Sustaining Learning for Higher-Order Thinking Skills through Code-Switching

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ABSTRACT

Despite English being widely used as the language of instruction in many educational settings, some learners still find the lessons difficult to understand. It means that enhancing their critical thinking skills is now challenged. Thus, this paper argues that students' higher order thinking skills will improve if Code-Switching is used as a language of instruction. Anchored on Code-Switching Theory, Vygotsky's Sociocultural Theory, and Zone of Proximal Development, the study uses an explanatory-sequential design with fifty grade 8 students as respondents from Toledo National Vocational School. Through descriptive and inferential statistical treatment, students' pre- and post-test performances were determined, and significant differences were observed in these performances. Braun and Clarke's analytical framework revealed themes like enabling learning and developing confidence, which help explain the quantitative results. It concludes that code-switching is a potential solution to improve critical thinking. Hence, it recommends that code-switching may be allowed as part of the language of instruction to facilitate learning and develop higher-order competencies continuously.

Keywords: Code-Switching, Explanatory-Sequential, Higher-Order Thinking Skills.

1. INTRODUCTION

Learning the English language goes beyond memorization and recall; it requires critical thinking skills to analyze, evaluate, and synthesize information to construct coherent sentences. In a multilingual education setting, code-switching, or shifting between two or more languages, has been acknowledged and widely understood as a tool for enhancing comprehension, promoting cultural inclusivity, and improving academic performance (Puspawati, 2018).

The existing literature emphasizes the pedagogical advantages of code-switching in multilingual contexts, as it helps to clarify understanding in content-based subjects (Martin, 2014). A study by Simasiku (2019) explored the code-switching utilized by Botswanan teachers where switching between English and Setswana was done to manage classroom interaction and improve student understanding. Findings showed that the teachers were able to help students understand complex concepts that can facilitate the development of higher- order thinking skills. Another study by Leonak et al. (2020) examined how code-switching affects student understanding and analysis in South African classrooms. Results show that code-switching between English and students' mother tongue clarifies complex concepts, facilitates more profound understanding, and facilitates the development of higher order thinking skills. Although the mentioned studies imply that code-switching can lead to discussions of complex topics, there is still no direct evidence of its impacts on students' higher order thinking skills (HOTS). In the Philippines, despite the advantages of code- switching between the mother tongue and English, pedagogical code-switching is prevalent in "Taglish," especially in discourse media and classroom interactions (Dykhanova, 2018; Nguyen et al., 2018). There remains a fertile area for research, particularly on how code- switching between "Bisaya" and "English" leads to developing Higher Order Thinking Skills (HOTS) in English language learning.

This study fills this gap by exploring the impact of code-switching as a pedagogical strategy on Grade 8 students' higher order thinking skills. The objective is to bring verifiable data on whether strategic code-switching improves students' skills in analyzing, evaluating, and synthesizing English language concepts. It is critical to understand the relationship between skills and components to inform the design of pedagogical approaches that are

inclusive, potent, and promote not only comprehension but also encourage the development of critical thought in children working within a bilingual paradigm.

The theoretical framework for this research is based on Code-Switching Theory and Vygotsky's Sociocultural Theory. Fachriyah (2019) notes that code-switching allows for knowledge transfer by expanding a learner's language scaffolding to traverse complex ideas. At the same time, Vygotsky's Zone of Proximal Development (ZPD) emphasizes a need for instructional support to guide children into growing higher-level cognitions (Svendsen, 2014). Using code-switching to use students' native language as a bridge can facilitate deeper engagement and improved cognitive flexibility, which in turn, supports higher-order thinking (Vorster, 2018).

2. METHODOLOGY

This study utilized a mixed-method approach, particularly Explanatory-Sequential design because it involved both quantitative and qualitative data in determining the effect of the use of codeswitching as a language of instruction. Fifty (50) Grade 8 students enrolled in an English class from Toledo National Vocational School (TNVS) were selected through purposive sampling.

A pre-test and post-test, which comprise 40 multiple-choice items assessing the application, analysis, synthesis, and evaluation, measured students' performance. These were validated by the school's Quality Assurance Team (Mrs. Liesyl Balungcas Teacher III, Mr. Felixberto Divera Master Teacher I & Mr. Marlon Contado Teacher III. Additionally, a semi-structured interview guide captured students' attitudes and experiences with code-switching as the language of instruction.

Permission was secured from the school principal before the study was conducted. Participants initially took the pre-test while using only English as the medium of instruction. After being exposed to code-switching in discussions, they completed the post-test. Scores were analyzed using descriptive statistics, including mean and standard deviation, to summarize performance trends of the pre-test and post-test scores. A paired t-test was used to determine the significant difference in students' higher-order thinking skills (HOTS)

performance after implementing code-switching in reading instructions. Interviews were conducted with selected participants to gather qualitative insights. Qualitative data from the interview were analyzed following Braun and Clarke's thematic analysis, which was employed to explore students' learning experiences with code-switching as an instructional tool.

This study ensured trustworthiness based on Guba and Lincoln's (1985) criteria: credibility, transferability, dependability, and confirmability. Credibility was established through triangulation, comparing quantitative test results with qualitative insights from student reflections. Transferability was ensured by providing a detailed research context, allowing applicability in similar settings. Dependability was maintained through consistent research process and data collection methods. Confirmability was achieved by documenting an audit trial and applying researcher reflexivity to minimize bias. These measures strengthened the study's rigor and reliability.

3. RESULTS AND DISCUSSION

This study explored the influence of code-switching as a reading strategy on the higher order thinking skills (HOTS) of Grade 8 students. Higher order thinking Skills (HOTS) refer to the cognitive processes that go beyond basic memorization or recall of facts; this includes application, analysis, synthesis, and evaluation skills (MasterClass, 2022). These skills are crucial for students to foster critical and creative thinking. The results

provide insights into students' performance differences before and after implementing code-switching and their learning experiences with this instructional tool.

4. INFLUENCE OF CODE-SWITCHING ON HOTS

Pre-test results indicated that students had difficulty applying, analyzing, synthesizing, and evaluating texts, with mean scores reflecting low proficiency. After the intervention, post- test scores significantly improved, suggesting that code-switching facilitated comprehension

and critical thinking. By allowing students to process information in both their first language and English, code-switching bridged linguistic gaps, enabling deeper engagement with texts and promoting higher-order cognitive skills.

A paired t-test analysis confirmed a statistically significant improvement in HOTS performance after the implementation of code-switching strategies. This suggests that students benefited from the cognitive flexibility provided by code-switching, which helped them break down complex ideas, connect prior knowledge with new concepts, and express their thoughts more effectively. The improvement across all HOTS categories supports code-switching as an effective scaffolding strategy in reading instruction. This finding is further supported by the findings of Malik (2020), which revealed that students exposed to code- switching exhibited an advanced ability to apply learned knowledge in diverse contexts, highlighting the effectiveness of code-switching as a pedagogical strategy. Similarly, Gabusi (2018) investigated the effects of code-switching on language acquisition and reported a positive correlation between code-switching practices and language proficiency levels among learners.

SIGNIFICANT DIFFERENCE BETWEEN THE MEAN OF PRETEST AND POSTTEST

	Pre-Test Scores Mean	Post-test Scores Mean	T	P-value	Decision
Whole Exam	41.62	87.60	8.077	0.0000*	Reject Ho
Application	2.37	10.54	1.170	0.0000*	Reject Ho
Analysis	9.42	21.98	5.836	0.0000*	Reject Ho
Synthesis	10.88	21.84	1.135	0.0000*	Reject Ho
Evaluation	10.78	22.68	2.343	0.0000*	Reject Ho

*significant when p-value < .05

STUDENTS' LEARNING EXPERIENCES

Thematic analysis of student reflections revealed two major themes

Themes	Categories
Enable Learning	▪ Clarity of instruction ▪ Simplify complexities
Develop Confidence	▪ Ease difficulty ▪ Boost confidence

ENABLING LEARNING

Students expressed that code-switching enhanced comprehension by making reading materials easier to understand. This was evident in two key categories; The first is clarity of instruction; code-switching allows teachers to explain

complex ideas more clearly, helping students grasp difficult concepts easily. Another category under this theme is simplifying complexities; code-switching bridges linguistic gaps by breaking down challenging texts, making it easier for students to analyze and synthesize information. These are evident in the following vignettes:

"Kung si ma'am magamit ug sagol na language kay mas maklaro namo" (When

the teachers used code switching as an instruction, it became clear to us). - S2

"I had a pleasant experience engaging in various activities in class." - S4

These vignettes shed light on the benefits of code-switching in fostering a conducive learning environment and enhancing student participation and understanding. This is supported by the findings of Marcizo (2019), who explored the benefits of code-switching in the classroom; findings showed that students reported feeling more engaged and participative when code-switching was utilized. They found that code-switching helped them grasp complex concepts more effectively and made learning more accessible and relatable to their lived experiences.

DEVELOPING CONFIDENCE

Students reported that code-switching contributed to their confidence in reading and participating in discussions. This was evident in two categories: The first one is easing difficulty, switching between languages reduced the cognitive burden of processing information solely in English, making reading tasks more manageable. The second category is boosting confidence, understanding texts more effectively encouraged students to engage actively, express their thoughts, and perform better in higher-order thinking tasks. It is evident in the following vignette:

"Mas ma develop amoang confidence if mag code-switch among gamiton" (Our

confidence will be developed if we are going to use code-switch.) - S6

Findings suggest that code-switching as an instructional tool fosters both cognitive and affective learning benefits, enhancing students' ability to process complex information while building their confidence in reading comprehension. These are further supported by the study of Modupeloa (2018), where teachers utilize the code-switching strategy to give students chances to interact and improve their understanding. Since teachers don't have to spend as much time trying to explain things to students or looking up the simplest words to clear up any confusion that might emerge, it further helps to facilitate the flow of education in the classroom.

CONCLUSION

This study examined the impact of code-switching as a reading strategy on the higher- order thinking skills (HOTS) of Grade 8 students. The findings indicate that code-switching enhances comprehension, facilitates critical thinking, and supports the development of application, analysis, synthesis, and evaluation skills. Statistical analysis confirmed a significant improvement in students' HOTS performance after the intervention, highlighting the effectiveness of code-switching in reading instruction. Additionally, students reported greater confidence and engagement, as code-switching provided clarity and simplified complex reading tasks. These results affirm that code-switching is a valuable instructional tool in multilingual classrooms, fostering both cognitive and affective learning benefits.

RECOMMENDATIONS

Based on the findings, it is recommended that educators strategically integrate code- switching in reading instruction to clarify complex ideas while ensuring that students continue to develop English proficiency.

Professional development programs should be designed to

equip teachers with effective code-switching techniques, allowing them to maximize its benefits in enhancing higher-order thinking skills. Additionally, classroom activities should encourage active student participation, enabling learners to engage with texts more confidently and critically. Further research is also necessary to explore the long-term effects of code-switching on reading comprehension and critical thinking, as well as its potential application in other subject areas beyond reading instruction. By thoughtfully incorporating code-switching, educators can help students overcome linguistic barriers, improve comprehension, and develop essential cognitive skills for academic success.

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