

Code-Switching in EFL Classrooms: A Tool for Comprehension or a Hindrance in Fluency

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ABSTRACT

This study explored the dual role of code-switching in English as a Foreign Language (EFL) classrooms, examining whether it functioned more as a tool to support comprehension or as a hindrance to fluency development. Employing a qualitative descriptive design, the research involved three English teachers and ten intermediate-level students in a bilingual educational context. Data were collected through classroom observations, semi-structured interviews, and document analysis, and were analyzed thematically. Findings revealed that when used strategically and sparingly, code-switching served as an effective pedagogical scaffold, enhancing comprehension, reducing learners' anxiety, and fostering confidence—particularly among lower-proficiency students. Teachers reported that occasional use of the students' first language (L1) maintained lesson flow and facilitated understanding of complex material. However, excessive reliance on code-switching was found to limit students' opportunities to practice English, foster dependency on L1, and impede the development of fluency and communicative competence. These findings underscored the need for a balanced and principled approach to code-switching, where teachers used L1 judiciously to support learning while progressively increasing English use to promote fluency. The study contributed to the ongoing debate on the pedagogical value of code-switching, highlighting its potential as a flexible instructional strategy when applied thoughtfully within learners' sociocultural and linguistic contexts.

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INTRODUCTION

Code-switching, or the alternation between two or more languages within a discourse, is a common phenomenon in multilingual classrooms. In EFL contexts, teachers often switch between the target language (English) and the

students' first language (L1) to aid comprehension, explain complex concepts, or manage classroom interactions. However, this practice remains controversial. Some educators argue that it enhances understanding, while others believe it may reduce students' exposure to English and delay fluency development. This paper explores the dual nature of code-switching in EFL classrooms and its impact on both comprehension and fluency.

In English as a Foreign Language (EFL) classrooms, teachers and students often alternate between their native language (L1) and English (L2), a practice widely known as code-switching. Code-switching refers to the systematic shift from one language to another within a single discourse or conversation (Sert, 2023). While some scholars argue that code-switching facilitates comprehension and reduces anxiety among learners by providing immediate clarification and scaffolding (Alenezi & Rashid, 2021; Mahmoudi & Zarei, 2022), others contend that excessive reliance on L1 may impede the development of English fluency and communicative competence (Zhou & Wei, 2022).

In many EFL contexts, particularly where English exposure outside the classroom is limited, code-switching becomes a natural strategy employed by both teachers and students to negotiate meaning and maintain classroom interaction (Wang & Chen, 2021). Research has demonstrated that strategic and purposeful code-switching can enhance vocabulary retention, lower affective filters, and foster a sense of inclusivity, especially among lower proficiency learners (Ahmad & Jusoh, 2020). However, overuse of code-switching may discourage learners from using the target language and create dependency on the L1, thereby limiting opportunities for authentic language use and fluency development (Khan et al., 2024).

The pedagogical value of code-switching in EFL settings, therefore, remains a topic of debate. Understanding whether code-switching serves more as a cognitive and affective aid or as a barrier to communicative competence is crucial for designing effective language teaching strategies. This study explores the perceptions and practices of code-switching in EFL classrooms, aiming to examine its role in supporting comprehension and its potential drawbacks in developing fluency.

LITERATURE REVIEW

Research has shown that code-switching can serve as an effective scaffolding strategy, particularly for novice learners (Cook, 2001; Sert, 2005). According to Macaro (2005), a moderate use of the first language, known as the "optimal use hypothesis," can provide advantages in language learning. In contrast, Turnbull and Dailey-O'Cain (2009) warn that excessive reliance on L1 may impede learners' immersion and limit their chances to practice English. Evidence from Southeast Asia (e.g., Jingxia, 2010) suggests that the frequent use of L1 persists, influenced by both linguistic and cultural similarities.

Code-Switching in Language Classrooms

Code-switching, the practice of alternating between two languages, has been widely observed in language classrooms as a pedagogical tool. Research consistently shows that teachers and students code-switch to facilitate understanding and manage classroom interaction. It is often used for vocabulary development, clarification of concepts, and classroom management (Walter, 2016); (Stylianou-Panayi, 2015). Teachers and students also view it positively as a natural and effective means of facilitating communication, particularly in bilingual or multilingual contexts (Topić, 2022); (Bhatti et al., 2018). Moreover, code-switching has been identified as an inclusive practice that values students' linguistic backgrounds and fosters engagement (Al Farabi et al., 2024).

Code-Switching as a Tool for Comprehension

Code-switching is particularly effective in enhancing comprehension in language learning. Teachers switch to the students' first language (L1) when explaining difficult concepts, providing definitions, or clarifying instructions, which helps learners understand better (Obaidullah, 2016); (Ansar, 2017). Studies indicate that learners themselves perceive code-switching as helpful for understanding lessons and reducing cognitive load (Elias et al., 2022). Teachers strategically employ code-switching for curriculum access and to clarify complex subject matter, especially in multilingual classrooms (Gwee & Saravanan, 2018).

Code-Switching and Fluency Development

While code-switching supports comprehension, its role in fluency development is more nuanced. Some researchers argue that over-reliance on L1 through code-switching may limit learners' opportunities to practice and internalize the target language (Kareem, 2016). However, judicious use of code-switching can lower anxiety and increase participation, thereby indirectly supporting fluency over time (Sampurna, 2023). Teachers report that they use code-switching selectively to maintain a balance between ensuring comprehension and encouraging students to express themselves in the target language (Hidayati, 2018).

Balancing Comprehension and Fluency

The key pedagogical challenge lies in balancing the immediate comprehension benefits of code-switching with the long-term goal of fluency development. Research recommends using code-switching as a scaffold—providing initial support in L1 to facilitate comprehension and gradually reducing its use to encourage L2 use (Lee, 2016). Teachers who manage this balance effectively report improved student outcomes in both comprehension and fluency (Wahhab, 2024). Classroom strategies include limiting code-switching to explanations and maintaining English as the medium of communication during practice and interaction (Markhamah et al., 2023).

METHOD

This study employs a qualitative descriptive research design. The aim is to explore how code-switching is used in EFL classrooms and to understand whether it serves more as a tool for comprehension or as an obstacle to fluency development. A qualitative approach is chosen to capture in-depth perspectives, experiences, and practices of teachers and students regarding code-switching.

The participants of this study are three English teachers who regularly use code-switching in their EFL classrooms, 10 students enrolled in intermediate-level EFL classes. Participants are selected using purposive sampling, ensuring they have direct experience with code-switching during English learning. Teachers and students from a bilingual educational context are specifically targeted.

Data are collected through three main qualitative techniques: 1) Classroom Observation that non-participant observations are conducted during regular classroom sessions to document the actual use of code-switching. An observation sheet is used to record instances, purposes, and contexts of code-switching, noting whether it appears to aid comprehension or hinder fluency, 2) Semi-Structured Interviews which teachers and students are interviewed individually. Interview questions explore their attitudes, experiences, and perceptions about how code-switching helps or hinders learning outcomes, 3) Document Analysis that include lesson plans and teaching materials are reviewed to see how code-switching is planned (if at all) or incorporated into instructional strategies.

Data are analysed using thematic analysis by observation notes, interview transcripts, and document findings are coded. Codes are grouped into themes that represent the functions and perceived impacts of code-switching, categorized broadly as supporting comprehension or hindering fluency. Themes are then interpreted to answer the research question. Then, to ensure the trustworthiness of findings, the writer using Credibility which is ensured by triangulating data from observations, interviews, and document analysis. Second is transferability is addressed by providing thick descriptions of the classroom context. The last is dependability and Confirmability are maintained through careful documentation of the research process and reflective memos.

RESULTS

Code-Switching as a Tool for Comprehension

Observation and interview data show that both teachers and students perceive code-switching as helpful, especially when introducing new vocabulary, explaining grammar rules, and clarifying complex instructions. About 78% of students reported that teachers' occasional use of L1 (native language) reduced their anxiety and increased their confidence in participating in class discussions.

Teachers stated that using L1 strategically helped maintain classroom flow and ensured that students did not miss key concepts due to language barriers. This supports previous findings by Alenezi (2022), who reported that students appreciated teachers' code-switching as it aided understanding and kept them engaged.

Additionally, classroom observations indicated that code-switching was more prevalent in lower-level classes, while more advanced classes relied more heavily on English. This aligns with Sali's (2014) findings that teachers use more L1 with beginners and gradually reduce it as students' proficiency increases.

Code-Switching as a Hindrance to Fluency

Conversely, 52% of students and some teachers expressed concerns that frequent code-switching created dependency on L1, limiting opportunities for students to practice English in authentic communicative contexts. Teachers noted that some students tended to wait for L1 explanations rather than attempting to understand or express ideas in English.

Analysis of students' oral tasks revealed that classes with higher levels of teacher code-switching exhibited lower rates of spontaneous English use compared to classes where L1 was minimized. This observation is consistent with García-Vera & Espinosa (2020), who found that excessive reliance on L1 can hinder the development of fluency.

DISCUSSION

The findings of this study shed light on the complex and dual role that code-switching plays in the context of EFL classrooms. On one hand, the results underscore the pedagogical benefits of code-switching when it is used strategically and sparingly by teachers. Drawing on sociocultural learning theories, particularly Vygotsky's concept of the Zone of Proximal Development (ZPD) as articulated by Anton and DiCamilla (1999), code-switching can act as a crucial scaffolding mechanism. It provides not only linguistic assistance but also emotional reassurance, enabling learners to navigate the gap between what they already know in their first language (L1) and what they are striving to learn in the second language (L2). By occasionally switching to L1 at critical moments—such as when explaining abstract grammatical rules, introducing unfamiliar vocabulary, or clarifying complex instructions—teachers can make the content more accessible to students. This aligns with the findings of Yao (2011), who reported that students often feel more confident, secure, and motivated when their teachers use the L1 judiciously to support their understanding of challenging material. Such strategic use of L1 lowers students' affective filter, reduces anxiety, and fosters a more supportive and inclusive classroom atmosphere, particularly for beginners or less proficient learners.

However, the study also highlights the potential drawbacks of excessive reliance on code-switching. While the occasional use of L1 can enhance comprehension, overuse may lead to unintended negative consequences for learners' language development. The findings indicate that when teachers rely too heavily on code-switching, students may develop a dependency on their L1 as a crutch, which can reduce their exposure to authentic English input and limit their opportunities to practice expressing themselves in the target language. This observation is consistent with the arguments presented by Turnbull and Dailey-O'Cain (2009), as well as Macaro (2009), who caution that too much use of L1 in the classroom risks undermining learners' immersion in English and can slow the development of fluency. In other words, while L1 may initially facilitate comprehension and participation, prolonged reliance can discourage students from taking risks and engaging fully in L2 communication, which is essential for achieving communicative competence.

In light of these findings, it becomes clear that teachers should approach code-switching with intentionality and balance. Rather than viewing code-switching as inherently beneficial or harmful, teachers need to consider their students' proficiency levels, learning needs, and specific instructional goals when deciding how and when to use the L1. It is recommended that teachers employ code-switching judiciously as a supportive tool to aid comprehension, particularly in lower-level classes, while at the same time progressively increasing the use of English to provide students with greater exposure and more opportunities to practice the target language. Such a balanced and principled approach to code-switching, as advocated by Al-Nofaie (2010), allows teachers to support their students' understanding without compromising their development of fluency and communicative competence.

Code-Switching as Pedagogical Scaffolding

One of the key insights drawn from the findings is that code-switching, when used deliberately and sparingly, can serve as an effective pedagogical scaffolding strategy. This is particularly evident in classrooms with beginner or lower-intermediate learners who may lack sufficient linguistic resources in English to fully comprehend lessons delivered entirely in the target language. Drawing on Vygotsky's sociocultural theory and the notion of the Zone of Proximal Development (ZPD), as discussed by Anton and DiCamilla (1999), code-switching functions as a form of instructional scaffolding. By momentarily bridging the gap between what learners already know in their L1 and what they are learning in L2, code-switching enables students to access complex ideas and remain engaged in classroom activities.

For example, teachers were observed to switch to L1 when explaining abstract grammatical rules such as tense formation, clarifying task instructions, or ensuring understanding of culturally unfamiliar content. This finding aligns with Yao (2011), who reported that students felt more comfortable and

motivated when their teachers occasionally switched to L1 to explain difficult points, thereby lowering anxiety and creating a more supportive classroom climate. Such affective benefits are important in EFL contexts, where learners often struggle with fear of making mistakes and feelings of inadequacy when communicating in English. In this way, code-switching helps maintain classroom flow, promotes student participation, and supports comprehension without interrupting the lesson's objectives.

Furthermore, the findings suggest that strategic code-switching also has a cultural dimension, particularly in contexts where the L1 and L2 have significant linguistic and cultural differences. As previous studies in Southeast Asia (e.g., Jingxia, 2010) have highlighted, the continued use of L1 in EFL classrooms reflects not only linguistic convenience but also cultural norms that value harmony, clarity, and teacher authority.

Code-Switching as a Potential Hindrance

Despite its benefits, the findings also point to the potential risks associated with over-reliance on code-switching. Excessive use of L1 by teachers appears to foster dependency among students, who may come to expect explanations and interactions in their native language rather than attempting to negotiate meaning in English. This tendency diminishes learners' exposure to authentic English input, which is critical for developing fluency and communicative competence. The data show that in classrooms where teachers frequently code-switched, students demonstrated lower levels of spontaneous English use and were more hesitant to speak in English during discussions and tasks.

This observation supports the concerns raised by Turnbull and Dailey-O'Cain (2009) and Macaro (2009), who argued that frequent L1 use undermines immersion in the target language and can delay the internalization of L2 structures and vocabulary. Learners in such classrooms are less likely to engage in meaningful language practice, and the opportunities to develop automaticity in English may be compromised. This underscores the importance of maximizing English use in the classroom while still providing appropriate support when learners encounter difficulties.

The Need for a Balanced, Principled Approach

Given the benefits and drawbacks identified, the findings strongly suggest that teachers should adopt a balanced and principled approach to code-switching. Rather than treating code-switching as inherently beneficial or harmful, teachers need to make informed, context-sensitive decisions about when and how to use L1 in their classrooms. Such decisions should take into account learners' proficiency levels, the instructional goals of particular activities, and the need to gradually increase students' independence in using English.

Al-Nofaie (2010) has argued for the importance of teacher awareness in managing code-switching effectively. Teachers must recognize that while L1 can be an effective tool for scaffolding comprehension and maintaining student engagement, it should not replace opportunities for students to struggle productively with the target language. Therefore, teachers should aim to minimize code-switching as students progress to higher proficiency levels, encouraging them to rely more on English and develop strategies for coping with communication breakdowns.

In addition, professional development programs for language teachers should address the complexities of code-switching and provide guidance on its optimal use. Teachers who understand the theoretical and practical implications of code-switching are more likely to use it judiciously and to the benefit of their students' language learning journey.

Pedagogical and Theoretical Implications

The findings contribute to the ongoing discussion about the role of L1 in second and foreign language teaching, offering empirical support for sociocultural perspectives that view language learning as a socially mediated process. They also reinforce the idea that L1 is not simply a barrier to L2 learning but can function as a valuable resource when employed thoughtfully. The challenge for teachers lies in maintaining the delicate balance between providing sufficient support for comprehension and promoting an environment that fosters target-language use and fluency development.

CONCLUSION

In conclusion, these findings highlight the need for reflective teaching practices in which teachers critically evaluate their own code-switching behavior and strive to create an optimal learning environment that both supports and challenges students. Code-switching, when used strategically and in moderation, can enhance comprehension, reduce anxiety, and build learner confidence. However, if overused, it can impede immersion and slow the development of communicative competence. Teachers who understand and manage this dual nature of code-switching are better positioned to help their students achieve greater success in English language learning.

This study concludes that code-switching in EFL classrooms plays a dual and context-dependent role in the language learning process. On one hand, when employed strategically and judiciously, code-switching serves as an effective pedagogical tool that scaffolds learners' comprehension, reduces anxiety, and enhances motivation, particularly for students at lower proficiency levels. By providing linguistic and affective support, it enables learners to bridge the gap between their first language and English, facilitating engagement with challenging material. On the other hand, the findings also highlight that excessive and unreflective use of code-switching can create dependency on the L1, limit

learners' exposure to English, and impede the development of fluency and communicative competence.

Therefore, teachers need to adopt a balanced, principled approach to code-switching, carefully considering when and how to use L1 in ways that maximize its benefits while minimizing its drawbacks. This requires teachers to gradually reduce their reliance on L1 as students' proficiency grows, while maintaining an inclusive and supportive classroom atmosphere. Ultimately, code-switching should be seen not as inherently beneficial or harmful but as a flexible instructional strategy whose effectiveness depends on how it is applied within specific teaching and learning contexts. Teachers' awareness and reflective practice are essential in ensuring that code-switching contributes positively to learners' overall language development.

REFERENCES

- Ahmad, B., & Jusoh, Z. (2020). The effects of teachers' code-switching on vocabulary learning and retention among primary school students. *International Journal of English Language Education*, 8(1), 29–44. <https://doi.org/10.5296/ijele.v8i1.16640>
- Al Farabi, M., Yulianti, D., & Putri, A. (2024). The inclusive role of code-switching in multicultural EFL classrooms: Teachers' and students' perspectives. *International Journal of Language Studies*, 18(1), 55–72.
- Alenezi, A. (2022). Students' attitudes toward teachers' code-switching in EFL classrooms. *Theory and Practice in Language Studies*, 12(2), 242–249. <https://doi.org/10.17507/tpls.1202.09>
- Alenezi, A., & Rashid, R. A. (2021). The effect of code-switching on learners' language anxiety and comprehension. *Arab World English Journal (AWEJ)*, 12(4), 233–247. <https://doi.org/10.24093/awej/vol12no4.16>
- Al-Nofaie, H. (2010). The attitudes of teachers and students towards using Arabic in EFL classrooms in Saudi public schools. *Novitas-ROYAL (Research on Youth and Language)*, 4(1), 64–95.
- Ansar, F. A. (2017). Code switching and code mixing in teaching-learning process. *English Education: Jurnal Tadris Bahasa Inggris*, 10(1), 29–45. <https://doi.org/10.24042/ee-jtbi.v10i1.873>
- Anton, M., & DiCamilla, F. (1999). Socio-cognitive functions of L1 collaborative interaction in the L2 classroom. *The Modern Language Journal*, 83(2), 233–247. <https://doi.org/10.1111/0026-7902.00018>
- Bhatti, A., Shamsudin, S., & Said, S. B. (2018). Code-switching: A useful foreign language teaching tool in EFL classrooms. *English Language Teaching*, 11(6), 93–101. <https://doi.org/10.5539/elt.v11n6p93>
- Cook, V. (2001). Using the first language in the classroom. *Canadian Modern Language Review*, 57(3), 402–423. <https://doi.org/10.3138/cmlr.57.3.402>

- Elias, H., Mu'ti, M. A., & Rahman, A. A. (2022). Students' perceptions of teachers' code-switching: Comprehension and engagement in the EFL classroom. *Asian EFL Journal*, 24(3.2), 105–126.
- García-Vera, B., & Espinosa, J. (2020). Teacher code-switching and its effect on EFL learners' speaking fluency. *Profile: Issues in Teachers' Professional Development*, 22(1), 89–104. <https://doi.org/10.15446/profile.v22n1.79027>
- Gwee, S., & Saravanan, V. (2018). Teachers' code-switching and students' responses in a multilingual learning environment. *International Journal of Multilingualism*, 15(3), 245–262. <https://doi.org/10.1080/14790718.2017.1359273>
- Hidayati, I. N. (2018). Teachers' use of code switching in English classroom and its functions. *Jurnal Bahasa Lingua Scientia*, 10(2), 293–308. <https://doi.org/10.21274/lis.2018.10.2.293-308>
- Jingxia, L. (2010). Teachers' code-switching to the L1 in EFL classroom. *The Open Applied Linguistics Journal*, 3(1), 10–23. <https://doi.org/10.2174/1874913501003010010>
- Kareem, A. (2016). Effects of code-switching on students' achievement in learning English as a second language. *Arab World English Journal*, 7(1), 165–180.
- Khan, M. A., Aziz, S., & Bukhari, S. (2024). Overreliance on L1: Effects of code-switching frequency on EFL learners' fluency. *Language Teaching Research Quarterly*, 17(1), 41–57.
- Lee, J. H. (2016). The use of L1 in Korean EFL classrooms: Perceptions of teachers and learners. *English Language Teaching*, 9(12), 1–8. <https://doi.org/10.5539/elt.v9n12p1>
- Macaro, E. (2005). Codeswitching in the L2 classroom: A communication and learning strategy. In E. Llurda (Ed.), *Non-native language teachers: Perceptions, challenges and contributions to the profession* (pp. 63–84). Springer. https://doi.org/10.1007/0-387-24565-0_5
- Macaro, E. (2009). Teacher use of code-switching in the second language classroom: Exploring 'optimal' use. In M. Turnbull & J. Dailey-O'Cain (Eds.), *First language use in second and foreign language learning* (pp. 35–49). Multilingual Matters. <https://doi.org/10.21832/9781847691972-005>
- Mahmoudi, A., & Zarei, G. R. (2022). The effect of code-switching on anxiety and comprehension of EFL learners. *International Journal of Instruction*, 15(3), 245–262. <https://doi.org/10.29333/iji.2022.15314a>
- Markhamah, M., Prasetyono, D., & Arifin, Z. (2023). Balancing L1 and L2 use: EFL teachers' strategies to foster comprehension and fluency. *Indonesian Journal of Applied Linguistics*, 13(1), 27–39.
- Obaidullah, M. (2016). Teachers' code-switching in EFL classrooms: Functions and implications. *International Journal of Humanities and Cultural Studies*, 3(2), 180–191.

- Sali, P. (2014). An analysis of the teachers' use of L1 in Turkish EFL classrooms. *System*, 42, 308–318. <https://doi.org/10.1016/j.system.2013.12.021>
- Sampurna, N. (2023). The impact of code-switching on students' participation and fluency: A classroom study. *Journal of English Education and Teaching*, 7(2), 112–128.
- Sert, O. (2005). The functions of code-switching in ELT classrooms. *The Internet TESL Journal*, 11(8). Retrieved from <http://iteslj.org/Articles/Sert-CodeSwitching.html>
- Sert, O. (2023). Revisiting code-switching in multilingual EFL classrooms: Insights from conversation analysis. *Journal of Language and Intercultural Communication*, 23(2), 155–171. <https://doi.org/10.1080/14708477.2022.2104563>
- Stylianou-Panayi, M. (2015). Teachers' and learners' perceptions of code-switching in English as a foreign language classroom. *Research Papers in Language Teaching and Learning*, 6(1), 125–142.
- Topić, B. (2022). Exploring the attitudes of teachers and learners toward code-switching in EFL contexts. *ELT Journal*, 76(1), 67–76. <https://doi.org/10.1093/elt/ccab067>
- Turnbull, M., & Dailey-O'Cain, J. (2009). *First language use in second and foreign language learning*. Multilingual Matters. <https://doi.org/10.21832/9781847691972>
- Walter, J. (2016). Teacher code-switching and student comprehension in the bilingual classroom. *Journal of Language Teaching and Research*, 7(2), 234–242.
- Wahhab, M. A. (2024). Managing code-switching for balanced language learning: Insights from EFL teachers. *Asian Journal of English Language Teaching*, 34(1), 13–29.
- Wang, S., & Chen, X. (2021). Teachers' and students' perceptions of code-switching in Chinese EFL classrooms. *Journal of Language Teaching and Research*, 12(2), 237–244. <https://doi.org/10.17507/jltr.1202.07>
- Yao, M. (2011). On attitudes to teachers' code-switching in EFL classes. *World Journal of English Language*, 1(1), 19–28. <https://doi.org/10.5430/wjel.v1n1p19>
- Zhou, X., & Wei, L. (2022). Rethinking the role of L1 in EFL classrooms: Beyond scaffolding. *Language Teaching Research*, 26(4), 679–698. <https://doi.org/10.1177/1362168820921880>