

Exploring Saudi EFL Students' Perceptions of Code-Switching as a Communicative Technique in EFL Classes

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The aims of this study are to investigate how Saudi EFL students feel about code-switching as a way to communicate in EFL classes and whether gender and GPA have any effects on the use of code-switching strategies. A sample of 173 Saudi male and female EFL students from two universities in Saudi Arabia participated in the study. Data was collected through a questionnaire consisting of 18 statements across six subscales, rated on a 4-point Likert scale. The findings revealed that most participants had positive perceptions of code-switching as a communicative technique, which they believed was effective in improving their comprehension, expression of ideas, and grades in exams. The results indicated that it should be used more frequently in EFL classes to promote communication and enhance learning. It was also revealed that there was no difference between male and female participants using code-switching strategies and no association between gender and GPA. This study provides valuable insights into the perceptions of Saudi EFL students towards code-switching and has implications for language teaching practices in Saudi Arabia.

Keywords: code-switching, EFL Saudi students, communicative techniques, EFL classes.

The Gulf countries are filled with multinational work environments where numerous nationalities work in various professions and fields. Apart from Arabic, English is commonly used for communication and business purposes. Arab bilinguals in these countries often switch between their native language and English. In Saudi Arabia, too, the integration process affects all aspects of life, including English language development, especially in EFL classrooms. To keep pace with the Kingdom's development in every industry and remain competitive in the global market, all Saudi tertiary academic institutes have been mandated to teach English. The focus is on the continuous use of English in communication and interactions to make students proficient in English. However, despite being encouraged to use English for instruction and communication, students may not fully express their thoughts and feelings in the language. Code-switching, which involves using two different languages in the same conversation, can help with this (Diko, 2024).

Code-switching (henceforth CS) is particularly common among bilinguals (Hsiao, 2024) and may have an impact on EFL students' linguistic development. This may aid students in better understanding the subject matter. Additionally, CS can help foster a sense of pride in their first language and culture, which can positively influence their self-esteem and motivation to learn. For students with low English proficiency, teachers can save time and help them gain a deeper understanding of the target language by CS it into their native language. However, the use of students' mother tongues for learning a foreign language has been debated over the years (El Boubekri, 2024; Orfan, 2023). This process may lead to interference between languages, making it difficult for learners to acquire each language properly. Additionally, CS can lead to incomplete mastery of both languages, as learners may not be able to access each language's features when switching between them (Alzabidi & Al-Ahdal, 2022).

Despite its criticism, there is growing interest in how CS functions as a communicative strategy in EFL classes (Fathimah, 2016; Temesgen & Hailu, 2022). Many studies have focused on teachers' opinions about using the first language in the classroom or its frequency in interactions (Gulzar & Al Asmari, 2014; Magid & Mugaddam, 2013; Zainil & Arsyad, 2021). In addition, a few studies have investigated EFL students' perceptions of CS in English teaching at universities in Saudi Arabia across gender and GPA. For example, Nasim et al., (2022) and Nasim (2022) reported (Saudi) Arab male and female students using mental translation strategies while listening to English text. Given the current massive development in the country, particularly in English teaching and learning, it is crucial for institutions to develop research-driven policies on the use of L1 in EFL classes (Catabay, 2016; Coelho & Steinhagen, 2022; Orfan, 2023) whereby educators could adjust their L1 use strategies to enhance students' learning. The study contributes to the literature on the use of L1 in EFL classes in Saudi Arabia. This study addresses the following research questions:

RQ1. What are the most and least commonly used code-switching sub-scales among Saudi male and female EFL students?

RQ2. How do perceptions of code-switching sub-scales differ between Saudi female and male EFL students?

RQ3. What are the most and least frequently used code-switching sub-scales according to GPA among Saudi EFL students?

RQ4. How do Saudi EFL students' perceptions of code-switching sub-scales differ across GPA levels?

RQ5. Does gender influence Saudi EFL students' perceptions of code-switching as a communicative technique in EFL classes?

RQ6. Does GPA level influence Saudi EFL students' perceptions of code-switching as a communicative technique in EFL classes?

Hypotheses

1. H0: There is no significant difference between Saudi female and male EFL students' perceptions of code-switching sub-scales.

Ha: There is a significant difference between Saudi female and male EFL students' perceptions of code-switching sub-scales.

2. H0: There is no significant difference between Saudi EFL students' perceptions of code-switching sub-scales across GPA.

Ha: There is a significant difference between Saudi EFL students' perceptions of code-switching sub-scales across GPA.

3. H0: There is no association between Saudi EFL students' gender and their perceptions of code-switching as a communicative technique in EFL classes.

Ha: There is an association between Saudi EFL students' gender and their perceptions of code-switching as a communicative technique in EFL classes.

4. H0: There is no association between Saudi EFL students' GPA and their perceptions of code-switching as a communicative technique in EFL classes.

Ha: There is an association between Saudi EFL students' GPA and their perceptions of code-switching as a communicative technique in EFL classes.

Significance of the study

This study explores CS between English and Arabic in Saudi EFL classrooms. It aims to contribute to the knowledge base of EFL teaching, namely, how CS is used when teaching English in Saudi universities. In particular, the study aims to clarify students' opinions about situations where CS occurs during English language instruction, how it benefits student learning, and why it occurs. As students' perspectives are equally significant for the future, the study examines their perspectives across gender and GPA, which are seldom explored in research. EFL teachers should be aware of the advantages of CS for language learning students. The timing of this study is critical since multiple language teaching in English is a topic of ongoing debate among researchers.

Literature Review

First languages (L1) can be used in English language classes in a variety of ways. In other words, people who speak more than one language switch codes divergently and discretely according to their communicative competence. In this view, switching codes is not indicative of a language deficit among its users, whether it is intentional or unintentional. In a class, a language or dialect shift or a style shift may occur for a variety of reasons, such as pedagogical and communicative purposes. Hall and Cook's (2012) literature review highlights a steady trend since the 1990s to reconsider the use of L1 in language education. They argue that L1 is a realistic choice and valuable in classroom settings. The review suggests a bilingual approach to teaching L2 in classrooms, stating that its use is only a beginning (Shin et al., 2019).

A bilingual instructor may alternate between languages to elaborate on a particular point. The meaning of complex elements in a foreign language is made clear by CS. In order to help students understand difficult lexical elements in English, the teacher can translate them into their native language. Similarly, An and Macaro (2022), after observing 30 classes, completing 231 surveys, and interviewing 60 students and teachers, discovered that students preferred a classroom that allowed them to utilize their own language to understand complicated scientific subjects. However, CS should gradually be reduced as the learner becomes more proficient (Outemzabet & Sarnou, 2023).

Students' emotions may also be affected by CS at a foundational level. It may be crucial for capturing their interest. Learners can feel more at ease and confident in their language skills with effective CS. This may lead to enhanced classroom confidence and a feeling of belonging. When expressing feelings or showing solidarity with a social group, speakers code-switch. They switch linguistically to persuade the audience (Mekheimer, 2023; Rihane, 2013). Nevertheless, overloading or inconsistent CS may confuse students. They may also experience tension and anxiety due to code-switching. They may fear being assessed or viewed as having less proficiency in their main language. According to Al Tale' and Alqahtani (2022), students in EFL courses preferred CS over target language-only instruction, and CS provided psychological support to EFL beginners. Williams et al. (2020) confirmed this effect of CS on facial emotional expression in a group of 68 Chinese-American children and parents, with a focus on the dynamic nature of these associations.

Using one's mother tongue is a crucial aspect of foreign language acquisition in EFL settings. Glušac et al. (2023) found that both university students and their ESP teachers utilize their native language (L1) in order to enhance L2 learning through pedagogical, linguistic, cognitive, and affective benefits. However, mother tongue usage hinders effective and productive second language acquisition. As CS was considered a random combination of two languages, shifting between the two was not allowed. According to those who favor it, if the target language is only used in English classes, it enhances and contributes to productive language learning. Those who oppose it say it negatively impacts the learning process if a substitute language is used. It does not matter whether the user is a student or a teacher. According to Binmahboob (2020), CS plays an important role in foreign language teaching. Teachers believe CS negatively affects language teaching and should not be used open-endedly. Learners were encouraged to reduce their reliance on their mother tongue and not use it in class.

The influence of CS on exam performance varies depending on learners' language competence and test-taking tactics. Some research suggests that CS may improve test performance, particularly for low-proficiency students who may need to utilize their native language to grasp instructions or ideas (Zhang et al., 2024). Moreover, CS may assist students in minimizing test anxiety and boosting confidence, which can improve exam performance (Cahyani et al., 2016). Moreover, excessive or incorrect CS may cause confusion, misunderstanding, and even penalization in examinations, resulting in lower overall exam scores and poor performance.

Code-switching has been studied in various contexts and cultures globally (Brdarević-Čeljo et al., 2024). While the use of CS in English language classrooms can be influenced by demographic variables such as gender, age, and achievement, perceptions of CS can differ based on culture, age, and socio-economic contexts (Al-Alawi, 2022). Previous studies have explored attitudes towards CS in different settings. For instance, Alenezi (2016) examined 189 Saudi Arabian ESP students and found no gender differences in their opinions on CS, with both male and female participants preferring it over monolingual teaching. Similarly, Asghar et al., (2016) conducted a study on Iranian EFL students and reported no gender differences in their attitudes towards CS. However, other studies, including Dewaele and Wei (2013) and Orfan (2023), found that female respondents had more favorable perceptions of L1 use in EFL classrooms than their male counterparts or used CS more than male participants.

Both EFL instructors and learners perceive CS as affecting language proficiency, which is assessed by terminal exams. In other words, CS is correlated with students' achievement. Carota (2021), Omar and Ilyas (2018), and Simasiku et al., (2015) studied learners' academic achievement in different contexts. Carota (2021) discovered that teachers were divided over the use of CS in the classroom; however, students strongly supported its use. A follow-up test conducted on the learners also confirmed that their language proficiency improved when they used CS. Omar and Ilyas (2018) took the age factor into consideration while conducting their study. Other than the positive attitudes of the younger participants towards CS, it was discovered that participants' use of L1 had an impact on their academic performance. This is to say that they got higher grades. Simasiku et al., (2015) conducted a study with 12 teachers and Namibian students to see if using the mother tongue in English-medium classrooms could improve academic achievement. The study's results showed that teachers perceived CS as a means to enhance academic achievement. In addition to that, CS was believed to help learners learn English better. Hence, it can be inferred that those learners who employ CS tend to get higher grades.

After the discovery of oil, English-speaking countries started doing business in Saudi Arabia, and CS and English education became necessary. Therefore, it is necessary to examine empirical Saudi attitudes toward CS as well as its personal and social characteristics. People's perceptions of CS are influenced by the language patterns and choices used by speakers. Also, because English is becoming more and more relevant as a global language, it might be interesting to look at how students feel about CS in EFL instruction (Omar & Ilyas, 2018).

The purpose of this study is to look at Saudi EFL students' perceptions of CS and how it affects both their mother tongue and target language. It also explores how the use of CS affects the emotional well-being and academic performance of students. Furthermore, it seeks to examine whether gender and GPA influence students' views on CS and their perception of their teachers. It is worth noting that the variables of GPA and gender are rarely overlooked in research on higher education in the Saudi context. Therefore, the goal of this study is to add to the existing research by looking at how these factors might affect how students think about and experience CS.

Method

Participants

The CS questionnaire was randomly distributed to the foundation-year EFL students studying at two Saudi universities, namely Northern Borders University and Prince Sattam bin Abdulaziz University. They were all native Arabic speakers studying English as a foreign language. Only 173 filled-in questionnaires were received by the researchers. A total of 84 (48.5%) male and 89 (51.4%) female EFL students responded to the questionnaire utilizing a random sampling technique to ensure that each

participant had an equal chance of selection. The sample was subjected to a normality test. The values of Kolmogorov-Smirnova and Shapiro-Wilk were 0.07 (almost non-significant) and 0.245 (non-significant) at $\alpha = 0.05$, respectively. This indicated that the data was normally distributed.

Measure

This research instrument consists of two parts. In the first section, the participants specified their GPA and gender. For enrollment in the Preparatory Year Program (PYP), or foundation year in Saudi Arabia, a five-point GPA scale is used. The students self-reported GPA values as part of their survey responses. Moreover, the second part was the eighteen closed-ended items on a four-point Likert scale. Each statement was marked 4 (strongly agree), 3 (agree), 2 (disagree), and 1 (strongly disagree). The CS scale had no neutral point from which to refrain from hedging. This instrument was divided into six parts (A–F), indicating six constructs related to CS (Table 1), and measured different aspects of CS as perceived by L2 learners. For example, the following statements serve as a representative of each sub-scale: *I prefer to study in English and Arabic, Mixing Arabic and English leads to the maintenance of both languages, I feel satisfied during the process of learning when I mix Arabic and English, I understand difficult concepts when taught in Arabic and English, I respect more the professor when teaching in Arabic and English, and Teaching in Arabic and English increases my chance of passing the examination.*

The CS survey was adapted from a study by Catabay (2016). The CS questionnaire was translated from English to Arabic and then presented to three professors who were fluent in both Arabic and English and worked as language instructors. Their input was received, and some modifications were made according to their suggestions, particularly the phrase “CS,” which was translated carefully and closely to its Arabic equivalent. They validated the content's accuracy so that students could comprehend each of the eighteen items. Cronbach's alpha was used to calculate the reliability coefficients for each statement and each of the six subscales. Table 1 displays the six discrete parts of the CS scale and their respective reliability coefficients.

Table 1
Distribution of Items and Sub-scales

Sub-scale	Items	Cronbach’s alpha
A) The Use of Code-switching in Teaching.	1-3	0.71
B) Code-switching and its Effects on L1 and L2	4-6	0.71
C) Code-switching and its Effects on the Emotional State	7-9	0.73
D) Code-switching and its Impact on Language Learning	10-12	0.71
E) Code-switching and its Effects on Teachers’ Image among the Learners	13-15	0.71
F) Code-switching and its Effects on Passing the Examinations	16-18	0.7
Overall	18 items	0.71

A brief explanation of each subscale is provided below:

- A) The Use of Code-switching in Teaching: This sub-scale explores the utilization of code-switching as a teaching strategy. It discusses how code-switching can be employed effectively in different educational settings.
- B) Code-switching and its Effects on L1 and L2: This sub-scale focuses on the impact of code-switching on both the first language (L1) and second language (L2) proficiency of learners. It examines how code-switching influences language development and acquisition.
- C) Code-switching and its Effects on the Emotional State: This sub-scale delves into the emotional effects of code-switching on individuals. It explores how code-switching practices can affect emotional states.
- D) Code-switching and its Impact on Language Learning: This sub-scale investigates the broader implications of code-switching on language learning processes. It explores how code-switching can facilitate or hinder language acquisition and linguistic competence.

E) Code-switching and its Effects on Teachers' Image among the Learners: This sub-scale analyzes how code-switching practices employed by teachers can influence their image and perception among students. It examines the impact of code-switching on teacher-student relationships and classroom dynamics.

F) Code-switching and its Effects on Passing the Examinations: This sub-scale explores the relationship between code-switching and academic performance. It examines whether code-switching practices impact students' ability to pass examinations or assessments.

Procedure

During the third week of the 2nd semester of the year 2022–23, the researchers distributed a survey among students via WhatsApp. The survey was made in Google Forms, and WhatsApp was used to collect data owing to its simplicity, cost-effectiveness, and participant accessibility. Improved randomization and less sample bias are some other justifications for utilizing WhatsApp (Ullrich, 2018). The respondents were informed in advance about the objectives and procedures of the research. They were also informed that their responses would remain confidential and that the findings would not affect their grades.

Data Analysis

The research used descriptive and inferential statistical approaches to analyze the data. The participants' choices were coded. IBM SPSS-25 was used to calculate means and their differences, independent sample t-tests, and chi-square tests. The criteria used to interpret the means and SDs were as follows: Lowest = 1.00–1.75; Lower moderate = 1.76–2.50; Higher moderate = 2.51–3.25; Highest = 3.26–4.00.

The main construct for measuring Saudi EFL learners' perceptions of CS and its relationship with individual variables such as gender and GPA was assessed with a chi-square test. The four-point Likert scale dataset with 4 (strongly agree), 3 (agree), 2 (disagree), and 1 (strongly disagree) was combined into two categories, e.g., positive and negative perceptions, which were coded as 1 and 2, respectively, for making a 2x2 contingency table. The effect size was measured using the phi coefficient to show the strength of the relationship between the variables. All the assumptions of using a chi-square test for independence were met.

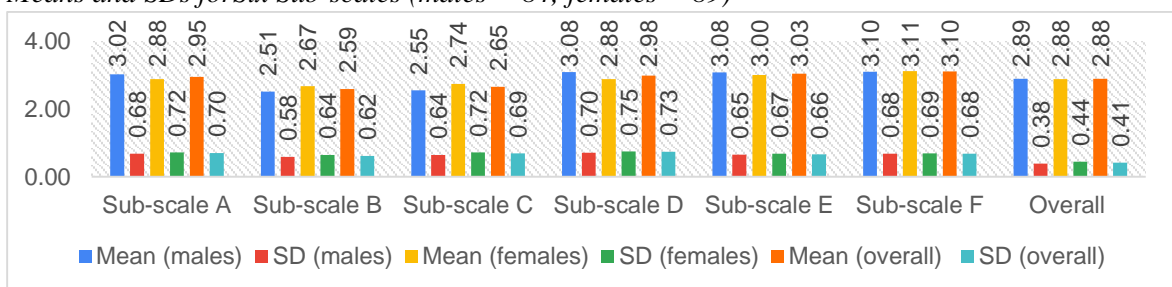
Results

RQ1. What are the most and least commonly used code-switching sub-scales among Saudi female and male EFL students?

To address the first research question, Figure 1 illustrates the means and SDs of the six sub-scales of CS used by Saudi male and female EFL students. Additionally, the figure displays their overall means and standard deviations.

Figure 1

Means and SDs for Six Sub-scales (males = 84; females = 89)



Both male and female Saudi EFL learners rated the frequency of their use of the six sub-scales of CS strategies on a 4-point Likert scale, with mean scores ranging from 2.51 to 3.10 for males and 2.67 to 3.11 for females. The least utilized sub-scale for both genders was sub-scale B, with male learners having a mean score of 2.51 (SD = 0.58) and female learners having a mean score of 2.67 (SD = 0.64). Sub-scale F

was the most preferred for both male learners, with a mean score of 3.10 (SD = 0.68), and female learners, with a mean score of 3.11 (SD = 0.69).

RQ2. How do perceptions of code-switching sub-scales differ between Saudi female and male EFL students?

A statistical analysis using a t-test was carried out on independent samples to examine potential gender differences in the use of CS sub-scales by EFL students. The results for each sub-scale are presented separately in Table 2.

Table 2

Independent Samples t-test for Sub-scales of Code-switching Strategies

		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
CS Sub-scales		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Sub-scale A	Equal variances assumed	1.46	0.23	1.31	171.00	0.19	0.14	0.11	-0.07	0.35
	Equal variances not assumed			1.32	171.00	0.19	0.14	0.11	-0.07	0.35
Sub-scale B	Equal variances assumed	0.21	0.65	-1.70	171.00	0.09	-0.16	0.09	-0.34	0.03
	Equal variances not assumed			-1.71	170.85	0.09	-0.16	0.09	-0.34	0.02
Sub-scale C	Equal variances assumed	0.63	0.43	-1.80	171.00	0.07	-0.19	0.10	-0.39	0.02
	Equal variances not assumed			-1.80	170.47	0.07	-0.19	0.10	-0.39	0.02
Sub-scale D	Equal variances assumed	0.10	0.75	1.84	171.00	0.07	0.20	0.11	-0.01	0.42
	Equal variances not assumed			1.84	171.00	0.07	0.20	0.11	-0.01	0.42
Sub-scale E	Equal variances assumed	0.45	0.50	0.79	171.00	0.43	0.08	0.10	-0.12	0.28
	Equal variances not assumed			0.79	170.90	0.43	0.08	0.10	-0.12	0.28
Sub-scale F	Equal variances assumed	0.00	0.98	-0.17	171.00	0.87	-0.02	0.10	-0.22	0.19
	Equal variances not assumed			-0.17	170.71	0.87	-0.02	0.10	-0.22	0.19
Overall Scale	Equal variances assumed	1.68	0.20	0.16	171.00	0.87	0.01	0.06	-0.11	0.13
	Equal variances not assumed			0.16	169.81	0.87	0.01	0.06	-0.11	0.13

Table 2 presents the results of the statistical analyses to investigate the differences between male and female Saudi EFL learners using various sub-scales of CS. The Levene's test scores for each sub-scale were greater than 0.05, indicating equal variances, which implies that the t-test results are not indicative of any statistically significant differences between the two groups' means. Therefore, the null hypothesis H₀ will be retained for all the sub-scales of CS, and the alternative hypothesis H_a will be rejected.

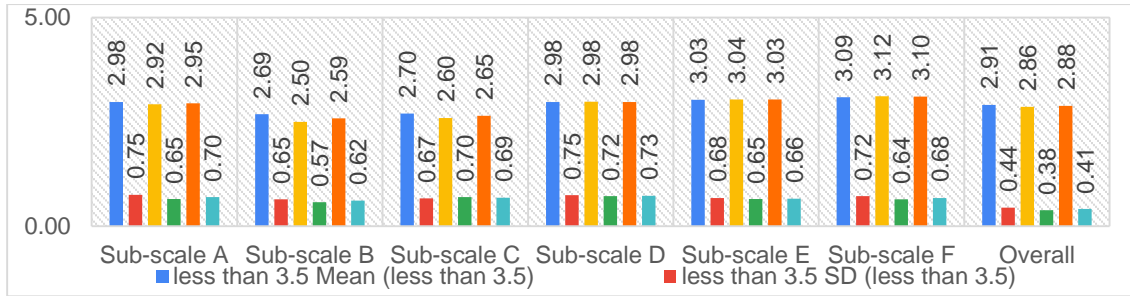
Moreover, the analysis shows that the overall mean difference in CS strategies between female and male Saudi EFL learners is also not statistically significant. The t-test analysis of independent samples revealed an F value of 1.68 at a significance level of 0.20 when equal variances are assumed. The p-value of $0.87 \geq 0.05$ shows that the difference between the overall means of CS for Saudi male and female EFL participants is not statistically significant. Therefore, the first H₀ is retained, and H_a is rejected.

RQ3. What are the most and least frequently used code-switching sub-scales according to GPA among Saudi EFL students?

In order to answer the second research question, the mean scores and standard deviations for the six sub-scales of CS strategies employed by Saudi EFL learners are presented in Figure 2, with a division into two GPA-based groups (<3.5 and >3.5). The figure also includes the overall means and standard deviations.

Figure 2

Means and SDs of Six sub-scales GPAs (less than 3.5 = 82; more than 3.5 = 91)



The range of means for the six sub-scales of the CS strategies for the group with less than 3.5 GPA was 2.69–3.09 and 2.50–3.12 for the group with more than 3.5 GPA on a Likert scale of 1-4. Both groups of learners, i.e., those with less than and more than 3.5 GPA, indicated sub-scale B as their least used group of strategies (for learners having less than 3.5 GPA, $M = 2.69$, $SD = 0.65$, and for learners having more than 3.5 GPA, $M = 2.50$, $SD = 0.57$). On the other hand, sub-scale F was most preferred by both groups of learners ($M = 3.09$, $SD = 0.72$) and ($M = 3.12$, $SD = 0.64$), respectively, for $<$ and > 3.5 GPA.

RQ4. How do Saudi EFL students' perceptions of code-switching sub-scales differ across GPA levels?

A statistical analysis using an independent-sample t-test was conducted to examine potential gender differences in the use of CS sub-scales by EFL students. The results for each sub-scale are presented separately in Table 3.

Table 3

Independent Samples t-test for Sub-scales of Code-switching Strategies ($<$ and > 3.5 GPA)

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
CS Sub-scales		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Sub-scale A	Equal variances assumed	1.94	0.17	0.56	171.00	0.57	0.06	0.11	-0.15	0.27
	Equal variances not assumed			0.56	161.29	0.58	0.06	0.11	-0.15	0.27
Sub-scale B	Equal variances assumed	1.32	0.25	1.99	171.00	0.05	0.19	0.09	0.00	0.37
	Equal variances not assumed			1.98	162.71	0.05	0.19	0.09	0.00	0.37
Sub-scale C	Equal variances assumed	0.29	0.59	1.02	171.00	0.31	0.11	0.10	-0.10	0.31
	Equal variances not assumed			1.02	170.22	0.31	0.11	0.10	-0.10	0.31
Sub-scale D	Equal variances assumed	0.18	0.67	-0.05	171.00	0.96	-0.01	0.11	-0.23	0.21
	Equal variances not assumed			-0.05	167.76	0.96	-0.01	0.11	-0.23	0.21
Sub-scale E	Equal variances assumed	0.51	0.48	-0.04	171.00	0.97	0.00	0.10	-0.20	0.20
	Equal variances not assumed			-0.04	167.43	0.97	0.00	0.10	-0.20	0.20
Sub-scale F	Equal variances assumed	0.85	0.36	-0.27	171.00	0.79	-0.03	0.10	-0.23	0.18
	Equal variances not assumed			-0.27	163.50	0.79	-0.03	0.10	-0.23	0.18
Overall Scale	Equal variances assumed	0.49	0.48	0.83	171.00	0.41	0.05	0.06	-0.07	0.18
	Equal variances not assumed			0.82	161.29	0.41	0.05	0.06	-0.07	0.18

Table 3 presents the results of Levene's test, indicating equal variances for each sub-scale of CS between two groups of Saudi EFL learners with GPAs $<$ and > 3.5 . The non-significant p-values (> 0.05) obtained from the t-tests suggest no significant difference between the means of the sub-scales of CS employed by the two groups. Therefore, the second H_a is rejected, and H_0 is retained for all sub-scales of CS.

The overall mean difference in CS strategies between the two groups is also examined, and the t-test analysis reveals that the F value of 0.49 at a significance level of 0.48 is not significant, given a p-value of 0.41 (>0.05). Hence, the difference between the overall means of CS of Saudi EFL learners with GPAs $<$ and > 3.5 is non-significant, leading to the rejection of H_a and retention of H_0 .

RQ5. Does gender influence Saudi EFL students' perceptions of code-switching as a communicative technique in EFL classes?

A cross-tabulation and chi-square test were conducted to determine the effect of gender on perceptions of CS strategies, and the results are presented in Tables 4 and 5.

Table 4

Cross tabulation of Gender and Perceptions

		Negative Perceptions	Positive Perceptions	Total
Male	Count	15	69	84
	Expected Count	16.5	67.5	84
	% within Gender	17.90%	82.10%	100%
	% of Total	8.70%	39.90%	48.60%
Female	Count	19	70	89
	Expected Count	17.5	71.5	89
	% within Gender	21.30%	78.70%	100%
	% of Total	11.00%	40.50%	51.40%
Total	Count	34	139	173
	Expected Count	34	139	173
	% within Gender	19.70%	80.30%	100%
	% of Total	19.70%	80.30%	100%

Table 5

Measures of Association for Gender and Perceptions

Measure	Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Interval	Eta	Gender Dependent	0.044	
				0.564
Symmetric Measures	Value			
Nominal by Nominal	Phi	-0.044		0.564
Risk Estimate				
Odds Ratio for Gender	0.801	0.377	1.703	
For cohort Perceptions =				
SD/D	0.836	0.456	1.536	
SA/A	1.044	0.901	1.21	
N of Valid Cases				173

The relationship between gender and perceptions of using CS strategies is depicted in cross-tabulation table 4. The table shows that out of the 173 participants, 48.6% ($n = 84$) had positive perceptions about using CS strategies, while 51.4% ($n = 89$) had negative perceptions. Of the male participants, 82.1% had positive perceptions, while 78.7% of the female participants had positive perceptions. The chi-square value for this relationship was 0.334 with a p-value of 0.564, suggesting no significant association between gender and perceptions of using CS strategies.

The directional measures in Table 5 show that the effect size (Eta) for this relationship is 0.044, indicating a small effect. The risk estimate for gender shows that the odds ratio for males to have positive perceptions of using CS strategies is 0.801. This indicates that females are slightly more likely to have positive perceptions of using CS strategies than males. However, the confidence interval (CI) for this odds ratio ranges from 0.377 to 1.703, suggesting that this difference is not statistically significant.

In conclusion, the results of this study indicate that there is no association between gender and perceptions of using CS strategies among EFL learners. Therefore, the third H_0 is accepted, and H_a is rejected. However, females may be slightly more likely than males to have positive perceptions of using CS strategies.

RQ6. Does GPA level influence Saudi EFL students' perceptions of code-switching as a communicative technique in EFL classes?

For calculating the influence of GPA over perceptions of CS strategies, a cross-tabulation and chi-square test were run. The test results are given in Tables 6 and 7.

Table 6
Cross-tabulation of GPA and Perceptions

<i>Cross tabulation of GPA and Perceptions</i>		Negative Perceptions	Positive Perceptions	Total
less than 3.5	Count	13	69	82
	Expected Count	16.1	65.9	82
	% within GPA	15.90%	84.10%	100%
	% of Total	7.50%	39.90%	47.40%
more than 3.5	Count	21	70	91
	Expected Count	17.9	73.1	91
	% within GPA	23.10%	76.90%	100%
	% of Total	12.10%	40.50%	52.60%
Total	Count	34	139	173
	Expected Count	34	139	173
	% within GPA	19.70%	80.30%	100%
	% of Total	19.70%	80.30%	100%

Table 7
Measures of Association for GPA and

Measure	Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Interval	Eta	GPA Dependent	0.044	0.233
Symmetric Measures	Value			
Nominal by Nominal	Phi	-0.091		0.233
Risk Estimate				
Odds Ratio for GPA	0.628	0.292	1.353	
For cohort Perceptions =				
SD/D	0.687	0.368	1.282	
SA/A	1.094	0.945	1.267	
N of Valid Cases				173

The cross-tabulation in Table 6 shows the distribution of perceptions of students (SD/D: strongly disagree/disagree, SA/A: strongly agree/agree) across two GPA cohorts (less than 3.5 and more than 3.5). The chi-square test of independence was not significant, indicating no association between GPA and perceptions ($\chi^2(1) = 1.425$, $p = 0.233$). Of the 82 students in the less than 3.5 GPA cohort, 13 (15.9%) had negative perceptions (SD/D), and 69 (84.1%) had positive perceptions (SA/A). In the cohort with more than a 3.5 GPA, 21 (23.1%) had negative perceptions, and 70 (76.9%) had positive perceptions. These differences were not statistically significant.

The directional measures in Table 7 show that the effect size (Eta) and symmetric measures of association (Phi and Cramer's V) for this relationship are 0.091 for all three measures, indicating a weak association between GPA and perceptions. However, these measures also indicated that the association was not statistically significant, with p-values greater than 0.05.

The odds ratio for GPA (less than 3.5 / more than 3.5) was 0.628, indicating that students with GPAs less than 3.5 were less likely to have negative perceptions than those with GPAs more than 3.5. The risk estimate for students with positive perceptions and less than a 3.5 GPA was 0.687, indicating a 68.7% chance of having positive perceptions, compared to students with positive perceptions and more than a 3.5 GPA. For students with negative perceptions and less than a 3.5 GPA, the risk estimate was 1.094,

indicating a 9.4% greater chance of having negative perceptions compared to students with negative perceptions and more than a 3.5 GPA.

Overall, the analysis suggests that there is a weak association between GPA and perceptions, but the association is not statistically significant. Therefore, the fourth H0 is accepted, and Ha is rejected.

Discussion

Code-switching preferences across gender and GPA

The findings showed that Saudi learners utilized CS strategies frequently with higher moderate levels in the classrooms at various levels. A similar trend was also found across their GPA and gender. Among the six sub-scales, sub-scale B (Code-switching and its Effects on L1 and L2) was found to be preferred by both genders. This means that the use of CS did not cause any hindrance to learning EFL as well as Arabic. Both languages supported each other. They supported the beneficial impact of strategically using the native language (L1) in the second language (L2) classroom (Carota, 2021). However, compared to other sub-scales, it was found to be the least utilized. The reason could be that participants may not have much knowledge of or may not perceive the effects of CS on their L1 and L2 proficiency. Therefore, it is imperative for language educators to raise learners' awareness of the potential effects of CS. This is because it will enable them to use it strategically, especially in multilingual contexts where CS is a common practice. Magid and Mugaddam (2013) observed similar results in their study.

Conversely, sub-scale F (Code-switching and its Effects on Passing the Examinations) was found to be the most preferred by all learners. This suggests that learners use CS to enhance their performance in language assessments. The finding that sub-scale F was the most preferred by both male and female Saudi EFL learners irrespective of their low and high GPA could be attributed to the fact that examinations are considered a crucial part of the education system in Saudi Arabia, and success in these exams is highly valued. Therefore, students may have perceived the use of CS as a means of increasing their chances of passing the exams. This finding matches with other research that displayed the positive effects of CS on language testing, where CS can be used as a beneficial strategy to improve learning outcomes (Omar & Ilyas, 2018; Alrebish, 2020; Carota, 2021).

The sub-scale E (the effects of code-switching on teachers' image among learners) was second-ranked. The participants thought that CS helped instructors establish rapport with their learners and created a more engaging classroom environment. Additionally, CS could help educators demonstrate their linguistic and cultural competencies, which enhanced their credibility and authority in the classroom. It can also be a cultural bridge between the teacher and students with a common language or cultural background. However, if used excessively or inappropriately, it may have a negative impact on the teacher's image and credibility. These findings also support previous studies by Adriosh and Razi (2019) and Fathimah (2016).

The third and fourth sub-scales were D (the impact of code-switching on language learning) and A (the use of code-switching in teaching). The findings highlighted the role of CS in language teaching and learning contexts, where teachers and learners may employ it to facilitate communication and understanding. The participants, regardless of their low and high grades, perceived the usage of L1 as necessary in order to clarify intricate grammar concepts, introduce a vast vocabulary, and simplify challenging ideas. The results are consistent with the studies of An and Macaro (2022), Aldalbahy (2023), and Alomaim and Altameemi (2022), who found that learners preferred to use their first language to learn a second language. Contrary to this, Binmahboob (2020) examined teachers' attitudes toward using CS and found them negative. They encouraged learners not to speak their mother tongue in class and to reduce their dependence on it.

Regarding the other sub-scale C (the effects of code-switching on the emotional state), the results revealed that learners felt satisfied when mixing Arabic and English and were not confused when code-switching was used in the classroom. Al Tale' and Alqahtani (2022) and Williams et al., (2020) found that students in EFL courses showed a preference for CS over receiving instruction exclusively in the target

language because it provided psychological support to EFL learners who were beginners. In contrast, Dewaele and Wei (2013) showed that CS can alleviate anxiety and increase confidence in learners.

Variation in code-switching across gender and GPA

The participants perceived the use of CS at a higher moderate level across GPA. They also had similar perceptions about using CS, both Saudi male and female EFL learners, with slight variations in intensity. However, the specific sub-scales of CS use and their distribution among male and female learners, these variations did not suggest any statistically significant differences between the means of the male and female groups as well as GPAs $<$ and $>$ 3.5. Alenezi (2016) study conducted in the Saudi EFL context and Asghar et al., (2016) study in the Iranian EFL context also did not find any gender differences in participants' opinions on CS. Both male and female participants in these studies preferred CS over monolingual teaching, suggesting that they share similar attitudes, possibly due to their similar cultural and linguistic backgrounds. In contrast, Orfan (2023), Nasim et al., (2022), and Kane (2020) noticed significant differences between male and female participants' responses. Orfan (2023) and Kane (2020) found women more engaged in CS more frequently than men, but Nasim et al., (2022) found male Saudi learners using more CS than women.

Code-switching and its association with gender and GPA

The non-significant relationship between gender and GPA with perceptions of using CS strategies among Saudi EFL learners revealed no influence of GPAs or genders. While there is a weak association between gender and GPA with code-switching, the effect size is small, and the finding suggest no meaningful association between them.

Although gender may not play a crucial role in determining EFL learners' perceptions towards using CS strategies, the odds ratio suggests that females may be slightly more likely to have positive perceptions towards using CS than males. Similarly, Romaine (1995) found that although men tend to code-switch more often than women, the difference is small and not statistically significant. Similarly, Aldalbahy (2023) found that gender differences in CS behavior are minor and not statistically significant.

This information is valuable for educators and researchers. They should not focus solely on gender to improve perceptions of CS strategies among learners. Instead, they should focus on factors that may be more strongly associated with perceptions, such as prior knowledge, attitudes towards technology, or learning styles.

It is imperative to note that the study's findings are based on a specific sample and context and may not generalize to other populations or settings. Therefore, future research is required to further understand the association between gender and perceptions of using CS in different contexts and with different populations. Further evidence of the relationship between gender and perceptions of using CS is required.

This finding challenges the notion that students' academic performance, as measured by GPA and language use, is strongly linked to their perceptions of code-switching. In other words, these factors do not seem to have a strong impact on their perceptions of code-switching. The weak association means that students with high GPAs are not more likely to have positive perceptions of CS use than those with low GPAs. Also, students with lower GPAs were less likely to have negative perceptions of CS in teaching. This may be because students with lower GPAs struggle more with learning the language and may see CS as a helpful strategy to aid their understanding. On the other hand, students with higher GPAs may have a more advanced understanding of the language. They may feel that CS is unnecessary or even disruptive to their learning. Furthermore, exposure to similar language and cultural contexts among both low- and high-GPA students may have led to similar attitudes towards CS (Simasiku et al., 2015).

The weak association between GPA and perceptions of CS use suggests that the use of CS is not dependent on learners' academic ability or GPA. Instead, it is dependent on their individual language learning preferences and strategies. As a result, it may be a habitual behavior influenced by factors other than academic performance, such as language background, socialization, and personal preferences (Galante & dela Cruz, 2024; Simasiku et al., 2015). Additionally, CS may serve various communicative functions,

such as clarification, emphasis, or identity (García & Wei, 2014), which may not be affected by academic achievement. This highlights the need for further research to explore the complex relationships between language use, academic performance, and cultural and linguistic factors among EFL learners. Some previous studies have suggested that students with high GPAs use CS less frequently than those with low GPAs, but the results of this study do not support this idea (Simasiku et al., 2015; Omar & Ilyas, 2018).

Overall, these results can be useful for educators and researchers interested in understanding the link between academic achievements and language use in the classroom. More importantly, these results are specific to the sample and context studied, and more research is needed to confirm and expand on these findings.

The results indicate that Saudi male and female EFL learners perceive CS as a useful communication technique in EFL classes, with high overall means for their use of the six sub-scales of CS strategies in a similar capacity. In contrast, low and high GPAs did not make any significant contributions to choosing their CS.

Conclusion

This study on the use of code-switching sheds light on the perception of CS among Saudi female and male learners. The outcomes mention that these participants utilize CS frequently and prefer it for certain purposes, such as enhancing their performance in language assessments. The finding that CS was least utilized in sub-scale D may indicate a lack of awareness among participants of its potential impact on their language learning. Furthermore, participants perceived the use of L1 as necessary to clarify complex grammar concepts and simplify challenging ideas. It is worth noting that while there were slight variations in the intensity of CS use between male and female learners, gender did not play a significant role in determining their perceptions of using CS strategies. Overall, the study highlights the importance of understanding the role of CS in EFL learning. It suggests that it can be an effective tool for educators to create a more engaging classroom environment.

Pedagogical implications

The study on the use of code-switching in the Saudi EFL context has several pedagogical implications for educators. Firstly, it suggests that CS can be an effective tool for enhancing learners' performance in language assessments. As a result, educators could encourage learners to use CS strategically to facilitate their understanding and performance in assessments. Secondly, the study found that participants perceived the use of L1 as necessary to clarify intricate grammar concepts, introduce novel vocabulary, and simplify challenging ideas. Therefore, educators could incorporate L1 use into their teaching strategies to help learners comprehend complex language concepts. Thirdly, the study highlights the importance of creating a more engaging classroom environment through the use of CS, which can help educators establish rapport with their learners. Therefore, educators could use CS to create a more relaxed and comfortable atmosphere in the classroom, making it easier for learners to participate and engage with the language.

Limitations and recommendations

The study had limitations due to the small sample size of Saudi EFL students, which may not represent the entire population. It also lacked the inclusion of other variables like teacher attitudes and the classroom environment that could have influenced students' perceptions of CS. Future research should increase the sample size to ensure more reliable results and consider other variables to gain a comprehensive understanding of the effects of CS on student perceptions. Additionally, incorporating qualitative research methods would provide a deeper understanding of the phenomenon under investigation.

Funding Statement:

This work was supported and funded by the Deanship of Scientific Research at Imam Mohammad Ibn Saud Islamic University (IMSIU) (grant number: IMSIU-DDRSP2504).

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