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2019

Bolton, K., & Botha, W. (2019). Multilingualism and language mixing among Singapore university students. In I. Liyanage, & T. Walker (Eds.), Multilingual education yearbook 2019 : media of instruction & multilingual settings (pp. 43-61). doi:10.1007/978-3-030-14386-2_3

<https://hdl.handle.net/10356/138581>

https://doi.org/10.1007/978-3-030-14386-2_3

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Multilingualism and language mixing among Singapore university students

Kingsley Bolton and Werner Botha

Abstract

This chapter discusses the dynamics of language mixing among Singaporean university students and how such mixing practices are an integral part of students' linguistic behaviour at university, both inside and outside formal classroom contexts. This study draws on a large-scale language survey of undergraduate students, as well as qualitative language data collected at one of Singapore's leading universities. The findings reveal how Singaporean students are able to shift between various languages inside and outside their classrooms, and may also have relevance for a range of other multilingual contexts, particularly in relation to language use in higher education.

1 Introduction

There has been a great deal of linguistic research in Singapore over the past few decades, including various studies of language policies, multilingualism and varieties of English in Singapore. A number of these studies have highlighted the dichotomy between Standard Singapore English (or SSE) and Colloquial Singapore English (or CSE), other studies have adopted a features-based approach to SSE and CSE (frequently referred to as 'Singlish'), and yet others have investigated attitudinal issues in relation to identity (Bolton and Ng 2014). Since the early 2000s, the government has sought to promote the use of 'correct' or 'standard' English through the national education system, as well through the initiative known as the Speak Good English Movement, which might be seen as much an ideological as a linguistic intervention (Wee 2014). According to Low's (2014) study of research from the 1970s to recent past, previous studies of Singapore English have prioritized such topics as 'language in use' (including variation, pragmatics, language and literature, and culture and identity), 'language education' (general education, writing, classroom discourse, using ICT, pronunciation, and so on), 'linguistic features', 'language policy/planning', 'language acquisition', and 'language pathology' (Low 2014, p. 448). Despite this relative abundance of research, however, one important gap in Singaporean linguistic research has been the description of the language practices of young people in Singapore today, especially in the context of higher education.

The obligatory use of English as a medium of instruction from primary school to university has been linked to the nation's success as an educational hub and as a global player in engineering, science and business (Bolton and Botha 2017; Bolton, Botha, and Bacon-Shone 2017). In this context, perhaps, the use of English in higher education has appeared unproblematic and unremarkable, although the key argument we present in this study is that—despite official language policies—the language practices of are distinctly multilingual, and that students constantly switch between different languages and language varieties on their university campuses. These language practices may not at first be observable in the formal classrooms of these students, but become very evident when if one studies the use of languages when students are socializing, or even when they are discussing their studies with each other.

In order to analyse the patterns of language use among university students, this study presents results of a research project conducted at a leading Singaporean university (henceforth identified as 'the University'). This study discusses the use of multiple languages within students' educational lives at the University. As mentioned earlier, while the Singaporean education system has been a documented success in its implementation of English as a medium of

instruction, the one important and underexplored dimension has been the realities of language use in universities and how these compare with the aims and ideals of the official English-medium policy of the government and Singaporean higher education institutions. Broadly, for this study we sought to investigate the following research questions:

- (1) What are the linguistic backgrounds of undergraduate students at the University?;
- (2) How do students use languages in their spoken communication within their formal classrooms?;
- (3) To what extent do students mix languages in their spoken communication in the University?;
- (4) How do students use languages in their academic context, outside the classroom?

In the next section, we present an overview of the sociolinguistic context of Singapore and language use in Singapore's higher education system. We then discuss the research methods and research findings, including the prevalence of language mixing among students. Throughout the discussion of our research findings, we refer to various types of language alternation as 'language mixing', and, for various reasons, choose not to distinguish between 'code-mixing' and 'code-switching'.¹ In the closing sections of the article, we also comment on the relevance of our research results to current discussions of 'translanguaging' in such fields as applied linguistics, educational linguistics, and sociolinguistics.

2 The sociolinguistic context in Singapore

Singapore has four official languages: English, Mandarin, Malay and Tamil. English is used overwhelmingly as the working language of the government and is the official medium of teaching and learning in Singapore's education system. Mandarin, Malay, and Tamil are designated as 'mother tongues' and each ethnic group is assigned one of these and is taught their official mother tongue as a second language at school. Consequently, Chinese students typically learn Mandarin, Malays learn Malay, and Indians learn Tamil. Currently some 35% of the population reportedly speak Mandarin as a usual home language, while almost 37% reportedly use English, indicating that English and Mandarin are the predominant languages used in Singapore society today. This is not surprising, given that in 2015 some 74% of the population were ethnically 'Chinese', some 13% were 'Malay', and some 9% were 'Indian' (SingStat 2016).

3 Language use in Singapore's higher education

There are six local universities currently in Singapore, providing degree courses to over 90,000 students. Besides these universities, there are five institutes in Singapore, known as polytechnics, providing three-year diploma programs to some 70,000 students (Singapore Ministry of Education 2015). A number of foreign universities have also established branch campuses in Singapore. The two largest comprehensive universities in Singapore are the National University of Singapore (or NUS) (with some 38,000 students), and Nanyang Technological University (or NTU) (32,000 students). These two universities have a relatively long history compared with the other institutions, and are the only local universities in Singapore that were founded before the 2000s. NUS was established in 1980 and was followed by Nanyang Technological University in 1991, as well as four newer universities in the 2000s: Singapore Management University (2000), SIM University (2005), Singapore University of Technology and Design (2009) and Singapore

Institute of Technology (2009). English is the medium of instruction at all of these institutions, which is also the case at all other levels of public education in Singapore (Bolton and Botha 2017; Bolton, Botha, and Bacon-Shone 2017).

Two related studies on multilingualism in Singapore higher education, by Siemund et al. (2014) and Leimgruber et al. (2018) have investigated the language backgrounds, language use, and language preferences of some 300 students in various types of institutions, including universities and polytechnics. The study concluded that English plays an important role in the lives of these students, that Colloquial Singapore English is an important identity marker for many of these students, and that most university students in their study were found to be either bilingual or trilingual. Another study by Chong and Seilhamer (2014) suggests that Singaporean Malay university students retain a strong sense of Malay identity, partly through the Malay language, even though English has become an integral part of their lives. Despite the fact that these studies have shed some light on the multilingual language practices of Singaporean university students, it still remains unclear how English-medium instruction (EMI) connects, or fails to connect, with the language backgrounds of these students, especially in the formal education context.

It is generally evident that English medium education in Singapore has been highly successful, to an extent unequalled by other nations in Asia, particularly in terms of promoting proficiency in English (Bolton 2008; Bolton, Botha and Bacon-Shone 2017). Even so, we believe it is important to consider the wider multilingual ecology of the Singapore society, and the often complex multilingual worlds of Singaporean university students. At the University where this current study was conducted, for example, it is clearly evident that students often switch from more formal registers of English in the classroom language mixing (routinely involving Singapore Colloquial English, Malay, Mandarin and Indian languages) in the corridors and cafeterias. It is in this context that we set out to investigate how the home languages of students, and how their personal language experiences intersect with their academic language needs at the University.

4 Methods

One aspect of the research presented in this article involved a large-scale sociolinguistic survey at a university in Singapore, while another aspect of the research involved ethnographic fieldwork that captured the sociolinguistic realities of language use of full time undergraduate students at the university. The response rate for the student survey was very high with some 8,280 completed questionnaires, a number that represented 28.2% of the student population at the University. Of these students, 7,575 were undergraduates and 705 were postgraduate students. The questionnaire was highly detailed, comprising 114 items, with sub-sections dealing with the personal characteristics of students, their linguistic and educational backgrounds, their reading practices, their writing skills, spoken communication, language mixing, presentation skills, online learning, self-assessment of language skills, and perceived areas of difficulty. The online surveys were carried out between October and December 2014, and the data were subsequently checked for consistency, and the undergraduate results were weighted in order to correct for sampling bias.² At the undergraduate level, it was found that Engineering students were over-represented in the survey, and as a result, it was decided to weight the undergraduate survey results by College to match those of the general University population, and those results presented below reflect this weighting. It needs to be pointed out here that the focus in this article

is on the results of undergraduate students, the vast majority of whom are either Singaporean citizens or Singaporean Permanent Residents (see Table 1), whereas the vast majority of postgraduates are international students (see Table 2), most notably from mainland China. This indicates that there are, in fact, two very different populations of students at the University, with very different language backgrounds. The issue of postgraduate students at the University has already been discussed in Bolton and Botha (2017), and the main concern in this article is on the multilingual language practices of the predominantly Singaporean undergraduate students.

Table 1: University undergraduate students and survey sample by residence status

Residence status	University	Survey
Singapore citizen	77.7%	71.5%
Singapore Permanent Resident	5.6%	4.9%
Non-Singapore citizen or Non-Permanent Resident	16.6%	21.0%
Missing	-	2.7%
	N=23,155	N=7,717

Table 2. University postgraduate students and survey sample by residence status

Residence status	University	Sample
Singapore citizen	23.8%	14.3%
Singapore Permanent Resident	10.9%	4.7%
Non-Singapore citizen and Non-Permanent Resident	65.3%	74.3%
Missing	-	6.7%
	N=6,164	N=705

In the second part of the study three undergraduate students (One Chinese, one Malay, and one Indian) from the University volunteered to participate in this part of the research, and each of these students agreed to act as the ‘ego’ (or main subject) of their respective social networks. All the members of these social networks were informed of the research and consent was obtained for gathering linguistic data for this project. It was explained to these students that some of their interviews and discussions with the main subject would at times be recorded, but that they would be aware of the situations when the recordings would be done. In order to protect the identities of the participants, these subjects were anonymised in the reporting of results related to this project. Once the final number of participants in the study were confirmed, the main subject of each social network would meet members of their university social networks in social settings on the university campus (such as at a restaurant on campus or in their university dorm rooms) and record their discussions. The aims with these naturalistic recordings were to capture the patterns of language use between these students on the university campus, as well as to explore how these students use various languages and language varieties when discussing various aspects of their studies. After excerpts of the conversations between students were transcribed, a number of the students were invited to comment on their language use, and selections of their commentary are included in our discussions below.

5 Results

In this part of the article we present a description of various aspects of language use by undergraduate students in the domain of education. The results are discussed in terms of the research aims introduced above, where the first aim concerned the linguistic backgrounds of the students (Bolton et al. 2016). As can be seen from Table 3, undergraduate students overwhelmingly reported using English as a primary language of instruction in their schools, before coming to university, with almost 90% stating that English was used as the main language of teaching.

Table 3: Primary language of instruction in school

Primary language of instruction	%age
English	88.1%
Others	11.9%
Total	100%

The home language acquisition background of these students is presented in Figure 1 which ~~indicate~~indicates that a majority of students reported that their first language was Mandarin Chinese, or another language or language variety. Thus, although some 41% reported learning English, many more reported having learnt Chinese or another language as a first language. Nearly 60% of students also reported that they spoke Mandarin Chinese at home, compared with 50% who reported using English as a home language. It should be noted, however, that many students responded that they use more than one language or language variety at home.

Figure 1: First language learnt as a child

Figure 2: Language(s) usually spoken at home

The multilingual home contexts of these students are visibly displayed in Figure 3, which shows that nearly half of the students spoke more than one language variety at home with 12% of students reporting three or more languages as usual languages at home.

Figure 3: Number of language(s) usually spoken at home

Another interesting finding concerned the students' self-reports of their 'most proficient language', with results indicating that the majority of undergraduate students felt most proficient

in English, followed by some 30% who felt most proficient in Mandarin (see Figure 4). Only 1.3% and 0.5% of the students stated that they felt most proficient in Malay and Tamil, respectively.

Figure 4: Most proficient language

The results reported on in Figure 4 are somewhat unsurprising, especially considering students frequent and prolonged exposure to English in their formal education, and the emphasis that is placed on English medium education in Singapore (Bolton and Botha 2017). Even at the University where this survey was carried out, it was found that English has a very strong presence in students' formal education, as can be seen in the results presented in Table 4. From these results it can be seen that, among other educational contexts, more than 95% of students reported that 'All/Almost all' of their lectures were conducted in English, strongly suggesting a clear and rigorous implementation of the EMI language policy in Singapore's higher education.

Table 4: Use of English as a medium of instruction at NTU

	All	Almost all	About half	Very few	None	Does not apply
Lectures	90.2%	5.3%	1.3%	1.7%	1.0%	0.4%
Tutorials/seminars	90.4%	6.1%	1.1%	1.9%	0.4%	0.2%
Laboratory sessions/workshops	78.7%	4.8%	0.6%	1.0%	0.9%	14.1%

These results are also confirmed by the reported use of languages when discussing academic matters in students' formal classroom contexts, where some 80% of the undergraduate students reported using only English. Nevertheless, one interesting finding here, however, is that just over

11% of these students reported mixing languages in the classroom, and nearly 9% indicated the use of Mandarin/Putonghua.

Figure 4: Language used when discussing academic matters in the classroom

It is striking to note, as students leave their classrooms and begin socializing with their classmates—even while still in the academic context—their patterns of language use become more varied and their use of additional languages, language varieties and language mixing increases. The increasing use of additional languages is evident from students’ self-reports on their use of languages (see Figures 4 and 5), and the closer examination of the results concerning the mixing of languages add a further dimension of complexity to our analysis (see Table 5).

Figure 5: Language used when socializing with classmates

One of the questions in the survey asked students to report on the ‘mixing of languages by other students’, and nearly 50% of the respondents stated that other students mix languages when talking to fellow students inside the classroom. In a related question, undergraduates were also asked about their own language mixing practices, to which some 34% stated that they ‘Always’ or ‘Very often’ mixed languages with other students during classroom communication. Thus, the quantitative results from the survey indicate that language mixing practices are rather common among the undergraduate student population at the University. These results were confirmed by our qualitative research on this issue, which involved the recording and transcription of naturally-occurring conversations between students on campus. These recordings were intended

to reveal the actual language practices of undergraduate students when they discuss their studies in more informal contexts on campus. The transcriptions below, in Extracts 1-3 present data of direct relevance to the research issues set out in Section 1 above.

The first example, 'Extract 1', is taken from a conversation between three ethnic Chinese Singaporean students, who were in their second year of an Engineering program at the University. In this extract, they are talking about their homework and discussing Newtonian mechanics.

Extract 1

-
- JW: Coriolis is sometimes *shi ni* spin *ni zhe ge* direction but Coriolis an opposite direction.. can be one.. when you walking into the circle.
(Coriolis is sometimes *you spin your this* direction but Coriolis an opposite direction.. can be one.. when you walking into the circle.)
- T: Orh=.
- JW: <X X>@@ you say Coriolis *hen nan* visualize.. cannot *hen chao nan* visualize *de* it can go opposite of *ni de* spinning direction.
(<X X>@@ you say Coriolis *very difficult* to visualize.. cannot *extremely difficult* to visualize [possessive] it can go opposite of *your* spinning direction.)
- J: Okay.. *wo deng yi xia yao qu kan yi xia*.
(Okay.. *I'll have a look later*.)
- 5 T: Technically can just do the.. absolute time derivative shit.. like how they derive <X X>.
J: [*<X X>*].
T: <X X> and absolute thing like your S right *bu shi*.. let's say your distance *jiu shi* R VR right then you= differentiate it with respect to time then you come up with two terms.. R.. RER as in R.. to the power to the direction of ER *dui bu dui*.
(<X X> and absolute thing like your S right *isn't it*.. let's say your distance *it's just* R VR right then you= differentiate it with respect to time then you come up with two terms.. R.. RER as in R.. to the power to the direction of ER *is that right*)
- J: Uh huh.
- T: So you differentiate it.
- 10 JW: But Coriolis *shi shen me* ah? R dot.
(But *what is* Coriolis ah? R dot.)
- T: No then *ni cong* velocity *zai chu lai*.
(No then *from* velocity *it emerges*.)
- JW: [R dot two dot] R dot theta dot.
- T: So *ni kan* ah that term *jiu shi* uh= if you differentiate *bu shi bian cheng* R dot DR.
(So *you see* ah that term *is* uh= if you differentiate *doesn't it become* R dot DR.)
- J: Ah.
- 15 T: Plus.
- JW: *wei shen me ni nong dao jiang cheem*.
(*Why do you have to make it so difficult*.)
- T: [R theta] dot E theta.. @ that's why I read textbook.
- J: [*ren jia kan* textbook *de=*].
(*[others refer to the textbook [possessive]=]*.)
- T: [*hui jia hai yao*] *kan* textbook.
(*[go home and still have to]* *refer to the textbook*.)
- 20 J: *kan* textbook *de=*.
(*refer to the textbook [possessive]=*.)
- T: I see how they derive the thing.
-

JW:	[<i>suo yi shi</i>] R dot theta dot.. <i>shi ma?</i> ([<i>so it is</i>] R dot theta dot.. <i>is that right?</i>)
T:	Ah.
JW:	Coriolis.. okay okay then <i>wo ying gai dong le shi R suo yi shi R cross theta hai shi theta cross R?</i> (Coriolis.. okay okay then <i>I think I understand it now R so it's R cross theta or theta cross R?</i>)
25 T:	<i>mei you cross.</i> (<i>doesn't cross.</i>)
J:	They still cross.. <i>you cross.</i> (They still cross.. <i>it does cross.</i>)
JW:	Confirm cross.. coriolis confirm <i>shi cross de.</i> (Confirm cross.. coriolis confirm <i>it does cross</i> [possessive].)
J:	Ah.
JW:	<i>zhe ge zhe ge wo yong wo yong yuan hui ji de zhe ge ^cross because theta you theta cross R give you opposite direction from cross.</i> (<i>I will always remember that this will ^cross because theta you theta cross R give you opposite direction from cross.</i>)
30 T:	[Cross outward.]

Conversation between three undergraduate Engineering students, discussing their homework

As can be seen from Extract 1, there evidently exists linguistic fluidity in the patterns of language use of the students concerned. The most striking feature presented in this extract is that specific subject content and specialized terms related to this topic of 'Coriolis derivative' are discussed in English, while the rest of the conversation is in Mandarin Chinese. The intersection between English and Mandarin in this exchange is also evident, and it is clear how English, as an educational language, connects with the language repertoires of these Chinese students, especially with regards to how topics related to specific content knowledge leads to a switch to a greater use of English among these students. One obvious explanation of this pattern of language mixing is the influence of EMI education on the linguistic repertoires of these students who are either bi- or multilingual.

A similar pattern of language behaviour was also observed among Malay students. In the second example, 'Extract 2', two Malay students from the Linguistics program are talking about question formats for one of their up-coming exams.

Extract 2

S:	This sem..
N:	Oh <i>kenape tak ambik</i> year 1? Year 1 was easier <i>sia</i> .. A lot of stuffs were easier in year 1 <i>sia</i> apparently. Astro= (Oh, <i>why didn't you take it in</i> year 1? Year 1 was easier <i>sia</i> .. A lot of stuffs were easier in year 1 <i>sia</i> apparently. Astro=)
S:	No because I wanted to clear Gerpe this sem= so I don't have to..
N:	Gamelan oh my God.. this year <i>aku dengar</i> Gamelan is <i>rabak gile</i> .. (Gamelan oh my God.. this year <i>I heard</i> Gamelan is <i>quite bad</i> ..)
S:	<i>Tak= Aku</i> stress for previous sem also.. Stress <i>gile</i> .. (<i>No= I was</i> stress for previous sem also.. Stress <i>crazy</i> ..)
S:	<i>Tapi dier dapat A.</i> (But, they got an A.)
H:	Ya <i>Alhamdulillah</i> ..

-
- (Ya, praise be to God..)
- N: Yours *ade macam* open-ended question eh?
(Does yours *have* open-ended question eh?)
- 130 S: *Ade.. Eh takde..*
(Have.. Eh *don't have..*)
- H: *Kitorang kene label aje* like for=
(We *just need to* label *just* like for=)
- N: Label then MCQ *kan?*
(Label then MCQ *isn't it?*)
- S: Eh *taka de jugak yang kite kene* name some *kan?*
(Eh *no, there are also those that we need to* name some *isn't it?*)
- N: Ya like open-ended <X X>
- H: Eh= oh ya=
- N: Theirs is different *tau* apparently.. Theirs is no MCQ at all.. First part is the open-ended whatever one word one word.. Ah= answer..
(Theirs is different *you know* apparently.. Theirs is no MCQ at all.. First part is the open-ended whatever one word one word.. Ah= answer..)
- H: [Ah..]
- N: Then the last part is explain what like *macam* essay-based ah.. Sort of like short answer questions..
(Then the last part is explain what like *like* essay-based ah.. Sort of like short answer questions..)
-

Conversation between two undergraduate Linguistics students, discussing question types for their course exams

As can be seen from Extract 2, and similar to the Chinese students in Extract 1, the Malay students in this extract switch to English when discussing academic matters relating to their studies. In this extract, two students are discussing question formats in their exams, and switching was found to most frequently occur when specific reference is made to academic matters, such as when N switches more to English in line 129 to discuss question formatting (open-ended questions versus MCQ questions). Again, this patterning of language mixing is an obvious effect of EMI education on the linguistic repertoires of these students.

A different pattern of language use was observed among Indian students. In the third example below, 'Extract 3', two Indian students from the English Literature program are talking about one of their assignments.

Extract 3

-
- 25 S: How's your essay coming?
J: Told you right, I haven't started
S: Huh= what were you doing all this while?
J: I was..reading up about the presentation thing..and also on..some of the essays <X X>
S: What you doing on ah..your presentation?
- 30 J: Ah= we doing poetry..erm= Williams, Wallace Stevens and.. William Carlos William, the one we did in year one ah..the red wheelbarrow and everything
S: How come you all choose that one..its so done..to death
J: Huh?
S: Its so done to death
J: Ah= it doesn't matter lah=
35 S: Yes it does
-

S: Oh just now Doctor Yong right..hmm= she was saying how we measure originality of thesis is not like ooh its been overdone...blah blah, what kind, what, what, need something new I can possibly say, she say maybe the orginity, originality can come from ah= how you engage with the= text and the secondary text cos it can be like oh these few authors talk about this but there is a= lap, lasse, lapse in the..I dunno why I cannot breathe right now @

J: @ I knew you had breathing problems

Conversation between two undergraduate English Literature students, discussing an assignment

In 'extract 3' the two Indian students are talking about one of their assignments for one of their English Literature subjects. What is interesting in this exchange (and different from the Chinese and Malay students in Extracts 1 and 2 above) is that these students only use English when discussing their studies. In all of the recordings between these Indian students only English was used. This can be explained in the context of language shift among the Indian community in Singapore, where, over the last few decades, this community has increasingly used English as a home language, instead of Tamil or other Indian language varieties, echoing Leimgruber's (2013, p. 7) claim that Tamil's 'fate seems sealed' in Singapore, with now only around 3% of the population speaking Tamil as a home language (with around 9% of the population being Indian). Perhaps also compounding this shift is the high number of people in the Indian community who now have university degrees, the highest number of all the ethnicities in Singapore, with some 35% of Indians having obtained a university degree according to the 2010 census data, compared to some 22% of Chinese and 5.1% of Malays.

6 Discussion

In this section of the article, we discuss our findings concerning language mixing by undergraduates, in relation to both quantitative and qualitative data, before moving on to consider students' own explanations of language choice and language use at university. In addition, we also consider recent research on translanguaging, and question its applicability and utility in the Singapore context.

6.1 Language mixing by undergraduates

From the quantitative and qualitative results presented above, a number of interesting trends can be observed, which we will discuss below. After discussing the multilingual backgrounds of students in our survey sample, we consider the gap between the self-reported language practices of students in the formal classroom situations and their multilingual language practices outside their classes, but which relate to their language use in the educational context. After that we consider the bi- and multilingual language practices of Singaporean university students more broadly in the educational context.

From our survey, it is evident that Singaporean university students are typically from homes where more than one language or language variety is spoken at home, very often not English. This is also highlighted in Figures 1 and 2 above which indicate that these students' first language learnt' is typically not English, but rather Mandarin Chinese or another language or language variety. The survey results shown in Figure 2 indicate that only some 51% of the students reported speaking English usually at home. These results indicate that bilingualism and multilingualism is certainly the norm for most of these students, even for those students who regularly use English as a home language, but who are in regular contact with other languages

and language varieties in the home context. One important finding mentioned above is that many of these students do not speak either English or Mandarin, or some other language variety as a home language, but rather use more than one language or language variety at home. However, what is evident here is that the use of English as an educational lingua franca in these students' school education certainly has an impact on their views of about their proficiency in English, with nearly 60% indicating that they are most proficient in English, with only some 30% choosing Mandarin Chinese, just over 1% Malay, and only 0.5% Tamil.

Considering the language policy of Singapore higher education, it is perhaps unsurprising to find that English has ~~a~~-such a strong presence in students' formal education, such as in their lectures, tutorials and seminars, laboratory sessions and workshops (as illustrated by Table 4 above). This indicates a clear and rigorous implementation of the EMI language policy in Singapore's higher education. However, once students start discussing academic matters with one another inside and outside their classrooms, there appears to be a noticeable increase in the use of other languages, with some 34% of undergraduates stating that they 'Always' or 'Very often' mixed languages inside their classroom discussions.

In this context, it appears that the Chinese and Malay students typically engage in bilingual creativity and seem confident in language mixing practices when discussing aspects of their studies with one another. One consideration here is that English seems to be typically used when students are directly referring to aspects of their studies, and has a clearly dominant presence in such interchanges, while other languages (such as Mandarin Chinese or Malay) are less salient in these interchanges. This would suggest that there is a strong impact of English as medium of instruction on the bi- and multilingual language repertoires of these students, where switches to academic terms and phrases are used more frequently as opposed to the more general language use of students. It needs to be pointed out that in this context, however, it appears that this type of language mixing typically only occurs in intra-ethnic communicative situations and where students know one another. In inter-ethnic communicative situations, or when students do not know one another well, English is typically used, most often in a variant of 'Singapore English'.

6.2 Explaining language mixing

As part of the qualitative research for this study, we also asked the students themselves to comment on and explain their own language mixing practices at the University. In the case of the Chinese students, one of the interlocutors, Michael, commented that one determinant of language choice was the home language background of the students concerned. In his own case, English was the main language of his family, and for that reason, he claimed not to mix languages very often, but noted that his classmates from Chinese-using homes preferred to use Mandarin, and he accommodated to them.

I don't think I mix languages as much [...] but for people who are used to speaking Chinese at home, then they're more used to thinking in Chinese. So when we discuss like coursework, with friends who usually speak more Chinese right, I will try to use more [Chinese] and mix languages more to try and empathize a bit more with my friends. [...] Uh I really think it depends on who's talking to who lah, so if I were to speak to more English-speaking friends I would talk mostly in Singlish and English. (Michael, male, Singaporean Chinese undergraduate, Year 4 Engineering)

However, Michael also noted that the ethnicity of his interlocutors was also an important factor, because 'if I were to speaking to Malay friends I wouldn't use as much Chinese, but I would probably still use like a lot of English'.

Ethnicity was also an important factor in the case of the Malay students, although this was also influenced by friendship and the closeness of social networks, as one of the female undergraduates, Aisha explained thus:

Um, I think for us because we are Malay Singaporeans, so we use Malay in our language uh when we speak to each other because it kinda makes us very comfortable with each other and also um part of course because we know the Malay language. So it makes it um like there's a sense of solidarity I guess and to establish the fact that we are friends. Also, I will speak English more if I speak to someone who is a Malay but uh someone that I'm not close to. Um but for interacting with [my friends], we tend to use a lot of code-mixing uh in our conversations. (Aisha, female, Singaporean Malay undergraduate, Year 4, Linguistics)

In the third case, that of the Indian students, it was interesting to note that Rajesh reported that Indian students rarely, if ever, used Tamil (their official 'mother tongue'), and that this was just a language they learnt at school rather than using it in their everyday lives.

On a personal basis it's been quite a number of years since I've formally uh like used Tamil in terms of relating to education. [...] Many Singaporean Indians also feel that the Tamil language is something that is used in school and in formal settings so to get your 'O' level grades. (Rajesh, male, Singaporean Indian undergraduate, Year 4, English literature)

Rajesh then went on to explain that when talking to other Indian students, the usual language of choice was 'Singlish', which was used for a range of different reasons, including the self-identification of these students as 'Singaporean' rather than 'Indian':

I think it is more of a of my identity as being a Singaporean, not as an Indian um because [...] when two people if you are talking about like a business thing uh and you immediately um bond or click over Singlish, it becomes like a very natural conversation as opposed to having it uh in a proper English or proper formal kinda thing. (Rajesh)

As these extracts from the students' own explanations of their language behaviour and language mixing indicate, a range of different reasons may influence their language choice in their educational contexts, including home background, shared ethnicity, social distance, and claimed identity, all of which may be explained with close reference to the sociolinguistic history and contemporary dynamics of Singapore society. Our belief is that research of this kind has a great potential to expand our knowledge of language contact and language use in multilingual contexts, including higher education. Whether such behaviour is best described as 'language mixing', 'code-switching', 'code-mixing', or even the now-fashionable term 'translanguaging' is a question of debate.

6.3 'Translanguaging' or 'language mixing'

Over the last twenty years, but particularly during the last decade, the term 'translanguaging', as a synonymous or even replacement term for code-mixing, code-switching, or other terms related to language mixing has become extraordinarily popular in applied linguistic and sociolinguistic research. The first uses of the word, as is well known, can be traced back to the study of language use in Welsh schools in the 1990s (Williams 1996), and later popularized by a number of influential volumes on bilingual education, including Baker (2001), Canagarajah (2013), Garcia and Li (2014), so much so that what was originally a somewhat obscure term 'is now a household name in international conferences, symposia and summer schools and the central topic

of highly cited publications’ (Jaspers 2018). Although this term has gained greatly in popularity, particularly with reference to elementary education in the US and community language schools in the UK, relatively few studies of translanguaging have been carried out in higher education. Research articles that have focused on university students have included Li’s (2011) study which looked in detail at the ‘flexible bilingualism’ of three young Chinese students in London; Gu (2014) which investigated the negotiation of translanguaging practices (including code-switching and translation) by mainland Chinese students in the context of a Hong Kong university; a study by Hafner, Li and Miller (2015) who mentioned translanguaging along with ‘plurilingual practices’ with reference to students’ multi-modal group work at another university in Hong Kong; and a book chapter by Heugh, Li and Song (2017) which studied the language practices of Chinese students at an Australian university. In the case of the latter study, it is ironically notable that although the authors valorize the term ‘translanguaging’ as an alternative to ‘code-switching’, when it comes to the methodological issue of coding their data, they plump for the descriptive labels of ‘code-mixing’ and ‘code-switching’ (Heugh et al. 2017, p. 273). The volume by Mazak and Carroll (2017) contains case studies on translanguaging in higher education from a wide range of societies, including Denmark, Hong Kong, India, Puerto Rico, South Africa, the Basque Country, the Ukraine, and the United Arab Emirates, although what exactly constitutes translanguaging in such societies varies considerably, and is perhaps more defined by activist ideology and rhetoric rather than detailed sociolinguistic description, as this quotation from Carroll bears witness:

First and foremost, it is a language ideology or a bilingual lens through which citizens view the world. In taking bilingualism as the norm, this ideology runs counter to monolingual language ideologies that have dominated the rhetoric around nation building and institutions of higher education [...] it is a lived theory of how authentic language actually plays out in the lives of those who use more than one language. This lived theory exists in both formal and informal education in contexts worldwide [...] where] educators can take a pedagogical stance to allow, advocate and implement translanguaging in their own classrooms. (Carroll 2017, p. 181)

At another level, many accounts of translanguaging argue that the boundaries between languages are increasingly liquid given today’s multilingual contact environments of super-diversity in an era of globalization, and that it is theoretically necessary to deconstruct the ‘idealized boundaries between languages and language varieties’ (Li 2018, p. 19). Whether or not this framework is applicable or indeed useful to the Singapore context, however, is a matter of debate and perspective at the very least. One riposte to the notion of linguistic fluidity in the Singapore context might highlight the salience of linguistic boundaries in the community as result of highly focused language policies which have, if anything, emphasized the borders between the four official languages (English, Mandarin, Malay and Tamil) rather than reducing or blurring them (Bolton and Ng 2014). Future studies on the language repertoires and language mixing practices of Singapore university students in various educational contexts may need to consider the applicability and relevance of a translanguaging framework in such contexts, an issue we aim to consider in greater detail in our own future research on the language practices of students in multilingual education in Singapore and across the Asian region.

7 Conclusion

It would certainly appear that even though the educational linguistic environment at the University where this study was conducted is dominated by English, multilingual language use is

common and clearly evident among students on the campus, especially when they are discussing their studies, and where they have access to a range of languages and varieties. The use of English as the medium of education in Singapore is a complex issue, involving a number of important considerations. The first of these is the official language policy of the nation, where Singapore has been very successful in implementing its policy of English as the medium of teaching and learning at all levels of education. However, from a sociolinguistic perspective, another consideration involves the actual language practices of university students themselves, where ‘English’ in various forms may give way to language mixing, and related forms of language choice, as noted ~~by Siemund et al.~~ in a recent article on the language habits of Singapore students by Siemund et al., who assert that:

language use is no either/or-matter, but the product of a complicated mesh of factors comprising speaker competencies, preferences, attitudes and motivations, parameters of the communicative situation, and the topic of conversation. Singaporeans do not speak English *or* Singlish, Mandarin *or* Cantonese, Malay *or* Mandarin, or Mandarin *or* English. They typically command several codes. [...] Multilingualism may be regarded as a process not a state. (Siemund et al. 2014, p. 341, italics in original)

In the current study, we have expanded the scope of description by showing how the language practices of these students vary according to various situational conditions. In the teaching context, English is used almost exclusively as the medium of instruction, but as soon as students start communicating with one another, even in classroom discussions, there is an increased use of multiple languages and language varieties, including Colloquial Singapore English (or ‘Singlish’). In this context of language mixing, we believe that an important consideration is the ethnicity of students, where students of the same ethnicity, and who know one another, skillfully and smoothly deploy language mixing as a key linguistic resource. Such types of language practices are most evident with ethnic Chinese and Malay students, and also in somewhat less visible but more subtle fashion with ethnic Indian students, who choose to use different varieties of Singapore English for different purposes. The results of this study are part of an ongoing research project investigating the use of languages in Singapore higher education. Relatively few studies of this kind have been previously carried out, particularly with reference to the sociolinguistic realities of students’ actual language practices. It is hoped that this current study will pave the way for further research based on the rigorous analysis of sociolinguistic data, at both the macro- and micro-levels of investigation.

Notes

1. That being said, the notion of ‘language mixing’ in this article broadly follows the concept of Auer’s (1990) ‘code-alternation’, as a cover term where different languages (or semiotic systems) are juxtaposed in ways that facilitate communication between interlocutors. One major reason for our use of the term ‘language mixing’ as a cover term is that differences between ‘code-switching’ and ‘code-mixing’ are often blurred in the vernacular speech of Singaporeans (see Botha 2019).
2. The statistical analysis was carried out with the generous assistance of Professor John Bacon-Shone from the Social Sciences Research Centre of The University of Hong Kong.

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