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Research Article

The Metacognition in Language Learning Among English Major Tertiary Students in Davao Region: A Convergent Mixed Methods Study

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Abstract

This convergent mixed-methods study examined metacognition in language learning among English major tertiary students in Davao Region. Adapted survey questionnaires for the quantitative strand and an interview guide for the qualitative strand were utilized. The quantitative strand involved 300 Education major in English tertiary students selected from 10 public and private higher education institutions in the region. Additionally, 20 participants took part in the qualitative strand through in-depth interviews, while 14 participants were engaged in two focus group discussions. Quantitative data analysis employed statistical tools such as Mean, Standard Deviation, One-way ANOVA, and independent t-tests. Results showed a high level of metacognition in language learning. No significant differences were found in metacognition levels when analyzed by age, sex, student type, or school type. The qualitative phase utilized thematic analysis and a priori coding, confirming the seven metacognition indicators: metacognitive knowledge about the self (MKS), language matters (MKLM), context (MKC), learning process (MKLP), and metacognitive skills in planning (MSP), monitoring (MSM), and evaluating (MSE). The qualitative findings aligned with the quantitative results, affirming high metacognitive awareness. Thus, the nature of integration reflects a merging-confirmation. Based on the findings, the study proposed an intervention program, Meta-BOOST, to address students' limitations in learning English. Higher education institutions' school heads or Education program heads may use the results of this study to craft appropriate policies for integrating the use of metacognition into the English language curriculum. These policies may focus on fostering metacognitive knowledge and skills among students to enhance their learning experience.

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Introduction

Metacognition in language learning (MLL) pertains to learners' awareness of their own cognitive processes when they learn a new language. It involves being aware of and managing one's own learning, which plays a vital role in successful language acquisition (Teng, 2025). Composed of metacognitive knowledge and skills, metacognition is widely acknowledged as influential in second language (L2) learning and progress (Sun & Zhang, 2022). In fact, Zhang and Guo (2020) reported that students' MLL plays a significant part in several cognitive functions of language usage, such as oral communication, oral persuasion and comprehension, reading and writing comprehension, and many types of self-instruction. However, based on Ozturk (2021), many learners lack awareness of the crucial part metacognition plays in language learning, often leading to inefficient learning habits and hindered progress. They also lack opportunities to develop MLL and attitudes towards acquiring such skills.

Issues related to metacognition also exist in various settings. In Vietnam, Nguyen and Habok (2023) reported that language learners lack some features of metacognition in language learning. Also, they strongly emphasized the deficiency of metacognitive skill in planning, monitoring, and evaluating as well as that of metacognitive knowledge about language matters and learning process. They stated that this deficiency was caused by students' lack of chances to approach the notions of metacognition during their previous language learning experiences and the lack of adequate teacher training programs to acquaint themselves with training metacognitive practices in fostering metacognition in their language learners. Due to a lack of training, students are unable to properly practice metacognition while learning English language. In Pangasinan, Philippines, the findings of Martin et al. (2021) revealed the challenges students face in relation to metacognition in English language learning. Students reported experiencing shyness, bullying, low self-esteem, and difficulty understanding English instructions. These factors likely contribute to the poor performance observed in participants of the metacognition assessment. Meanwhile, in Region XI, particularly in Davao City, Leopardas and Rosil (2024) argued that proficiency in metacognition is crucial for academic success, particularly in subjects like English. However, many students lack the necessary metacognitive skills to handle the complexities of English language learning and application. Disparities in education quality and lack of opportunities to develop metacognition worsen this deficiency, disproportionately affecting students from socioeconomically disadvantaged backgrounds.

Furthermore, this study was anchored to the Metacognition Theory by Flavell (1979). Generally, metacognition is typically described as "thinking about one's own thinking." Flavell posits that metacognition encompasses an individual's awareness of their cognitive processes, outcomes, and any relevant influencing factors, which allows students to apply, monitor, and regulate strategy use; gain insight into their own strengths and limitations; and use such understanding to better their learning. Moreover, Wenden (1998) applied Flavell's metacognition theory to the field of language learning. Wenden emphasized that metacognitive knowledge (MK) and metacognitive skills (MS) should be acknowledged to be complementary components of the umbrella term 'metacognition' because the former embodies information learners gain about their own learning, whereas the latter embraces skills to manage, direct, regulate, and guide their studies. Further studies explicated the concept of Wenden such as Nguyen and Habók (2023) who classified metacognitive knowledge (MK) into four categories: MK about self, MK about language matters, MK about context, and MK

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about learning process. Meanwhile, Schraw (1998) posited that metacognitive skills (MS) are manifested in the following: planning, monitoring, and evaluating.

While metacognition is increasingly seen as crucial for adapting to the diverse and evolving demands of multilingual and multicultural societies, there remains a gap in its acknowledgment as a vital aspect of language learning and teaching among researchers and experts. Therefore, this study addressed these gaps by expanding the body of knowledge on the metacognitive status of English major tertiary students, specifically Filipino and Davaoeño language learners. Also, this convergent mixed methods study intended to determine the level of metacognition in language learning among English major tertiary students in Davao Region. It also determined whether there are significant differences in metacognition based on age, sex, student type, and school type, which are factors that have been minimally explored in previous research.

Methodology

Mixed methods research design was employed in this study, specifically the convergent approach, based on the procedures suggested by Creswell and Plano Clark (2018). This design was appropriate for gaining a thorough understanding of metacognition in language learning (MLL) among English major tertiary students in the Davao region. It blended qualitative and quantitative methodologies to get corroborating results. The method started with the concurrent collection of two unique sets of data, which were then evaluated separately using qualitative and quantitative methodologies. Additionally, the study was conducted in higher education institutions across the Davao Region (Region XI), in Southeastern Mindanao, Philippines. The quantitative strand involved a survey of 300 college Education students major in English. For the qualitative strand, another 20 participants took part in individual in-depth interviews (IDIs), while 14 participated in two focus group discussions (FGDs). They were selected from 10 public and private higher education institutions in Davao Region. The researcher ensured that the participants are composed of different ages, sex, student type, and school type.

Given that mixed methods design was used, two types of instruments were employed in this study: a survey questionnaire adapted from Nguyen and Habók (2023) for the quantitative design, and an interview guide for the qualitative design. For the quantitative strand, the "Metacognition in Language Learning Questionnaire," was used to measure the main variable of the study. Originally developed and validated by Nguyen and Habók (2023), the instrument was modified in this study to better fit the Philippine and local context. There is a total of 37 items in this questionnaire. The items were evaluated using a five-point Likert scale with scores from 1 as strongly disagree to 5 as strongly agree. The Cronbach's alpha coefficient of the whole questionnaire is 0.94, which shows a good internal consistency and reliability. For the qualitative aspect, an interview guide was utilized during the IDIs and FGDs. The questions were focused on the standpoints of the participants on their metacognition in the context of language learning. The interview guide was checked and verified by the validators to determine its accuracy and validity.

The gathered data had undergone both quantitative and qualitative analysis. The numerical data were processed and analyzed using the following statistical tools: Mean, Standard Deviation, independent t – Test, and Analysis of Variance (ANOVA). In analyzing the qualitative data gathered from the IDIs and FGDs, thematic analysis was done, which was supplemented by *a priori* themes that were used to provide a structured and consistent framework

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for data analysis. These themes were derived from the indicators used in the quantitative phase to ensure alignment between the qualitative and quantitative analyses, allowing for meaningful comparison and integration of findings.

Furthermore, the researcher secured ethical clearances from the University of the Immaculate Conception – Research Ethics Committee (UIC – REC) and rigorously adhered to the ethical principles such as securing the informed consent of all the respondents, whose rights were respected and whose privacy and confidentiality were treated with high regard.

Results

This section presents the data that has been gathered and are shown in tabular form with their corresponding interpretations and analyses.

Status of Metacognition in Language Learning among English Major Tertiary Students in Davao Region

Shown in Table 1 is the overall status of metacognition in language learning among English major tertiary students in Davao Region, which has an overall mean of 4.16 with a descriptive equivalent of "high" and a standard deviation of 0.41. This means that English major students frequently use metacognition in language learning. Since the standard deviation value is less than 1.0, this suggests a high level of consistency and homogeneity in the respondents' responses. Furthermore, based on the results, the following three indicators were rated as very high: *metacognitive knowledge about the self* got a mean of 4.27, *metacognitive knowledge about language matters* had a mean of 4.37, and *metacognitive skill in evaluating* had a mean of 4.20. These suggest that English major students always use metacognition in language learning. On the other hand, four indicators got a descriptive equivalent of high such as the *metacognitive knowledge about context* with a mean of 4.05, *metacognitive knowledge about learning process* with a mean of 4.12, *metacognitive skill in planning* with a mean of 4.00, and *metacognitive skill in monitoring* with a mean of 4.10. This means that English major students frequently use these aspects of metacognition in language learning. Additionally, the standard deviation values for all indicators are less than 1.0, which suggests that the responses tend to cluster around the mean, indicating a fairly high level of consistency in the responses.

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Table 1. Status of metacognition in language learning among English major tertiary students in Davao region.

Variable/Indicator	SD	Mean	Descriptive Level
Metacognition in Language Learning	**0.41**	**4.16**	**High**
Metacognitive Knowledge About the Self	0.56	4.27	Very High
Metacognitive Knowledge About Language Matters	0.47	4.37	Very High
Metacognitive Knowledge About Context	0.47	4.05	High
Metacognitive Knowledge About Learning Process	0.58	4.12	High
Metacognitive Skill in Planning	0.68	4.00	High
Metacognitive Skill in Monitoring	0.53	4.10	High
Metacognitive Skill in Evaluating	0.69	4.20	Very High

Significance of the Difference on the Level of Metacognition in Language Learning Among English Major Tertiary Students When Analyzed by Age, Sex, Student Type, and School Type

When Analyzed by Age

Shown in Table 2 is the result of testing the significance of the difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to age. Since the *p*-value is greater than the 0.05 level of significance, the null hypothesis is not rejected. Therefore, there is no significant difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to age.

Table 2. Significance of the difference of the level of metacognition in language learning among English major tertiary students in Davao region when analyzed by age.

Indicators	Age						F	*p*-value*	Remarks
	18-19	20-24	25-29	30-34	35-39	Total			
	Mean	Mean	Mean	Mean	Mean	Mean			
MK About the Self	4.33	4.26	4.42	3.30	4.50	4.27	1.080	.366	Not Significant
MK About Language Matters	4.26	4.40	4.57	4.00	4.43	4.37	1.558	.186	Not Significant
MK About Context	4.04	4.04	4.25	4.000	4.40	4.05	.470	.758	Not Significant
MK About Learning Process	4.09	4.13	4.00	4.000	4.67	4.12	.546	.702	Not Significant
MS in Planning	3.94	4.01	3.88	4.75	4.38	4.00	.663	.618	Not Significant
MS in Monitoring	4.02	4.12	4.11	4.22	4.72	4.10	1.129	.343	Not Significant
MS in Evaluating	4.16	4.20	4.58	4.00	4.67	4.20	.631	.640	Not Significant
Overall	**4.12**	**4.17**	**4.26**	**4.04**	**4.54**	**4.16**	**.676**	**.609**	**Not Significant**

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*value must be $p<0.05$ to be significant *Legend:* MK = Metacognitive Knowledge; MS = Metacognitive Skill

When Analyzed by Sex

Table 3 presents the result of testing the significance of the difference in the metacognition among English major tertiary students in Davao Region in the context of language learning when analyzed according to sex. As shown in the table, the overall t-value is 3.885, with a computed *p*-value of 0.050. This low t-value suggests that any difference observed in sex groups may be due to chance, while the *p*-value is right at the threshold of 0.05 level of statistical significance. Under the conventional decision, if the *p*-value is exactly equal to the 0.05 significance level, the null hypothesis should be rejected. Based on the finding, the computed *p*-value of 0.050 resulted from rounding; thus, caution should be exercised in interpreting the result, hence the acceptance of the null hypothesis that there is no significant difference in metacognition learning when analyzed by sex.

Table 3. Significance of the difference of the level of metacognition in language learning among English major tertiary students in Davao region when analyzed by sex.

Indicators	Sex			t	*p*-value*	Remarks
	Male	Female	Total			
	Mean	Mean	Mean			
MK About the Self	4.20	4.30	4.27	1.425	.233	Not Significant
MK About Language Matters	4.29	4.39	4.37	2.517	.114	Not Significant
MK About Context	4.01	4.06	4.05	.694	.406	Not Significant
MK About Learning Process	4.07	4.13	4.12	.565	.453	Not Significant
MS in Planning	3.90	4.03	4.00	1.726	.190	Not Significant
MS in Monitoring	4.06	4.11	4.10	.573	.450	Not Significant
MS in Evaluating	3.96	4.26	4.20	9.929	.002	Significant
Overall	**4.07**	**4.18**	**4.16**	**3.885**	**.050**	**Not Significant**

*value must be $p<0.05$ to be significant
Legend: MK = Metacognitive Knowledge; MS = Metacognitive Skill

Furthermore, the data reveals that English major students' metacognitive knowledge about themselves ($p>0.05$), language matters ($p>0.05$), context ($p>0.05$), and learning process ($p>0.05$), do not significantly differ based on their sexes, as all *p*-values are greater than the 0.05 level of significance. In addition, no significant difference was found in MS in planning ($p>0.05$) and monitoring ($p>0.05$), since their *p*-values also exceed the 0.05 level of significance. However, MS in evaluating demonstrated a statistically significant difference based on sex, having a p – value of 0.002, which is lesser than 0.05 level of significance.

When Analyzed by Student Type

The results of testing the significance of the difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to student type (i.e., full – time or working) is reflected in Table 4. As shown in the

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table, the overall t-value is 0.252, with a computed *p*-value of 0. 616 which is greater than 0.05, indicating that the difference between student types is not statistically significant. This suggests that any observed variation in terms of student type is likely due to random chance. Consequently, the null hypothesis is not rejected. Therefore, there is no significant difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to student type.

Table 4. Significance of the difference of the level of metacognition in language learning among English major tertiary students in Davao region when analyzed by student type.

Indicators	Type of Students			t	*p*-value*	Remarks
	Full – time	Working	Total			
	Mean	Mean	Mean			
MK About the Self	4.27	4.33	4.27	.341	.560	Not Significant
MK About Language Matters	4.38	4.34	4.37	.233	.630	Not Significant
MK About Context	4.04	4.10	4.05	.450	.503	Not Significant
MK About Learning Process	4.13	4.07	4.12	.293	.589	Not Significant
MS in Planning	4.00	3.97	4.00	.094	.759	Not Significant
MS in Monitoring	4.10	4.13	4.10	.116	.734	Not Significant
MS in Evaluating	4.17	4.41	4.20	4.003	.046	Significant
Overall	**4.15**	**4.19**	**4.16**	**.252**	**.616**	**Not Significant**

*value must be $p<0.05$ to be significant
Legend: MK = Metacognitive Knowledge; MS = Metacognitive Skill

Additionally, the data reveals that English major students' metacognitive knowledge about themselves ($p>0.05$), language matters ($p>0.05$), context ($p>0.05$), and learning process ($p>0.05$), do not significantly differ based on their student type, as all *p*-values are greater than the 0.05 level of significance. In addition, no significant difference was found in MS in planning ($p>0.05$) and monitoring ($p>0.05$), since their *p*-values also exceed the 0.05 level of significance. This implies that there is no significant difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to student type. However, MS in evaluating demonstrated a statistically significant difference based on student type ($p>0.05$).

When Analyzed by School Type

Table 5 presents the results of testing the significance of the difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to school type (i.e., public or private). As shown in the table, the

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overall t-value is 0.106, with a computed *p*-value of 0.745 which is greater than 0.05, indicating that the difference between school types is minimal and not statistically significant. This implies that the null hypothesis is not rejected. Therefore, there is no significant difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to school type.

Table 5. Significance of the difference of the level of metacognition in language learning among English major tertiary students in Davao region when analyzed by school type.

Indicators	Type of Schools			t	*p*-value*	Remarks
	Public	Private	Total			
	Mean	Mean	Mean			
MK About the Self	4.20	4.35	4.27	5.003	.026	Significant
MK About Language Matters	4.39	4.35	4.37	.705	.402	Not Significant
MK About Context	4.11	3.99	4.05	4.405	.037	Significant
MK About Learning Process	4.15	4.10	4.12	.525	.469	Not Significant
MS in Planning	4.02	3.98	4.00	.260	.611	Not Significant
MS in Monitoring	4.11	4.09	4.10	.098	.754	Not Significant
MS in Evaluating	4.19	4.20	4.20	.050	.824	Not Significant
Overall	**4.17**	**4.15**	**4.16**	**.106**	**.745**	**Not Significant**

*value must be $p<0.05$ to be significant
Legend: MK = Metacognitive Knowledge; MS = Metacognitive Skill

Examining further, the data reveals that there is a significant difference in the level of English major students' metacognitive knowledge about themselves ($p<0.05$) and about the context ($p<0.05$), when grouped based on school type as their p – values are lesser than the 0.05 level of significance. On the other hand, there is no significant difference found in the respondents' metacognitive knowledge about language matters ($p>0.05$) and about the learning process ($p>0.05$), based on their student type, as all *p*-values are greater than the 0.05 level of significance. In addition, no significant difference was found in MS in planning ($p>0.05$), monitoring ($p>0.05$), and evaluating ($p>0.05$) since their *p* – values also exceed the 0.05 level of significance. This implies that there is no significant difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to school type based on the five indicators.

Standpoints of English Major Tertiary Students in Davao Region on their Metacognition in Language Learning: A Priori Themes

Presented in Table 6 are the major themes and core ideas on the standpoints of English major tertiary students in the Davao Region on their metacognition in language learning. After analyzing the qualitative data gathered from the responses of the participants, seven *a priori* themes emerged, along with the core ideas that emerged from the responses of the two study groups: metacognitive knowledge about the self, metacognitive knowledge about language matters, metacognitive knowledge about context, metacognitive knowledge about learning process, metacognitive skill in planning, metacognitive skill in monitoring, and metacognitive skill in evaluating.

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Table 6. Themes and core ideas on the standpoints of English major tertiary students in Davao region on their metacognition in language learning.

Essential Themes (*a priori*)	Core Ideas
Metacognitive Knowledge About the Self	● Recognizing reading and text analysis as key strengths in learning English ● Having the ability to write and express ideas creatively ● Identifying lack of mastery in grammar and sentence construction as weakness ● Facing internal challenges such as low self-confidence, anxiety, and overthinking as limitations ● Considering external pressures such as societal expectations and fear of judgment as weaknesses ● Taking responsibility in learning English
Metacognitive Knowledge About Language Matters	● Viewing accurate pronunciation as essential for conveying messages clearly ● Describing vocabulary as the core element of English language learning ● Recognizing the importance of using English vocabulary correctly within appropriate contexts ● Viewing understanding English texts as essential for overall language development and proficiency ● Considering translation of English words and sentences into their mother tongue as a tool to understand difficult or unfamiliar terms ● Viewing translation as important in expanding English vocabulary ● Considering grammar as the "heart" or "core" of learning English
Metacognitive Knowledge About Context	● Recognizing that English is deeply embedded in the curriculum ● Having competitions, literary events, and performances that require English proficiency ● Associating fluency in English with higher levels of education, professionalism, and job opportunities ● Appreciating that teachers emphasize the importance of English for students' global competitiveness and career readiness ● Interacting with classmates create a space for sharing ideas
Metacognitive Knowledge About Learning Process	● Having self-awareness by identifying weaknesses and tailoring strategies to one's needs ● Leveraging various technological tools and materials to enhance English learning experience ● Shifting to more dynamic and practical strategies that prioritize understanding and application in real-life situations ● Applying preparation strategies to accomplish learning tasks

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Metacognitive Skill in Planning	● Setting goals in managing time and energy to prioritize urgent and most difficult tasks first ● Making schedules such as a written checklist or to-do list to organize tasks and track progress in studying English ● Planning how to learn English to see progress and achieve goals ● Adopting a gradual process, focusing on one skill at a time (e.g., writing, speaking)
Metacognitive Skill in Monitoring	● Reflecting on one's work after performances such as in teaching demos and speaking activities for self-review and implementing corrections in subsequent tasks ● Seeking feedback from peers, teachers, or colleagues as a pivotal tool for monitoring learning and improving pronunciation, grammar, and comprehension ● Checking learning progress by reflecting and reviewing past works to ensure understanding of English lessons ● Using online resources such as generative AI, Quillbot, YouTube, TikTok, Facebook, Quizlet, Quizziz, and Duolingo to monitor learning and enhance understanding in English ● Comparing one's abilities or outputs to peers to monitor learning process and progress
Metacognitive Skill in Evaluating	● Assessing the effectiveness of learning strategies in learning English and adjust them based on outcomes ● Utilizing feedback from various sources to evaluate and improve skills ● Evaluating previous performances to improve speech delivery techniques ● Giving oneself rewards such as food, entertainment, or leisure activities, after receiving good evaluation in English to stay motivated

Data Integration of Quantitative and Qualitative Results

To achieve data integration, quantitative and qualitative results were compared. Table 7 presents a joint display of the integrated quantitative and qualitative results, providing a clear and organized side-by-side comparison of the two datasets. Additionally, integration through merging involves analyzing and comparing both datasets, ensuring coherence between quantitative and qualitative findings. This process leads to one of three outcomes: *confirmation* (when findings align, enhancing credibility), *expansion* (when divergent findings provide additional insights), or *discordance* (when results contradict). In this study, the findings showed confirmation, as themes remained consistent across datasets, with integration achieved through merging and completed by confirmation.

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Table 7. Joint display of quantitative and qualitative results.

Research Area	Quantitative Results	Qualitative Results	Nature of Integration
1. Status of Metacognition in Language Learning (MLL)	The respondents rated all seven indicators of metacognition in language learning with an overall high mean score of 4.16, indicating that the students frequently use this approach in learning the English language.	All the seven indicators (*a priori*) in Table 1, emerged in the qualitative phase: *metacognitive knowledge about the self (MKS), language matters (MKLM), context (MKC), learning process MKLP);* and *metacognitive skill in planning (MSP), monitoring (MSM), evaluating (MSE).* The interview result confirmed the overall high mean score of metacognition in language learning in Table 1	Merging (Confirmation)
	Three indicators, *metacognitive knowledge about self* (4.27), *about language matters* (4.37) & *skill in evaluating* (4.20), were rated very high by the students, while the rest were rated high, ranging from 4.00 to 4.12	The use of *metacognitive knowledge about self* and *about language matters* were employed by most of the participants in their language learning as gathered from them during the interview. The interview result coincides with the quantitative result where these two themes (*a priori)* obtained very high mean scores. Metacognitive skill in evaluating was also claimed by the students as being practiced by them alongside MKS and MKLM and all aspects of MLL.	
2. Significance of the Difference of the overall MLL in terms of age, sex, student type, and school type	There is no significant difference in the overall MLL in terms of age ($F=.676$, $p>.05$); sex ($t=3.885$, $p>.05$); type of students ($t=.252$, $p>.05$); type of school ($t=.106$, $p>.05$)	Use of overall MLL by the informants/ participants when interview results were analyzed in terms of age, sex, type of students, and type of school, showed no substantial difference, confirming the quantitative results in Tables 2 to 5.	Merging (Confirmation)
	There are few significant differences when some indicators of MLL were analyzed singularly: MSE by sex ($t=9.29$, $p<.05$)	In terms of MSE, the analysis of the interview disclosed that some females are more adept at evaluating compared to males. This demonstrates that some female students are more serious and dedicated	Merging (Confirmation)

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		toward learning the English language compared to their male counterparts.	
	MSE by student type (t=4.003, p<.05)	For the student type, some working students are more skilled in MSE compared to full-time students as analyzed from the interviews. This is an indication that some working students take time to evaluate what they have learned in the English language compared to full-time students	Merging (Confirmation)
	MKS by school type (t=5.003, p<.05)	There are few cases where students from private schools have more metacognitive knowledge about self, compared to those from public schools. This shows that some students from private schools are aware of their strengths and weaknesses when it comes to learning the language.	Merging (Confirmation)
	MKC by school type (t=4.405 p<.05)	Analysis of the interview results revealed that there are few cases where students from the public schools have more metacognitive knowledge about context compared to those from the private schools. This indicates that some students in public schools are aware of the available opportunities if they excel in the English language.	Merging (Confirmation)

Status of Metacognition in Language Learning (MLL). The main variable, metacognition in language learning, had an overall mean of 4.16 with a descriptive level of high. This means that English major students frequently use metacognition in language learning. In this variable, three indicators, metacognitive knowledge about self (4.27), about language matters (4.37), and metacognitive skill in evaluating (4.20), were rated very high by the students, while the rest were rated high, ranging from 4.00 to 4.12. In qualitative phase, all seven indicators (a priori) in Table 1, emerged in the qualitative phase: metacognitive knowledge about the self (MKS), language matters (MKLM), context (MKC), learning process (MKLP); and metacognitive skill in planning (MSP), monitoring (MSM), evaluating (MSE). The interview result confirmed the overall high mean score of metacognition in language learning (see Table 1). Thus, the nature of integration is merging – confirmation.

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Significance of the Difference of the Overall MLL in terms of Age, Sex, Student Type, and School Type. In the quantitative phase, it was found out that there is no significant difference in the overall MLL in terms of age, sex, student type, and school type (see Tables 2, 3, 4, and 5). Likewise, the qualitative phase was on the same ground with the quantitative results for the grouping variables. The participants' use of the overall MLL, as analyzed through interview results across the same variables—age, sex, student type, and school type—showed no notable differences, confirming the quantitative results in Tables 2 to 5. Therefore, the nature of integration is merging – confirmation.

However, it is important to note that while the overall MLL showed no significant differences, a few notable variations emerged when specific indicators of MLL were analyzed individually. For instance, the participants' experiences with metacognition, particularly in terms of the metacognitive skill in evaluating (MSE), revealed a significant difference when analyzed by sex (see Table 3). In terms of MSE in the qualitative phase, the analysis of the interview disclosed that some females are more adept at evaluating compared to males. This demonstrates that some female students are more serious and dedicated toward learning the English language compared to their male counterparts. Therefore, the nature of integration is still merging – confirmation.

Additionally, when the indicators were analyzed individually in terms of student type, the metacognitive skill in evaluating (MSE) showed a significant difference (see Table 4). This was corroborated by the qualitative results as some working students are more skilled in MSE compared to full-time students, as analyzed from the interviews. This is an indication that some working students take time to evaluate what they have learned in the English language compared to full-time students. Based on this comparison, the nature of integration is merging – confirmation. Similarly, when the indicators were analyzed individually in terms of school type, the metacognitive knowledge about self (MKS) showed a significant difference (see Table 5). In the qualitative phase, participants' responses indicated a few instances where students from private schools demonstrated greater metacognitive knowledge about themselves compared to those from public schools. This suggests that some private school students are more aware of the strengths and weaknesses they have in learning the language. Based on this comparison, the nature of integration is merging – confirmation.

Furthermore, the metacognitive knowledge about context (MKC) showed a significant difference when the indicators were analyzed independently in terms of school type (see Table 5). Meanwhile, the analysis of the interview results revealed a few instances where students from public schools exhibited greater metacognitive knowledge about context compared to those from private schools. This suggests that some public-school students are more aware of the opportunities available to them if they excel in the English language.

Intervention Design

Based on the items from the survey which garnered relatively low mean scores within the category of high-level ratings, the study proposes an intervention program:

I. Title: "Meta-BOOST: Building Optimized Strategies for Transforming English Learning"

II. Rationale: Metacognition is a potentially powerful yet often underutilized tool for enhancing undergraduate students' success in studying the English language. Drawing inspiration from the results of this study, the Meta-BOOST intervention program is proposed. It is designed to enhance the metacognitive knowledge and skills of English major tertiary students. Many English major tertiary students struggle with knowing themselves as a learner, the language context, planning, monitoring, and evaluating thinking in language learning, which are essential

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components of metacognition. These challenges can hinder their academic performance and confidence, particularly as future language teachers who must model effective learning strategies for their students. By incorporating structured activities that promote goal setting, self-monitoring, and adaptive learning strategies, Meta-BOOST aims to cultivate a deeper awareness of the learning process. This program aligns with the growing emphasis on learner autonomy in higher education, equipping students with essential skills to navigate complex linguistic challenges and continuously improve their English proficiency.

The word "Meta" is a clipped form of the word "metacognition," which is the main variable of the study. While BOOST is an acronym of the general objectives of the intervention program: *B*roaden awareness of the social and professional advantages of learning English; *O*ptimize collaboration be-tween students and teachers to foster a supportive learning environment; *O*rganize self-monitoring and evaluation practices for effective English study; *S*hift reliance from classroom discussion to real – life interactions for better language acquisition; and *T*ransform learning habits to sustain long-term growth in English proficiency. This framework emphasizes a holistic approach to enhancing students' English language skills.

The program will focus on developing their understanding of the socio-cultural context of English proficiency, improving their ability to plan and monitor their study practices, and refining their approach to language learning—especially in relation to translation and language matters. The aim is to empower students with effective strategies to take control of their English learning, fostering greater self-regulation, self-awareness, and motivation.

III. Proposed Intervention Program: Table 8 shows the proposed intervention program. This outlines the areas of concern as identified based on the low rated items, the objectives of the activities, the specific strategies or learning activities to be employed, the expected outcomes, the individuals and offices involved, and the target timeline for implementation.

Table 8. Proposed intervention program Meta-BOOST: building optimized strategies for transforming English learning.

Areas of Concern	Objectives	Strategies/Activities	Output	Person/Office Responsible	Timeline
MK About Context - *People in the Philippines who can speak English well have a better social status (e.g., they make more money, they are more educated, etc.)*	● To help students understand the broader social and professional benefits of learning English	● Host *awareness sessions and discussions* on the socio-economic and educational advantages of English proficiency in the Philippines (e.g., better job opportunities, enhanced social status). ● Conduct *role-playing activities* where students practice discussing the importance of English in their lives and communities.	● Students create *presentations or written reflections* about how English can shape their future.	● Dean ● Program Head ● English Teachers ● Students	Once per Semester

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MK About Context *-Feeling their English teacher is like a friend.*	• To foster a positive and collaborative relationship between students and teachers, enhancing motivation and engagement in learning English.	• Provide opportunities for *informal social events* (e.g., *kapehan* session, *study circles, online discussions*) where students and teachers interact in a less formal setting, reinforcing the teacher's role as a mentor and friend.	• Students *provide feedback* on their learning experiences, including how teacher-student interaction influences their learning.	• Dean • Program Head • English Teachers • Students	Once a month
MS in Monitoring *- Trying to study English regularly even with limited time.* MS in Planning *- Making my schedule, so I'll have enough time to study English.*	• To develop students' ability to regularly monitor and evaluate their own English study practices.	• Introduce a *time management system* where students track their study schedules and activities, reflecting on how consistent study habits improve their language proficiency. • Use *mobile apps or planners* to set weekly goals for English practice (e.g., pronunciation, reading, vocabulary) and track progress. • Conduct *group sessions* where students share their study challenges and successes, offering advice on maintaining regular study routines.	• Students submit *weekly study logs* detailing their learning activities, reflections on time management, and adjustments made for improvement.	• Dean • Program Head • English Teachers • Students	Once a week

Discussion

This section discusses the results of the study guided by relevant scholarly works and findings, ensuring a thorough and objective interpretation of the data.

Status of Metacognition in Language Learning among English Major Tertiary Students in Davao Region

The metacognition in language learning among English major tertiary students in Davao Region has obtained a descriptive level of high. This means that English major students frequently use metacognition in language learning. This result is aligned with the findings of the study of Nguyen and Habók (2023), which indicated a high level of metacognitive knowledge of the self and the learning context. Similarly, their study found that a large proportion of students

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surveyed in Vietnam thought that they understood their own personalities, took responsibility for the success or failure of their language learning and were aware of the strengths and weaknesses they have in learning English. Additionally, Thawarom et al. (2022) reported that Thai university students exhibited relatively high metacognitive knowledge, utilizing strategies such as vocabulary, planning, and problem-solving.

In addition, the result corresponds with the study of Subramaniam et al. (2024), which found a high use of metacognitive knowledge in language matters and language process among university students in Malaysia, indicating that they actively engage in assessing and managing their own learning. Also, Setyaningsih and Rahmawati (2022) reported that high-level metacognition among students is characterized by effective use of planning, monitoring, and evaluation indicators. In their study, students with high self-regulated learning demonstrated proficiency in all three indicators of metacognitive skill.

Significance of the Difference on the Level of Metacognition in Language Learning Among English Major Tertiary Students When Analyzed by Age, Sex, Student Type, and School Type

When Analyzed by Age

There is no significant difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to respondents' ages. Moreover, all indicators showed no significant difference when analyzed by age groups. In other words, across all age categories, respondents are on equal footing in their metacognitive knowledge and metacognitive skills in learning the English language. This result aligns with the findings of Veenman and Spaans (2005), which showed that metacognition tends to be consistent among students, with no significant differences observed based on age among tertiary learners. Their findings suggest the possibility that, regardless of age, metacognitive knowledge and skills transcend various domains. Additionally, the findings of Khezrlou (2012) indicated no significant differences in the use of metacognitive strategies between young and adult learners. This suggests that age does not play a crucial role in the metacognitive approaches of tertiary students in language learning contexts.

When Analyzed by Sex

There is no significant difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to sex. Moreover, the data indicates that English major students' metacognitive knowledge regarding themselves, language-related matters, context, and the learning process does not vary significantly by sex. Similarly, no notable differences were observed in their metacognitive skills related to planning and monitoring. However, a significant difference was identified in their metacognitive skill in evaluating based on sex. Similar observations were made in the study conducted by Garzón et al. (2020), where it was reported that there are no significant differences in metacognitive skills between men and women. Also, in the study of Filho and Bruni (2017), no significant difference was found in the metacognition of respondents based on the sex variable. Moreover, Onat (2012) conducted research to assess the metacognitive awareness levels of higher education students preparing to become teachers across various subject areas. The statistical analyses revealed no relationship between gender and the dimensions of

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metacognition measured by the specified instrument. In addition, in Turkey, Ozcakmak et al. (2021) also found no significant difference in terms of gender among the pre-service teachers' levels of metacognitive knowledge.

When Analyzed by Student Type

There is no significant difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to student type. Moreover, the data reveals that English major students' metacognitive knowledge about themselves, language matters, context, and learning process, do not significantly differ based on their student type. In addition, no significant difference was found in the metacognitive skill in planning and monitoring. However, metacognitive skill in evaluating demonstrated a significant difference based on student type. This result is comparable with the study of Wozniak (2015), which argued that full-time students typically exhibit higher levels of academic success linked to their metacognitive skills, as they can dedicate more time to learning. Also, Sembiring (2022) cited that working student, while facing additional pressures, can develop strong metacognitive strategies to manage their dual responsibilities, which can enhance their learning efficiency.

When Analyzed by School Type

There is no significant difference in the level of metacognition in language learning among English major tertiary students in Davao Region when analyzed according to school type. However, when analyzed singularly, the data reveals that there is a significant difference in the level of English major students' metacognitive knowledge about themselves and about the context, when grouped based on school type. On the other hand, there is no significant difference found in the respondents' metacognitive knowledge about language matters and about the learning process, based on their student type. In addition, no significant difference was found in the metacognitive skill in planning, monitoring, and evaluating. The result corresponds with the study of Hermita and Thamrin (2015), which revealed a high level of metacognition among scholar students in a private university in Indonesia. Based on their report, students who understand their metacognitive processes are more confident in their academic abilities. On the other hand, in the context of the public school in Indonesia, Irwanto et al. (2024) emphasized that metacognitive skills are essential for students to overcome challenges in the 21st century.

Standpoints of English Major Tertiary Students in Davao Region on their Metacognition in Language Learning: A Priori Themes

Metacognitive Knowledge About Self. The participants of the study recognized reading and text analysis as key strengths in learning English, alongside the ability to write and express ideas creatively. However, they also identified weaknesses, such as a lack of mastery in grammar and sentence construction, as well as internal challenges like low self-confidence, anxiety, and overthinking. Additionally, some participants considered external pressures, such as societal expectations and fear of judgment, as limitations. Despite these challenges, they emphasized their responsibility in learning English.

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In line with this theme, Nguyen and Habók (2023) reported that students who participated in their study believed that they comprehended their own personalities, accepted responsibility for the failure or success of their language learning. They could also identify their strengths and weaknesses in learning English. Moreover, Aknazarova and Shavkat (2022) posited that metacognitive knowledge about self among tertiary students involves their awareness and understanding of their own learning processes. This knowledge affects their academic achievements across various subjects, including second language learning. Though metacognition stands as a fundamental process in human learning, learners frequently lack awareness of it as argued by Ozturk (2021). However, the findings of the same study demonstrate that students with heightened metacognitive awareness comprehend task requirements better, finding tasks easier, particularly when engaged in increased collaboration.

Metacognitive Knowledge About Language Matters. The interviewees perceived accurate pronunciation as essential for conveying messages clearly and described vocabulary as the core element of English language learning. They also highlighted the importance of using vocabulary correctly within appropriate contexts and highlighted understanding English texts as vital for overall language development and proficiency. Many participants deemed translating English words and sentences into their mother tongue as a helpful tool for grasping difficult or unfamiliar terms, viewing translation as important for expanding their English vocabulary. Additionally, they regarded grammar as the "heart" or "core" of learning English.

This theme is supported by Taghinezhad et al. (2016) who stated that pronunciation is crucial for effective communication, as it directly influences how messages are conveyed. It was also highlighted that incorrect pronunciation can lead to misunderstandings, making it essential for language learners to master sound recognition and production to ensure clear communication. Also, Qizi (2023) cited that grammar is considered the backbone of language, essential for effective communication since it provides the rules for constructing meaningful utterances, making it a crucial component in learning English. Grammar also influences language proficiency and comprehension in diverse contexts. Furthermore, Devdariani and Rubtsova (2021) pointed up that grammar is vital in learning the English language, serving as the basis for vocabulary, sentence construction, and fluency. They also argued that mastering grammar is essential for effective communication and overall language proficiency.

Metacognitive Knowledge About Context. The participants acknowledged that English is deeply embedded in their school curriculum. They highlighted its role in competitions, literary events, and performances requiring English proficiency. Some of the interviewees associated fluency in English with higher education levels, professionalism, and job opportunities, while others appreciated the fact that their teachers give emphasis on the importance of English for global competitiveness and career readiness. Additionally, they acknowledged that having interactions with their classmates provide a valuable space for sharing ideas and enhancing their English skills.

In line with the result, Dvoretskaya (2016) stated that the embedding of English in the tertiary curriculum is increasingly recognized as essential for enhancing academic literacy and supporting diverse student populations. English is integral to the curriculum for tertiary students, particularly in bilingual programs, enabling them to master the language in a professional context, prepare for international studies, and engage with English-language resources essential for academic success and research. Meanwhile, in the study of Nguyen and Habók (2023) in relation to metacognitive knowledge

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about context, they reported that most students have knowledge about the learning context around them. Their participants corresponded that there are different learning opportunities to learn English in Vietnam. Further, they deemed that Vietnamese who are proficient in English will have a better social status such as they could generate more money and are more learned. Furthermore, in line with the result, Bogachevska (2023) reported that fluency in English is essential for higher education and professional competence, as it enhances communication skills, increases employment prospects, and meets the demands of a globalized job market, ultimately providing better opportunities for career self-realization and advancement.

Metacognitive Knowledge About Learning Process. The interviewees shared varied insights into their metacognitive knowledge about their language learning process. They demonstrated self-awareness by identifying weaknesses and tailoring strategies to their needs. Many leveraged technological tools and materials to enhance their English learning experience, while others shifted to more dynamic and practical strategies that emphasized understanding and real-life application. Additionally, participants applied preparation strategies to effectively accomplish learning tasks, showcasing their proactive approach to language learning.

In parallel to this result, Rahman et al. (2021) stated that metacognitive knowledge about the learning process as an element of metacognition means that students can examine and determine how to conduct their learning process. In addition, metacognitive knowledge is vital in learning and studying because it allows students to identify their strengths and shortcomings (Rogers, 2018), while also deepening their knowledge of methods and knowing how, when, and why to utilize them (Harrison & Vallin, 2018). Similarly, in the study of Anderson (2002) as cited by Rahman et al. (2021), most of their participants often pick and implement learning tactics. They indicated that they believe they have sufficient learning experience and understand their personal characteristics to determine which learning technique is best suited to achieving their learning goals. Additionally, using metacognitive knowledge in the language process is knowing the importance of recognizing strengths and weaknesses.

Metacognitive Skill in Planning. Participants emphasized setting goals to manage their time and energy, prioritizing urgent and challenging tasks first. Majority of them crafted schedules, such as checklists or to-do lists, to organize tasks and track progress in studying English, while others highlighted the importance of planning the learning strategies, they should do to achieve goals and see progress. Moreover, they implemented a gradual approach by focusing on one skill at a time, such as writing or speaking, to enhance their language proficiency systematically.

This theme aligns with the finding of Tang (2019) that students with a high level of metacognition exhibit strong planning, commitment, self-control, and insight. Students can flexibly address learning challenges, select appropriate learning goals and methods, ultimately leading to improved academic performance and effective learning performance. Further, the result is parallel with Rahman et al. (2021), where most of their participants claimed to prepare and plan for their learning; however, some did not, leading them to conclude that preparation ingredients vary significantly since some participants concentrate on the learning strategy, while others focus on preparing learning materials.

Metacognitive Skill in Monitoring. Most of the interviewees talked about reflecting on their work after teaching demos and speaking tasks, while others shared about using self-review to implement corrections in future performances. Some sought feedback from their peers, teachers, or colleagues as a key tool for improving their pronunciation, grammar, and comprehension. Also, the participants monitored

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their progress by reviewing their previous outputs to ensure that they understood their English lessons. They also utilized online resources like generative AI, Quillbot, YouTube, TikTok, Facebook, Quizlet, Quizizz, and Duolingo to enhance their learning. Additionally, they compared their abilities and outputs with those of their peers to track their learning process and progress.

This result is supported by Handel et al. (2023), who reported that students use metacognitive skill in monitoring to assess whether their learning behaviors, including implemented strategies and procedures, are effective in achieving their goals. They also stated that pausing to reflect on the effectiveness of the current approach is one of the strategies for monitoring learning progress. Moreover, Papanastasiou and Stylianou-Georgiou (2022) suggested that students can evaluate whether they are employing adequate and helpful learning strategies. Additionally, during the preparation phase after engaging in quizzing, students can make judgments metacognitively about their comprehension. Furthermore, Stanton et al. (2021) stated that monitoring both their use of learning strategies and their understanding of concepts is crucial for students. Similarly, Raisanen et al. (2016) suggested that it is essential for students to check and reflect their progress in learning.

Metacognitive Skill in Evaluating. Participants assessed the efficacy of their learning strategies for English and adjusted them based on outcomes. Most of them utilize feedback from various sources to evaluate and enhance their skills. Others focused on improving speech delivery techniques through self-evaluation of past performances. Also, they motivated themselves by giving rewards, such as food, entertainment, or leisure activities, after receiving positive evaluations in English.

This result is supported by Rosdiana et al. (2023), who stated that metacognitive skills in evaluation among tertiary students involve assessing their writing processes through reflection and self-regulation. This includes evaluating their strategies, monitoring progress, and adjusting approaches, which significantly contributes to improving their academic writing abilities. Additionally, Stanton et al. (2019) discussed that learners with high evaluation skills know how to identify and implement strategies as part of their study plans. They can evaluate the efficiency of their strategies as well as their overall plans in learning.

Data Integration of Quantitative and Qualitative Results

The nature of data integration in the status of metacognition in language learning (MLL) is merging – confirmation. According to Fetters et al. (2013), confirmation occurs when the findings from both data confirm and validate each other. In this study, confirmation is seen in the high level of MLL which was indicative that students frequently use metacognitive approach in learning the English language. Specifically, all seven indicators identified in the quantitative phase were reflected as *a priori* themes in the qualitative phase: metacognitive knowledge about the self (MKS), language matters (MKLM), context (MKC), learning process (MKLP); and metacognitive skills in planning (MSP), monitoring (MSM), and evaluating (MSE). Consequently, the qualitative interview results confirmed the high mean score of metacognition in language learning observed in the quantitative phase.

The result corresponds with the Ridlo and Lutfiya's (2016) finding, that most college students exhibited a high level of metacognition. Their finding suggests that students possess strong awareness and regulation of their cognitive processes, which can positively influence their academic performance and self-efficacy. Also, the result relates with the study of Raoofi et al. (2014), where metacognition is pointed out as a key factor that can determine the effectiveness of language learning. They acknowledged that the use of

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metacognition is helpful in enhancing language proficiency. This finding that learners with these skills possess a higher level of understanding of their learning process further underscores the need for metacognitive strategies even more.

Additionally, the finding is aligned with those of Nguyen and Habók (2023), who also investigated metacognitive knowledge (MK) and metacognitive skills (MS) in English language learning. MK involves understanding oneself, language-related aspects, the learning context, and the learning process, while MS includes planning, monitoring, and evaluating. Both are essential for successful language learning. Nguyen and Habók's study also reported strong consistency between quantitative and qualitative data, with non-English-major students showing good MK regarding themselves and their learning context. However, it is noteworthy that their respondents differed from the current study, which focused on English-major students.

In the area of significant difference of the MLL, it was found out that there is no significant difference in the overall MLL in terms of age, sex, student type, and school type (see Tables 2, 3, 4, and 5). Similarly, the qualitative results supported these quantitative findings, as they aligned with the a priori themes. Therefore, the nature of data integration is characterized as merging-confirmation.

This finding is parallel with the result of various studies on metacognition such as the study of Nazik et al. (2014), which reported no significant differences in metacognition levels among students based on age. Similarly, Al-Hiwalani (2014) reported that although age differences existed among students, they did not influence the metacognitive levels measured in the study. Also, Gula et al. (2024) found no significant differences in the metacognitive skills among students in terms of sex, suggesting that it may not play a significant role in these cognitive abilities in certain educational contexts. Similarly, Muhammad et al. (2024) revealed that the metacognitive levels of students do not vary significantly in terms of sex or gender.

Conclusion

The English Major tertiary students in Davao Region of the study have a high level of metacognition in language learning. This means that English major students frequently use metacognition in language learning.

The quantitative findings of the study were further strengthened by the essential themes that emerged during the thematic analysis of the qualitative data. These themes provided deeper insights and context, which helped to explain and support the numerical data. The *a priori* themes ensured reliability and consistency in the findings and generally confirm and verifies the quantitative results of the study. Seven essential themes emerged from the study: metacognitive knowledge about the self, metacognitive knowledge about language matters, metacognitive knowledge about context, metacognitive knowledge about learning process, metacognitive skill in planning, metacognitive skill in monitoring, and metacognitive skill in evaluating.

Additionally, there are no significant differences found in the level of metacognition in language learning among the respondents when analyzed by age, sex, student type, and school type.

The data integration through merging of quantitative and qualitative datasets ensured coherence between quantitative and qualitative findings. The process achieved integration through merging and completed it with confirmation, providing a comprehensive understanding of metacognition in language learning among English major tertiary students.

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Recommendations

The Commission on Higher Education (CHED) may utilize the findings of this study to develop evidence-based policies and issue directives that encourage higher education institutions (HEIs) to integrate metacognitive approaches into English language education, promoting reflective and self-regulated learning among students. On an institutional level, HEI administrators or Education program heads may consider implementing the proposed intervention program, particularly in areas identified by survey items with relatively low mean scores, despite being within the high-level rating category. In terms of policy implications, the study underscores the need for integrating metacognitive strategies into curriculum design, instructional practices, and teacher training programs. Policies may be developed to mandate or recommend the inclusion of metacognitive components in English language syllabi and promote assessment tools that measure students' metacognitive growth.

It is also recommended to the school administrators to provide professional development for English language teachers on metacognitive pedagogies, ensuring they are well-equipped to support students' metacognitive development. Also, program heads may establish programs that support reflective and self-regulated to further enhance language proficiency and academic success of students. With these, higher education institutions may build a more effective and supportive learning environment for students.

It is also recommended to explore other variables that could serve as comparators and predictors since there is an absence of significant differences in terms of age, sex, student type, and school type in the metacognition in language learning among respondents. One of these potential variables is the socioeconomic status (SES), including factors such as family income and parental occupation, as SES influences access to resources and educational opportunities, which can impact the metacognitive development of language learners. Another variable to consider is the students' proficiency in the English language, as higher proficiency could be associated with more advanced metacognitive skills such as planning, monitoring, and evaluating the learning processes. In addition, since the grouping variables considered in the study do not show significant variation, it is recommended that intervention programs or other uniform strategies and activities be implemented to enhance metacognitive knowledge and skills across diverse student populations.

Furthermore, future researchers may build upon the findings of this study by studying a different population or exploring other aspects of metacognition in language learning, such as its relationship with other variables such as motivation, cultural influences, and technology integration. They may also conduct longitudinal studies to assess the long-term impact of metacognitive strategies on language proficiency or investigate its application across different learner groups, disciplines, or educational contexts. Through these, they may contribute to a deeper understanding of metacognition and its broader implications in education.

Limitations

It was challenging to gather an equal number of respondents across key demographic variables such as age, sex, student type, and school type, which may have influenced the balance and representativeness of the data. Also, this study was limited to respondents enrolled in the Bachelor of Secondary Education major in English program. As such, the findings may not be generalized to students from other academic programs or disciplines. Furthermore, given that the study relies on self-reported data regarding students' metacognition in English language

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learning, there is a potential for bias, thereby influencing the reliability of the findings.

Patents

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