T., Góes, L. D. N., Silva, B. L., Barbosa, G., Ferreira, J. L. S., & Benevides, L. A. (2021). A proposal for recalibration of a vocabulary levels test as diagnosis of late bilinguals' L2 proficiency. *Signos*, 42(2), 265–276. <https://doi.org/10.22410/issn.1983-0378.v42i2a2021.3027>
- Soon, C. T., Loi, C. K., & Ku, C. J. (2021). Language practice and language ideology on linguistic landscape in Malaysia. *International Journal of Social Science Research*, 3(3), 95-111.
- Stachowiak-Szymczak, K. (2019). Look at What I'm Saying: Multimodality. *Second Language Learning and Teaching*. [https://doi.org/10.1007/978-3-030-19443-7\\_2](https://doi.org/10.1007/978-3-030-19443-7_2)
- Summer, L. Q. (2016). Language acquisition for the bilingual child: a perspective on raising bilingual children in the US. *National Center for Hearing and Management (NCHM) ebook*, 20-1.
- Thairusanku, J., & Yunus, M. M. (2014). Status of English in Malaysia. *Asian Social Science*, 10(14). <https://doi.org/10.5539/ass.v10n14p254>
- Thordardottir, E. (2019). Amount trumps timing in bilingual vocabulary acquisition: Effects of input in simultaneous and sequential school-age bilinguals. *International Journal of Bilingualism*, 23(1), 236–255. <https://doi.org/10.1177/1367006917722418>
- Wald, B. (1974). Bilingualism. *Annual Review of Anthropology*, 3(1), 301-321.
- Wagner, D., Bialystok, E., & Grundy, J. (2022). What Is a Language? Who Is Bilingual? Perceptions Underlying Self-Assessment in Studies of Bilingualism. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.863991>
- Woo, W. S., & Riget, P. N. (2020). Linguistic landscape in Kuala Lumpur international airport, Malaysia. *Journal of Multilingual and Multicultural Development*, 43(5), 404–423. <https://doi.org/10.1080/01434632.2020.1742724>
- XiaoMei, W., & Daming, X. (2018). The Mismatches between Minority Language Practices and National Language Policy in Malaysia: A Linguistic Landscape Approach. *Kajian Malaysia*, 36(1), 105–125. <https://doi.org/10.21315/km2018.36.1.5>
- Yamat, H., Umar, N. F., & Mahmood, M. T. (2014). Upholding the Malay Language and Strengthening the English Language Policy: An Education Reform. *International Education Studies*, 7(13). <https://doi.org/10.5539/ies.v7n13p197>

