THE ROLE OF CODE-SWITCHING IN DEVELOPING COMMUNICATIVE COMPETENCE OF TECHNICAL UNIVERSITY STUDENTS IN ENGLISH LANGUAGE TEACHING

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Abstract
The present study investigates the effectiveness of code-switching as a pedagogical strategy in teaching English to students of technical specialties. The research aims to determine how the strategic use of learners' native language can facilitate the development of communicative competence in English language classrooms. A quasi-experimental design involving 60 undergraduate students was employed. The participants were divided into experimental and control groups. The findings indicate that the appropriate use of code-switching improves students' comprehension, participation, confidence, and communicative performance. The study suggests that code-switching can serve as an effective instructional tool in English language teaching for technical university students.

Keywords: *code-switching, communicative competence, English language teaching, technical students, bilingual education, language learning.*

INTRODUCTION

In the context of globalization and rapid technological advancement, English has become the primary language of international communication, science, technology, and professional collaboration. Modern engineers and technical specialists are expected not only to possess professional knowledge in their fields but also to communicate effectively in English in multicultural and multilingual environments. Consequently, the development of communicative competence has become one of the key objectives of English language teaching in technical higher education institutions.

Despite the growing importance of English proficiency, many students enrolled in technical universities encounter considerable difficulties in developing effective communication skills. These challenges are often associated with limited exposure to authentic English-language environments, insufficient vocabulary knowledge, low confidence in speaking, and anxiety related to the use of a foreign language. As a result, students frequently rely on their native language when attempting to express complex ideas or understand specialized technical concepts.

One pedagogical phenomenon that has attracted significant scholarly attention in bilingual and multilingual educational settings is code-switching. Code-switching refers to the alternation between two or more languages within a conversation, sentence, or discourse. Traditionally, foreign language teaching methodologies advocated the exclusive use of the target language in the classroom. According to this perspective, excessive use of learners’ first language might reduce opportunities for language practice and negatively affect language acquisition. However, contemporary research has challenged this assumption and increasingly recognizes code-switching as

a valuable instructional strategy that can facilitate learning and classroom communication.

Researchers such as Shana Poplack, Pieter Muysken, and David Macaro have demonstrated that code-switching serves various linguistic, cognitive, and pedagogical functions. It may be used to clarify complex concepts, explain grammatical structures, provide instructions, manage classroom interaction, and reduce communication barriers. In educational contexts, strategic code-switching can support students’ comprehension and encourage active participation in learning activities.

The importance of code-switching is particularly evident in technical universities where students are required to master both general English and specialized professional terminology. Technical subjects often involve abstract concepts, discipline-specific vocabulary, and complex problem-solving tasks that may exceed students’ current linguistic abilities. In such situations, occasional use of the native language may help learners connect new information with their existing knowledge, thereby promoting deeper understanding and more effective communication.

Although numerous studies have examined code-switching in general language education, relatively little attention has been paid to its role in developing communicative competence among students of technical specialties. Furthermore, there remains ongoing debate regarding the extent to which code-switching should be incorporated into English language instruction and whether its benefits outweigh potential disadvantages. This gap highlights the need for further empirical research focused specifically on technical higher education contexts.

Therefore, the present study investigates the role of code-switching in developing the communicative competence of technical university students learning English as a foreign language. The study seeks to evaluate the effectiveness of strategic code-switching as a pedagogical tool and to explore students’ perceptions of its use in English language classrooms.

The following research questions guided the study:

1. How does code-switching influence the communicative competence of technical university students?
2. What are students’ attitudes toward the use of code-switching in English language classes?
3. Does strategic code-switching improve students’ participation, comprehension, and confidence during classroom communication?
4. What pedagogical functions of code-switching are most effective in teaching English to technical students?

Based on the reviewed literature and the identified research gap, the study hypothesizes that the strategic use of code-switching can facilitate language learning, enhance classroom interaction, and contribute to the development of communicative competence among students of technical specialties.

METHODS

This study employed a mixed-methods approach combining quantitative and qualitative research methods.

Participants: The research was conducted at a technical university and involved 60 first- and second-year students majoring in engineering-related disciplines. The participants possessed English proficiency levels ranging from A2 to B1 according to the Common European Framework of Reference for Languages (CEFR).

The students were divided into two groups:

- Experimental group (30 students)
- Control group (30 students)

Procedure: At the beginning of the semester, both groups completed a diagnostic test assessing their communicative competence.

The control group received instruction primarily in English with minimal use of the native language. The experimental group was taught using a strategic code-switching approach in which Uzbek and Russian were occasionally used to explain technical terminology, complex grammatical structures, classroom instructions, and task requirements.

The experiment lasted for 16 weeks.

Data Collection Instruments

The following instruments were used:

- Pre-test and post-test;
- Classroom observations;
- Student questionnaires;
- Semi-structured interviews;
- Teacher reflective notes.

Data Analysis

Quantitative data were analyzed using descriptive statistics and percentage comparison. Qualitative data from interviews and observations were categorized and interpreted thematically.

RESULTS

The results obtained during the experimental study revealed a positive impact of strategic code-switching on the development of communicative competence among technical university students. Data collected through pre-tests, post-tests, classroom observations, questionnaires, and interviews were analyzed to evaluate the effectiveness of the instructional approach.

At the beginning of the study, both the experimental and control groups demonstrated relatively similar levels of communicative competence. The average pre-test score of the experimental group was 61%, while the control group achieved an average score of 63%. This similarity indicated that both groups started the experiment with comparable language proficiency levels and communicative abilities.

Following the sixteen-week instructional period, noticeable differences were observed between the two groups. The post-test results showed that the experimental group's average score increased from 61% to 82%, representing a 21-percentage-point improvement. In contrast, the control group's score increased from 63% to 72%, representing a 9-percentage-point improvement. These findings suggest that students exposed to strategic code-switching demonstrated greater progress in communicative competence than those taught primarily through the target language.

The improvement was particularly evident in speaking-related tasks. Students in the experimental group displayed greater fluency, increased willingness to communicate, and improved ability to express ideas in classroom discussions. Many participants became more active during pair work, group activities, and oral presentations. They were more likely to initiate conversations, ask clarifying questions, and contribute to collaborative learning tasks.

Questionnaire data further supported these findings. Approximately 87% of the students in the experimental group reported positive attitudes toward the use of code-switching in English language classes. The majority of respondents indicated that occasional explanations in their native language helped them understand difficult concepts more effectively and reduced the stress associated with communicating in English. Many students also stated that code-switching increased their confidence and encouraged them to participate more actively in classroom interaction.

The qualitative data obtained through classroom observations revealed additional differences between the groups. Students in the experimental group appeared more engaged and responsive during lessons. They demonstrated higher levels of interaction with both teachers and peers and showed greater readiness to participate in communicative activities. In contrast, some students in the control group remained hesitant to speak and frequently avoided participation when faced with challenging language tasks.

Interviews conducted at the end of the experiment provided further insight into students' perceptions. Many participants emphasized that strategic code-switching helped them connect new English vocabulary with previously acquired knowledge in their native language. Technical terminology, in particular, was reported to be easier to understand when brief explanations were provided in Uzbek or Russian. Students also noted that this approach reduced misunderstandings and enabled them to focus more effectively on the content of the lesson.

Overall, the findings indicate that strategic code-switching contributed positively to several dimensions of communicative competence, including comprehension, interaction, participation, and confidence. The results suggest that the controlled use of students’ native language can facilitate English language learning and support more effective communication in technical higher education settings.

Table 1. Comparison of Pre-test and Post-test Results

Group	Pre-test (%)	Post-test (%)	Improvement (%)
Experimental Group	61	82	+21
Control Group	63	72	+9

Table 2. Students’ Attitudes Toward Code-Switching

Questionnaire Item	Positive Responses (%)

Code-switchingimproves understanding	89
Code-switching reduces anxiety	85
Code-switching increases confidence	84
Code-switching supports participation	88
Overall positive attitude	87

The quantitative and qualitative findings consistently demonstrate that strategic code-switching can serve as an effective instructional tool for enhancing communicative competence among students of technical specialties.

DISCUSSION

The findings of the present study demonstrate that strategic code-switching can positively influence the development of communicative competence among technical university students learning English as a foreign language. The results indicate that students exposed to controlled code-switching showed higher levels of comprehension, classroom participation, and communicative confidence than those who studied primarily through the target language. These findings suggest that code-switching can function as an effective pedagogical resource rather than a sign of linguistic deficiency.

The results support the view that the selective use of students’ native language helps reduce communication barriers and facilitates the learning process. In multilingual educational environments, students often encounter difficulties when dealing with unfamiliar vocabulary, abstract concepts, or complex grammatical structures. Strategic alternation between languages enables learners to connect new information with their existing linguistic knowledge, thereby enhancing understanding and retention of academic content. This process appears particularly important in technical education, where students are required to comprehend specialized terminology and discipline-specific concepts.

The findings are consistent with previous studies conducted by researchers such as Shana Poplack, Pieter Muysken, and David Macaro. These scholars emphasize that code-switching performs important cognitive, communicative, and pedagogical functions in bilingual contexts. Their research suggests that the strategic use of more than one language can facilitate classroom interaction, support language acquisition, and improve learners’ engagement in educational activities. The current study provides further evidence supporting these conclusions within the context of technical higher education.

Another significant finding concerns students’ attitudes toward code-switching. Most participants reported feeling more comfortable and confident when limited use of their native language was permitted during classroom activities. The reduction of language anxiety appears to have encouraged students to participate more actively in discussions, ask questions, and express their ideas more freely. This finding aligns with communicative language teaching principles, which emphasize the importance of creating a supportive learning environment that promotes meaningful interaction.

Furthermore, the study highlights the practical value of code-switching in teaching English for Specific Purposes (ESP). Technical students frequently encounter professional vocabulary related to engineering, construction, information technology, and other specialized fields. In such cases, brief explanations in the native language may improve conceptual understanding and prevent misunderstandings that could hinder learning. As a result, code-switching may contribute not only to language development but also to the successful acquisition of professional knowledge.

Despite these advantages, the findings also suggest the need for caution in the implementation of code-switching. Excessive dependence on the native language may reduce opportunities for exposure to English and limit the development of communicative fluency. If overused, code-switching can encourage learners to rely on translation rather than develop independent communication strategies in the target language. Therefore, the effectiveness of code-switching depends largely on how and when it is used by the instructor.

From a pedagogical perspective, code-switching should be viewed as a strategic and purposeful teaching technique rather than a routine classroom practice. Teachers need to maintain a balance between providing linguistic support and maximizing students’ exposure to English. The most effective approach appears to be the selective use of code-switching for clarification, classroom management, explanation of technical terminology, and support of complex learning tasks while preserving English as the primary medium of communication.

Overall, the discussion of the findings suggests that code-switching can make a valuable contribution to English language teaching in technical universities. When implemented appropriately, it serves as a bridge between students’ existing linguistic resources and the target language, promoting both communicative competence and academic achievement.

CONCLUSION

The present study examined the role of code-switching in developing the communicative competence of technical university students learning English as a foreign language. The findings demonstrate that strategic and purposeful code-switching can serve as an effective pedagogical tool that supports language learning and facilitates classroom communication. The results of the study indicate that students who were exposed to controlled code-switching showed noticeable improvements in comprehension, classroom participation, confidence, and overall communicative performance compared to those who received instruction primarily in the target language.

The study also revealed that code-switching helps learners overcome linguistic barriers when dealing with complex grammatical structures, technical terminology, and unfamiliar concepts. By providing occasional support through the learners’ native language, instructors can create a more inclusive and less stressful learning environment that encourages active engagement and meaningful interaction. Furthermore, the positive attitudes expressed by the participants suggest that code-switching contributes to reducing language anxiety and increasing students’ motivation to communicate in English.

These findings support contemporary views in bilingual education and second language acquisition, which recognize code-switching as a valuable instructional resource rather than a sign of linguistic deficiency. While traditional approaches often discourage the use of the first language in foreign language classrooms, the results of this study suggest that carefully planned and pedagogically justified code-switching can enhance the effectiveness of English language instruction, particularly in technical higher education settings where students frequently encounter specialized academic content.

At the same time, the study emphasizes that code-switching should not replace communication in the target language. Excessive reliance on the native language may limit students’ opportunities for authentic English practice. Therefore, teachers should apply code-switching selectively, strategically, and in accordance with specific instructional objectives.

The practical significance of this research lies in its contribution to improving English language teaching methodologies for technical university students. The findings may assist educators in designing more effective classroom strategies that balance target-language exposure with appropriate first-language support.

Despite the positive outcomes, the study has certain limitations, including a relatively small sample size and a limited research period. Future studies may involve larger participant groups, different academic disciplines, and longer observation periods to provide more comprehensive evidence regarding the effectiveness of code-switching. Further research could also investigate the relationship between code-switching and specific language skills such as speaking, listening, reading, and writing, as well as its impact on students with different levels of language proficiency.

In conclusion, the study confirms that strategic code-switching can play a significant role in fostering communicative competence among technical university students. When used appropriately, it serves as a bridge between learners’ existing linguistic knowledge and the target language, ultimately contributing to more effective and meaningful English language learning.

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