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# The Effects of Code-Mixing on Second Language Development

Aimee K. Spice

*Cedarville University*, [aimeespice@cedarville.edu](mailto:aimeespice@cedarville.edu)

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# The Effects of Code-Mixing on Second Language Development

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## Abstract

Second language development is an important topic of discussion in an increasingly multilingual world. This study aims to examine and detail research on the effects of code-mixing (CM) on second language development, answering how CM facilitates or constrains second language acquisition. Peer-reviewed articles on the topic published between 2013 and 2018 were examined and synthesized. Language learners/multilinguals answered questionnaires about their views on CM and second language acquisition, and a language teacher was interviewed regarding use of L1 in the language classroom and CM as a pedagogical tool. This study found that CM can be a beneficial tool for language learning and instruction at the beginning stages of a learner's acquisition, but use of L1 becomes less necessary and less beneficial as a language learner moves closer to fluency. However, CM is not necessarily a sign of low language competence and is used by multilinguals for a number of reasons.

## Keywords

Code-mixing, intra-sentential code-switching, language acquisition, L2 instruction

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# The Effects of Code-Mixing on Second Language Development

Aimee Spice

*English, Literature, and Modern Languages*

## Introduction

As a multilingual, language learner, and aspiring language teacher, the subject of code-mixing (CM) and language development is of great importance to me. This subject is increasingly relevant in a world where multilingualism is the new normal and monolingualism is becoming rarer and rarer. As a young child and into adolescence, my perceptions of people who code-mixed were only negative; however, those perceptions began to change over time as I called questioned the validity of code-mixing and even began to code-mix myself, as a means of L2 development. While I started to see the benefits of CM in real-life contexts, I still held to strong beliefs of L2-only language instruction, having learned the drawbacks of the Grammar Translation Method and the benefits of Communicative Language Teaching (CLT). Even my strong beliefs have since been called into question in weighing the advantages and disadvantages of L1 use in the language classroom.

This paper will aim to outline and detail the differing views on CM, evaluating its effects on second language development and relating those effects to language learning and teaching. This study addresses the question: “how does code-mixing facilitate or constrain second language development?”. My hypothesis is that CM facilitates acquisition at the beginning stages of language development and constrains acquisition at more advanced stages. In order to confirm or deny this hypothesis, contemporary, peer-reviewed publications from 2013 to 2018 on CM and second language development were examined, questionnaires were given to language learners/multilinguals about CM as pertaining to L2 acquisition, and a language teacher was interviewed about CM as an instructional strategy in the language classroom.

## Literature Review

In order to discuss the subject of CM, we must first define what it means. Controversy exists regarding the technical differences between CM, code-switching (CS), inter-sentential CS, and intra-sentential CS. Goldrick, Putnam, and Schwarz (2016) define CM, also termed intra-sentential CS, as “the fluent integration of two languages within a single utterance” (p. 857). Hasan and Akhand (2014) state that inter-sentential and intra-sentential CS is “where elements are mixed from both languages that are used in the same sentence and/or in the same conversation” (p. 63). They further define CM as a “third, new code” (p. 64) formed from two languages blending together (Hasan & Akhand, 2014).

Humran and Shyamala (2018) synthesize several viewpoints on CS and CM in the review of literature in their pilot study on CM. In this study, they found that some sources state that “CS is intersentential while CM is [intrasentential]” (Humran & Shyamala, 2018, p. 665); in other words, CS involves a language switch at a sentence or phrase barrier while CM involves two languages occurring within the same sentence (Casielles-Suarez, 2017). In Humran and Shyamala’s study, they also found that other sources give CS a broader definition that includes inter- and intra-sentential blending (Humran & Shyamala, 2018). Still, they say, others broaden CM to include CS, both inter- and intra-sentential (Humran & Shyamala, 2018). A small body of researchers view CS as conscious language blending while viewing CM as unconscious (Humran & Shyamala, 2018). For the purpose of this study, I will use the term CM, or intra-sentential CS, to refer to language mixing in a single sentence or utterance and CS, or inter-sentential CS, to refer to language switching at a sentence or clause barrier. The focus of this study is CM, also called intra-sentential CS.

### **Purpose of CM**

Multilinguals and language learners code-mix for a number of reasons. Linguists have found some common themes in the various purposes CM can serve. CM “can be used to quote, emphasize, add another level of meaning, clarify or evoke richer images, add humor, irony or word/language play, mark closeness, emphasize bonds or, on the contrary, mark distance” (Casielles-Suarez, 2017, p. 154). The purposes for CM discussed in this paper are communicating more effectively, showing identity through language, supplementing one’s L2, and using L1 as scaffolding for L2.

**Effective Communication.** The first reason why multilinguals code-mix is for effective communication (Ahire, 2015; Lu, 2014). In a study conducted on CM with the Marathi language, the author concluded that CM functions to meet the “expressive needs of the speaker and the communicative needs of the listener and the speaker both. Thus, code mixing specifies need-dependent forms and functions” (Ahire, 2015, p. 4). The speaker is looking for the best way to convey their message to the listener; often times with multilinguals, CM is involved in that process. CM allows speakers to be more precise in their language. It gives multilinguals a broader range of vocabulary from which to choose when searching for the most precise words to say (Casielles-Suarez, 2017). Hasan and Akhand (2014) agree that a noticeable reason for CM is better communication, and this applies to both children and adults.

In a multilingual setting, CM is more convenient than restricting oneself to only one language (Daniel, 2016; Gilead, 2016). Situations in which such practice allows for better communication and more accurate language is when the speaker and the listener share both languages that are being mixed. One example of a situation where CM can lead to more effective communication is with Communities of expatriates. Communities of expatriates often share an L1 and have some knowledge of the language of the country in which they reside, therefore making it a common L2. Bilingual communities are also an example of a similar situation where CM can cause better, rather than worse, communication. In a bilingual city such as Brussels, Belgium, or Montreal, Canada, there are many people who share two common languages with which they can code-mix. A case in which CM would lead to poorer communication would be where the speaker and listener

share only one common language. For example, if a student at an American university were to study abroad in Russia and then return to the home university and begin CM in Russian and English with non-Russian-speaking friends, they would not experience more effective communication and greater understanding, but the opposite.

CM is used to limit miscommunication when a speaker's competency in a language is low. Due to relatively low language proficiency, speakers may not be able to fully express themselves in a certain language, so they fill in the gaps with a language in which they are more competent. On the flip side, if the listener has low competency in the language spoken, the speaker may code-mix so the listener can better understand (Gilead, 2016; Kustati, 2014). This is especially relevant in the language classroom, a topic which will be covered more later in the paper.

**Identity.** For many multilinguals, CS and CM are used to show their identity (Daniel, 2016). The connection between language and identity is a widespread idea in the field of linguistics into which CM falls. One reason why multilinguals code-mix is to maintain their identity in both languages while also forming a "hybrid/third space identity" (Casielles-Suarez, 2017, p. 155). This hybrid language identity can be likened to the cultural identity of a Third Culture Kid, someone who grew up in two different cultures and does not identify fully with either one, but creates a unique third culture that is a mixture of both home and host cultures (Pollock & Van Reken, 2009). CM is especially common in multicultural or multilingual environments as a reflection of its people group identity. CM can also display in-group/out-group dynamics, either excluding a certain group of people or being more inclusive through language choice (Al-Azzawi, Saadoon, & Mahdi, 2017; Casielles-Suarez, 2017).

**Supplementation.** CM can be useful for filling in the gaps in one's speech with words from more than one language (Lu, 2014). CM may occur "when a bilingual is rapidly unable to recall a concept, but is capable [of] remember[ing] it in another language. [CM] fills in unfamiliar or unavailable concepts in one language" (Al-Azzawi, Saadoon, & Mahdi, 2017, p. 116). The use of CM essentially makes multilinguals recall quicker by allowing them to choose the word or phrase that comes to mind first rather than limiting themselves to one language (Ahire, 2015; Gilead, 2016). A speaker's use of CM to supplement unknown words in the primary language spoken can, however, be a sign of low language competency. This is especially true with speakers at the beginning stages of language learning. While a multilingual is able to code-mix as a way of quickening recall, language learners tend to code-mix because they do not yet have the competency to fully express themselves in their target language (TL). Therefore, they must supplement words they have not learned or do not remember in the TL with words from another language, often their mother tongue (Keller, 2016; Kustati, 2014).

**Scaffolding.** CM can be used as scaffolding for one's TL at the beginning stages of language learning (Keller, 2016; Nguyen, Grainger, & Carey, 2016). With CM, language learners can use their L1 to help them start speaking in L2 sooner than they would by only using words they know in their L2 (Kustati, 2014). Scaffolding and supplementation differ in that scaffolding is temporary, mainly occurring at the beginning stages of language development to assist flow of conversation and get a language learner speaking as soon as

possible without needing extensive vocabulary in the TL. Once learners have acquired more vocabulary, they can use their L1 less and less until such scaffolding is unnecessary and they can speak entirely in L2. Scaffolding through CM must be used with caution, states Kustati (2014), “to strike a balance between strategic use of a first language as a scaffolding tool and allowing sufficient practice in target language” (p. 179).

### **Implications of CM**

CM undoubtedly has an impact on one’s language development. Linguists have debated whether this impact is positive or negative or whether the positive effects outweigh the negative. This is an especially important question to language learners and instructors who must know the best way to facilitate language development, whether their own or that of their students.

**Positive Implications.** On one side of the debate, linguists argue that CM has positive implications for one’s language development. They say CM evidences a language user’s high level of proficiency in both languages used (Humran & Shyamala, 2018; Kustati, 2014; Scotton & Jake, 2014). This reasoning is often based on the cognitive processing required to code-mix. Since processing two languages at the same time requires more than processing only one, CM displays more advanced cognitive ability. Someone who code-mixes must have a good grasp of both languages in order to do so (Kustati, 2014). Nguyen, Grainger, and Carey (2016) agree that CM can positively affect language acquisition. CM is especially useful in an increasingly multilingual society in which translation and interpretation are highly beneficial and, therefore, should not be disregarded as poor language usage (Nguyen, Grainger, & Carey, 2016). Lu (2014) vehemently argues against the idea that CM reflects low language competence. He concludes from his study that “moderate use of code-mixing is by no means detrimental to L2 learners,” and additionally, “the use of code-mixing does not have adverse impacts on the users’ mother tongue” (Lu, 2014, p. 83).

**Negative Implications.** On the other side of the debate, linguists argue against the use of CM due to its negative implications. If CM is used too much, language learners may come to rely on CM and “reduce the sense of necessity to speak [the target language]” (Kustati, 2014, p. 179). Moderation with CM is especially important with language learners. While scaffolding by CM is a useful tool at the beginning stages of language learning, CM has the potential to become a permanent habit, constraining speakers’ use of L2 if overused (Kustati, 2014). Additionally, CM can have an adverse effect on a speaker’s accent in a language (Goldrick, Runnqvist, & Costa, 2014). One’s accent can become even less native-like when mixing two languages with very different phonology, “as speakers tend to follow the dominant phonology of the language they speak” (Hsueh, 2013). Other studies have also found that CM can result in negative transfer between one’s L1 and TL (Keller, 2016).

### **CM in the Language Classroom**

Since CM is prevalent in language classroom settings, it is important to address the implications of CM by both teachers and students. CM is relevant only to certain language classrooms. It is especially common in foreign language classrooms where the teacher and students all share the same L1. In second language settings, such as ESL classrooms in the United States, use of the students’ L1 is often impractical or impossible, as there can be several different languages that the teacher does not necessarily speak represented in one

classroom. In such settings, using certain students' L1 and not other's would be unfair. Monolingual instruction, then, even in very low proficiency levels, is unavoidable in such settings (Keller, 2016). Therefore, this paper will discuss CM as related to foreign language classrooms in which the students have a common L1.

**Purpose of CM in Language Classrooms.** CM can serve many purposes in the language classroom, and both teachers and students code-mix for various reasons. Teachers code-mix to enhance communication between them and their students and to increase students' understanding of the material (Gilead, 2016; Keller, 2016; Makulloluwa, 2013). When teaching explicit grammar points, explaining abstract concepts, giving feedback on student performance, or giving instructions for an activity, CM is particularly useful to language teachers. They may give instructions, feedback, and the like in L2 and follow by repeating the same thing in L1 for reinforcement. Or, they may code-mix in both using words in L1 that students have not yet learned in their TL (Gilead, 2016; Keller, 2016). Teachers code-mix in order to gauge their students' comprehension of the TL, especially in lower proficiency levels where students may not yet possess enough knowledge of L2 to express such lack of understanding (Gilead, 2016; Keller, 2016; Makulloluwa, 2013). Another reason why teachers may code-mix is "to help learners compare and contrast the two language systems" (Makulloluwa, 2013, p. 584), juxtaposing differences, or highlighting similarities between L1 and the TL. Teachers can use CM to encourage more student participation rather than intimidating new language learners who may not want to speak up if doing so requires exclusive L2 use (Keller, 2016; Kustati, 2014).

According to Makulloluwa (2013), CM can be used to lower students' affective filter, which, in turn, helps facilitate language acquisition. CM has the potential to create a classroom environment that is more conducive to language learning than an L2-only classroom might be (Makulloluwa, 2013). Language teachers' use of L1 can also make students see their teacher as more sympathetic (Makulloluwa, 2013), which is another way CM can lower the affective filter of language learners in the classroom. This is connected to the idea of showing identity through CM; by using the students' L1, the teacher is identifying with the students through language. Keller (2016) also says that CM can serve to lower students' affective filter in the language classroom, but he adds that frequent use of L1 in the classroom could actually heighten language learners' affective filter in real-life L2 contexts, since they are not used to exclusive L2 use. However, the same study found that CM can have a positive impact on language learners' views of their TL since their affective filter is lowered, CM "strengthened students' interest in and acquisition of [the TL]" (Keller, 2016, p. 30). Since motivation is an important factor in language learning, it is no surprise that piqued interest in one's TL would correlate with improved acquisition.

Students have their own reasons for CM as well. Communicating to the teacher what one understands often requires CM or even total use of L1 in lower proficiency levels. A strategy used by many lower-level students is repeating back in L1 or in mixed language what the teacher said in the TL, inserting L1 in the parts requiring clarification (Gilead, 2016; Keller, 2016). In this way, students can check their own comprehension of the material. CM has the additional advantage of maintaining the flow of conversation and helping the speaker hold the floor instead of pausing for long stretches of time in an

attempt not to use L1 (Keller, 2016). Many beginner-level language students code-mix as a means of supplementation for L2, since they cannot yet express themselves fully in their TL (Keller, 2016). Students can, however, begin to move in the direction of fuller L2 expression by using CM to “play around with language” (Kontio & Sylvén, 2015, p. 282) and hopefully better understand how to use their TL in the process. In this way, CM can be a stepping stone towards greater language ability. Using CM in these ways recognizes that language, rather than being “an end in itself” (Keller, 2016, p. 18), is being used as means to communicate a message from the speaker to the listener, which is the essential purpose of language (Keller, 2016).

Arguments for Mixed Language Instruction. Studies have shown several benefits of mixed language instruction that lead to an argument for the use of CM in the classroom. Jiang, Garcia, and Willis (2014) conclude that “strategic use of code-mixing of bilinguals’ L1 and L2 in instruction may enhance students’ bilingual development and maximize their learning efficacy” (p. 311). As L2-only instruction can be intimidating in a beginner-level language course, CM may increase motivation and willingness to learn the TL for some students. Language teachers cannot, of course, control students’ intrinsic motivation to learn, but they can do some things to help increase the possibility of motivation. A non-threatening classroom environment goes a long way; such an environment could be cultivated, in part, by easing into the TL through the teacher’s use of CM (Gilead, 2016; Keller, 2016). CM has been found to encourage student participation in the beginning level language classroom (Keller, 2016; Kustati, 2014).

Possibly one of the biggest cases for mixed language instruction is that complete abolishment of L1 use is simply impractical. Particularly at low proficiency levels, students will inevitably use L1 either in an attempt to understand the material or to supplement for their limited repertoire of L2, while teachers will use L1 to be better understood by the students and save time explaining instructions or abstract concepts (Gilead, 2016). Rather than rejecting or even ignoring CM as a language teaching strategy, language teachers ought to examine how CM could benefit their students. When students all share the same L1, there is “no reason why a teacher should not take advantage of the classroom students’ shared knowledge in order to bridge the gap to what they do not yet know” (Keller, 2016, p. 27). CM can be a valuable resource to tap into, and language teachers should not ignore it as such (Gilead, 2016; Jiang, Garcia, & Willis, 2014; Keller, 2016).

Using CM in the classroom, rather than avoiding or condemning any use of L1, allows for a more holistic view of the students “as whole persons rather than deficient monolingual native speakers” (Gilead, 2016, p. 269). Allowing students to use their L1 and code-mixing in the classroom proves the teacher’s recognition of the students as multilinguals and affirms students’ identity in L1 (Gilead, 2016). This practice also recognizes that L1 and L2 are not secluded; they work together in the multilingual’s brain (Jiang, Garcia, & Willis, 2014). Avoidance of L1 use in L2 instruction often stems from a fear of negative transfer from L1 to L2. However, through CM, teachers can allow for positive transfer between the two languages and, therefore, they “should promote, instead of inhibit, such transfer” (Jiang, Garcia, & Willis, 2014). Such a holistic, mixed-language approach to language

instruction supports the idea that CM is evidence of mastery of more than one language rather than a sign of low language competence.

Limitations of CM in the Language Classroom. CM can be used to the advantage of language students. However, the language teacher must be aware of all the implications of CM and know how to best use it to facilitate, rather than constrain, students' language development (Keller, 2016; Makulloluwa, 2013). Keller (2016) gives specific constraints for teachers' use of L1 or CM in the language classroom: "introducing concepts; reviewing a previous lesson; capturing learners' attention; and praising them" (Keller, 2016, p. 19). Included in these is the use of L1 for classroom management, especially in lower-proficiency levels where students have limited TL vocabulary and may not understand things, such as instructions or reprimands in L2 (Keller, 2016).

Studies that show the benefits of CM in the language classroom also provide some stipulations for this practice. Firstly, there must be a balance in the practice of CM. There are two extremes in CM use in the classroom: at one extreme, there are people who argue for exclusive L2 use in the classroom with no room for CM, while on the other extreme there are "those who either massively overuse [L1] themselves and/or are willing to accept such overuse from their students" (Keller, 2016, p. 26). Neither one of these extremes is strongly encouraged. Secondly, there is a time and place for CM in the classroom. Evidence supporting CM does not support the unqualified use of L1 in the language classroom, but instead gives an idea of when it should and should not be used. It is largely agreed that CM is a useful tool at the beginning stages of language learning, but as learners progress to greater fluency, CM should decrease and eventually even disappear altogether in the classroom (Keller, 2016; Kontio & Sylvén, 2015; Makulloluwa, 2013). According to Makulloluwa (2013), use of L1 in the language classroom is encouraged and even necessary in lower proficiency levels; it is seen as a last resort in intermediate levels, while it is completely discouraged in advanced levels (Makulloluwa, 2013). Teachers' use of CM in the classroom, although having the potential to be a valuable pedagogical tool, should be limited, as "after a certain threshold of teacher L1 use, there is a rise in student L1 use with possible effects on learning" (Macaro, 2001, p. 537, as cited in Makulloluwa, 2013, p. 587). In order to avoid negative transfer from L1 or excessive L1 use in place of the TL, teachers ought to code-mix when necessary without overusing it. (Keller, 2016; Makulloluwa, 2013).

Arguments for L2-Only Instruction. Although there are many solid arguments for mixed-language instruction, there is substantial ground for L2-only instruction as well. While language teachers often code-mix to ensure student comprehension, this may not always produce the best results in the long run. Teachers avoid CM "to minimize interference from L1 and to ensure total immersion in the target language" (Jiang, Garcia, & Willis, 2014). For these reasons, too, researchers warn against the possible negative effects of CM.

Teachers may code-mix or switch to L1 to repeat what they previously said in L2. Such practice can be beneficial when limited, but it can, however, have significant drawbacks. One study found that "learners used to hearing the teacher use the L1 tended to ignore the L2 and, therefore, failed to fully benefit from valuable L2 input" (Keller, 2016, p. 14-15). Where learners could have pushed themselves to try to understand their teacher's L2 speech and in so doing, gain slightly higher proficiency and more practice of L2, they

instead receive less L2 practice by ignoring the TL and only listening to their L1. While some CM for clarification and classroom management is good, the “tendency to repeat the instruction in the native language may result in demotivating the learner to listen to the instruction in L2” (Keller, 2016, p. 29).

Many language teachers attempt to expose their students to as much of the TL as possible. The main way students can gain listening practice with their TL is by listening to their teacher’s instruction. Any use of L1 in the classroom “can deprive students of opportunities to improve their L2 listening” (Keller, 2016, p. 16) by decreasing their exposure to the TL. These studies concluded that the drawbacks of mixed-language instruction outweigh the benefits. Complete understanding of every word the teacher says is not necessary, nor is it the goal of language learning, and it is also not realistic for real-life L2 contexts. L2-only instruction “has numerous benefits such as making the language real and allowing the learners to experience unpredictability” (Keller, 2016, p. 15) and such mimicking an authentic L2 environment as much as possible in the language classroom.

One argument for the use of L1 in the language classroom is that it saves time by forgoing the lack of communication that occurs between teacher and students when students understand very little of the TL, particularly in giving instructions for an activity or dealing with classroom management (Gilead, 2016). However, although this may save time in the classroom, it can ultimately slow students’ language development, as it could cause them to feel the need to translate L2 into L1 before they fully understand the TL. In the long run, language learners would waste more time translating every L2 utterance into L1 than they would spend trying to understand the teacher’s instruction in L2. Furthermore, such practice could result in negative transfer, as learners continue to view L2 through the lens of L1 (Keller, 2016). All these reasons lead to an argument for L2-only language classrooms.

## Summary and Research Connection

Through the literature presented above, the question “how does code-mixing facilitate or constrain second language development?” is answered. Research supports the hypothesis that CM can serve to facilitate second language development initially, but it can constrain language development in more advanced stages of acquisition. CM shows both positive and negative effects on second language development (Goldrick, Runnqvist, & Costa, 2014; Hsueh, 2013; Keller, 2016; Kustati, 2014; Nguyen, Grainger, & Carey, 2016), and because of this, it must be used strategically and in moderation to avoid negative effects and utilize benefits to language learning (Gilead, 2016; Jiang, Garcia, & Willis, 2014; Kustati, 2014; Lu, 2014).

## Methods

After extensively researching literature about the effects of CM on second language development, this qualitative study began by giving out questionnaires to thirteen language learners/multilinguals (see Appendix A). Participants ranged in age from early twenties to mid-fifties, and they all learned a second language after the Critical Period. Three of the participants studied L2 in its native context in full-immersion of L2-only classrooms, while the other ten studied L2 in a foreign language setting in which they shared L1 with their

teacher and classmates. Participants' proficiency levels varied from conversational to native-like. I asked participants to reflect on their own language learning experience from the beginning until now. Before participants began the questionnaire, I explained to them what CM is in relation to my study. The questionnaires also asked for some demographic information relating to participants' language learning, including the age at which they first began learning L2 as well as their current level of language proficiency, as summarized above. Participants were then asked whether they code-mixed when they first began language learning and whether they code-mix now (see Appendix B). Lastly, participants reported on their views of personal benefits of CM for their own language development at its various points (see Appendix B), as well as their views of general pros and cons of CM, synthesized below. Additionally, a language teacher was interviewed to gain insight into his perceptions of CM as a means of language instruction (see Appendix C).

## Findings

While participants differed in their use of CM both when they first started learning their TL and now, they largely agreed on the benefits and drawbacks of CM. Much of their reports and reflections align with research in the literature review. The themes I identified in the questionnaires, outlined below, match well with themes in the literature.

### CM as Scaffolding

Twelve of the thirteen participants (92%) said CM could be beneficial at the beginning stages of language learning. The main benefit highlighted in all the questionnaires is using CM as scaffolding for one's TL. One participant reported that CM at the beginning stages of his own language development was helpful, as it allowed for more practice of the TL. Another reported that although she did not code-mix when she first began learning her TL, in hindsight, she thinks CM would have been helpful for getting over the initial fear of speaking L2. One participant reflected on his lack of CM at the beginning of his language learning, saying that mixing L1 and L2 would have been better than not speaking L2 at all. He then said that CM can be a useful tool initially, so that language learners can start using their TL as soon as possible.

### CM as a Crutch

A majority of participants (9/13 or 69%) noted that while CM has benefits, it can eventually become a crutch. One participant noted that if an L2 learner code-mixes regularly, native L2 speakers will always view that person as a deficient, non-native speaker rather than a proficient L2 speaker and multilingual. According to the same participant, frequent CM evidences low competency in L2. He went on to say that CM inhibits one's ability to form thoughts in L2 without the aid of L1, and it can also decrease the speed of TL acquisition. The other eight participants also mentioned that CM can hinder language development and inhibit fluency, all using the word "crutch" to describe the setback CM can cause.

### Language Transfer

In the participants' responses, we see CM is perceived to have both positive and negative language transfer. Three participants pointed out the negative language transfer that can

occur from L1 to L2 as a result of CM, while three other participants discussed the positive transfer that can occur from L1 to L2. In the latter sense, language learners can use existing knowledge of L1 to better understand their TL. One participant does not believe CM would be beneficial at the point of language learning he has reached, as he thinks CM could cause him to wrongly superimpose semantic ranges from L1 onto words in L2. However, the same participant also said CM can be beneficial to language learning in general because it can help learners better understand L1 through L2. The participant's own experience with this, he elaborated, is that although he could speak his L1 fluently, he did not understand its grammar, or the metalanguage used to describe how language functions until he began learning another language. This shows an example of positive transfer from L2 to L1, as the participant's L2 learning aided him in L1 comprehension. The three participants who said CM can allow for positive transfer from L1 to L2 agreed that CM can be used as a tool to understand L2 rules through those of L1.

### **Speech Variation**

Four participants noted that CM is beneficial in speech, specifically regarding accuracy of vocabulary, variation of language, and flow of conversation. These participants recognized that pulling vocabulary from two or more languages, instead of one, allows for more precise language. CM, participants said, can also allow for greater rapidity in speech with quicker recall for the multilingual. According to participants, CM can provide more fluidity in speech when language learners do not possess adequate vocabulary to express themselves in the TL. CM was also noted by a participant as being helpful in making oneself understood. This applies to language learners as well as proficient multilinguals –language learners can code-mix to compensate for what they do not know in L2, while proficient multilinguals can code-mix to express themselves in a more precise manner. Participants also mentioned the limitations of CM in conversation. Over half of the participants (7/13 or 54%) pointed out that CM for more precise speech only works if the speaker and listener share the languages being mixed; otherwise, these participants noted, CM can lead to lack of communication.

### **A Language Teacher's Perspective**

The language teacher interviewed reiterated many of the research findings. He answered questions about practical language instruction, such as how students can benefit from mixed-language instruction or L2-only instruction (see Appendix C). He weighed the pros and cons of each one and gave situations where each would be more ideal and practical by making a distinction between younger students and older students. Younger students would probably be those before the Critical Period, while older students would be those after the Critical Period. Older students have a better understanding of metalanguage and a greater capacity for grammar discussion and comprehension of abstract concepts. Because of this, the teacher noted, older students would benefit more from code-mixed instruction that requires metalinguistic terms.

The language teacher stated that L2-only instruction works better with younger students, while it is not as practical or feasible with older students, who could benefit more from CM or L1 grammar discussion than L2-only instruction. When asked about the benefits and drawbacks of L2-only instruction, he said it is useful because it forces students to speak L2

and review old material, and it can be beneficial for long-term instruction. However, he noted, L2-only instruction has a steep learning curve and causes slower language acquisition initially. He also stated that such instruction may cause some students not to want to speak L2 because they are intimidated. CM, then, is a sort of happy medium, he said, where learners have the opportunity to use L2 as much as possible without needing to reach a certain level of proficiency before they can begin expressing themselves.

CM was described by the language teacher as “training wheels” for language development: it is helpful and sometimes even necessary at first, but it should be used less and less until it is no longer needed, and the learner progresses to full expression in L2. The language teacher warned against the possible effects of CM in more advanced stages of language acquisition, saying that CM could lead to a plateau in one’s L2. Therefore, in his opinion, CM should only be used as a jump-start into L2-only instruction rather than a constant throughout language classes.

## Discussion

In the questionnaires, participants gave their insights on CM relating to language development. They mentioned pros and cons that aligned with my previous research findings, such as CM being used as scaffolding for L2 (Keller, 2016; Kustati, 2014; Nguyen, Grainger, & Carey, 2016). One participant touched on the idea of CM lowering a learner’s affective filter, a theme identified in Keller’s (2016) and Makulloluwa’s (2013) studies, by saying CM could have been beneficial for her when she first began language learning to get over her fear of speaking L2. In other words, CM would have lowered her affective filter so that she could start using her TL sooner. The language teacher interviewed also highlighted the idea of CM relating to the affective filter by stating that L2-only instruction may cause some students not to want to speak L2 because they are intimidated. Participants noted the limitations of CM in language development by saying CM can eventually become a crutch in language acquisition. Therefore, language learners should decrease CM as they increase language proficiency. These participants implied that if language learners rely too much on CM, they might have less motivation to continue improving their TL. This can result in plateauing in one’s L2 and/or constantly needing to supplement with L1, as mentioned in Keller’s (2016) and Kustati’s (2014) research.

CM can be a useful tool in language development if it is used wisely. According to the data presented here, CM is encouraged and even necessary at the beginning stages of language acquisition, as it allows language learners to scaffold for their TL using L1 and to speak L2 where possible. As the language learner progresses to greater fluency and more advanced stages of language acquisition, CM ought to be used less and less lest it become a crutch, as the questionnaire participants said, and cause negative transfer or plateauing in L2. However, respondents and researchers do not consider CM to be a sign of low language competence, necessarily; proficient multilinguals can code-mix with others who share their languages for the purpose of better communication, more precise language, or identity formation (Ahire, 2015; Al-Azzawi, Saadoon, & Mahdi, 2017; Casielles-Suarez, 2017; Daniel, 2016; Gilead, 2016; Hasan & Akhand, 2014; Lu, 2014).

According to the language teacher interviewed and corroborated by researchers in the literature reviewed, CM can be used in the language classroom to lower students' affective filter and heighten motivation to learn the TL (Keller, 2016; Makulloluwa, 2013). It can also be used for increased comprehension of the TL or for classroom management, the language teacher said. An L2-only classroom is no longer seen as the best option or the ideal, according to researchers such as Gilead (2016), Keller (2016), Kustati (2014), and Jiang, Garcia, and Willis (2014). Research has shown the benefits of mixed-language instruction in the L2 classroom, particularly in low-proficiency levels (Gilead, 2016; Jiang, Garcia, & Willis, 2014; Keller, 2016; Kustati, 2014). CM can be a valuable pedagogical tool in low-proficiency level classrooms, and it should be utilized as such. CM should taper off in higher-proficiency level language classrooms, according to the language teacher, ultimately mimicking real-life L2 contexts as language instructors include more and more TL input.

## Limitations and Further Study

In order to narrow the search criteria for the literature, this study looked only at peer-reviewed articles published between 2013 and 2018. Broadening the search criteria could present ideas for further study, as examining viewpoints on CM and second language development historically could be beneficial for further study on the topic. Additionally, interviewing and surveying more language learners and multilinguals would allow for a more complete idea of people's perceptions of their own CM and their views on the pros and cons of CM in general. Surveys could be quantitative in nature, where interviews would allow for qualitative research, as the questionnaires did in this study. The subject of CM and second language development is one that is continually discussed, even more so in recent years with the spread of multilingualism. As time goes on more research can be done on the subject, and long-term research beyond the scope of this study could be conducted as well.

## Conclusion

Conducting research on the effects of CM on second language development highlighted views on the subject and brought out more awareness of the debate on the topic, particularly in relation to language instruction. The hypothesis was upheld, that while CM facilitates acquisition at the beginning stages of language development, it constrains acquisition at more advanced stages. The literature and findings from questionnaires all supported this hypothesis. Much of the literature presented arguments for and against CM in language learning and concluded that CM can be beneficial at certain points of language development (Jiang, Garcia, & Willis, 2014; Keller, 2016; Makulloluwa, 2013). Limitations to CM, particularly in the language classroom, are given along with warnings of negative effects of CM. However, much of the literature and all the participants in the study see the benefits CM has, that it should not be ignored, but can be used advantageously. Keller (2016) sums it up well in saying, "For beginners and low-proficiency learners, again by way of introductory example, code [mixing] is now increasingly considered an effective strategy to learn, but for intermediate level students more target language input is required and therefore code [mixing] is not approved or liked by lecturers and students" (p. 23). Use of L1 becomes less necessary and less beneficial as a language learner moves closer to

fluency. The higher the language proficiency, the less L1 and more TL should be present in one's learning and in the language classroom (Jiang, Garcia, & Willis, 2014; Keller, 2016; Makulloluwa, 2013).

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## Appendix A

### Questionnaire Questions

1. At what age(s) did you learn a second language?
2. What would you say is your level of fluency in your second language(s)?
3. When you first began language learning, did you mix your target language with your native language?
4. Do you mix your target and native language now?
5. Do you think the practice of mixing your target and native language was beneficial when you first started language learning?
6. Do you think this practice is beneficial now?
7. What are the pros and cons, in your opinion, of code-mixing?

## Appendix B

### Questionnaire Responses (Questions #4-6)

Figure A1. Eight participants said they code-mixed with L1 and their TL when they first began language learning, while four said they did not. One participant said she code-mixed with one TL while she did not code-mix with her other TL.

Figure A2. Eleven participants said they code-mix with their L1 and TL currently, while two participants said they do not.

Figure A3. Twelve participants said CM was beneficial when they first began language learning, while one participant said CM was not beneficial when he first began language learning.

Figure A4. Nine participants said CM is no longer beneficial to their language development, while four participants said CM is beneficial to their language development now.

## Appendix C

### Questions for the Language Teacher

1. From a language teacher's perspective, what do you think is the most effective way to teach a language?
2. Do you think it's better to teach in the target language, in the students' L1, or with a mixture of both? Why? What are the pros and cons of each one? (How do the students benefit from each one?)
3. When would you prefer to use the students' L1 and when would you prefer to use the target language?
4. What are the pros and cons of full immersion and of teaching with students'