

## Language Learning Strategies Among Student Teachers: Frequency, Specializations, and Pedagogical Implications

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### Abstract

This study examined the language learning strategies (LLS) employed by fourth-year Bachelor of Secondary Education (BSED) students at Negros Oriental State University Main Campus I, with particular attention to the frequency and variation of strategy use across academic specializations. Anchored in Oxford's (1990) taxonomy of language learning strategies and guided by a descriptive-comparative research design, the study sought to identify the extent to which student teachers utilize direct strategies, memory, cognitive, and compensation, and indirect strategies, metacognitive, affective, and social. A total of 132 respondents from six specializations (English, Filipino, Mathematics, Sciences, Social Studies, and Values Education) participated in the study, with data gathered through the Strategy Inventory for Language Learning (SILL) and analyzed using weighted mean and inferential statistics. The findings revealed that student teachers employ all six categories of language learning strategies at a generally high level, indicating active and strategic engagement in their language learning processes. Among the strategy types, metacognitive strategies emerged as the most frequently used, reflecting strong tendencies toward planning, monitoring, and self-evaluation, followed by cognitive and social strategies that support active language use and interaction. Memory and compensation strategies were also commonly employed, although certain specific techniques within these categories were used only moderately. Affective strategies, while used at a high level overall, showed relatively less variation across indicators, suggesting consistent patterns of emotional regulation among learners. Inferential analysis further demonstrated that significant differences exist in the use of memory, cognitive, compensation, metacognitive, and social strategies when grouped according to specialization, while no significant difference was found in affective strategies. English and Values Education majors consistently reported higher and more varied strategy use, whereas Mathematics and Social Studies majors demonstrated comparatively lower levels in several categories. These results affirm that academic specialization influences learners' strategic behavior, reflecting the differing linguistic and cognitive demands associated with each discipline. The study underscores the importance of integrating explicit language learning strategy instruction within teacher education programs. In recognizing both the strengths and gaps in students' strategic practices, educators and curriculum developers can design more responsive and specialization-sensitive interventions that foster learner autonomy, communicative competence, and reflective practice. Ultimately, the findings contribute to a more nuanced understanding of how future teachers engage with language learning and highlight the need to cultivate strategic awareness as a core component of effective teacher preparation.

**Keywords:** Language Learning Strategies, Pre-Service Teachers, Specialization Differences, English Language Learning

### 1. Introduction

The study of how individuals learn a second language has remained a central concern in contemporary education, particularly as English continues to function as the global medium of academic, professional, and intercultural communication. In increasingly interconnected societies, proficiency in English is no longer confined to language specialists but has become an essential competency for learners across disciplines. This reality is especially significant for student teachers, who are not only expected to master subject content but also to model effective language use in their future classrooms. As educational paradigms shift toward learner-centered approaches, greater emphasis is placed on the active role of learners in shaping their own linguistic development. Within this context, language learning strategies (LLS) have emerged as a critical construct, referring to the conscious, goal-directed actions that learners employ to acquire, process, and retain language knowledge. These strategies encompass cognitive, metacognitive, affective, social, and compensatory dimensions, highlighting the multifaceted nature of language learning as both an intellectual and experiential process.

Extensive research has documented the importance of LLS in enhancing language proficiency and learner autonomy. Oxford (1990) categorizes these strategies into direct and indirect types, illustrating how learners engage with language both cognitively and through regulatory processes such as planning, monitoring, and emotional management. Subsequent studies have consistently demonstrated that learners who actively employ a range of strategies tend to achieve higher levels

of linguistic competence and self-regulation. For instance, Alrashidi (2022) and Zou and Lertlit (2022) reported the dominance of metacognitive strategies among university learners, emphasizing their role in fostering independent learning. Similarly, Wang et al. (2024) highlighted that explicit strategy instruction significantly improves both language achievement and learner autonomy. In the Philippine context, studies by Arbon and Paríña (2018), Rodriguez (2023), and Soliman and Gorospe (2024) have shown that Filipino learners utilize diverse strategies, with metacognitive strategies frequently emerging as the most prominent. These findings collectively suggest that LLS are integral to effective language acquisition and are shaped by both individual and contextual factors.

Despite this growing body of literature, a critical gap remains in understanding how language learning strategies are utilized within teacher education programs, particularly when examined across different academic specializations. Most existing studies focus on English majors or general student populations, offering limited insight into how pre-service teachers from various disciplines engage with language learning. This gap is significant because specialization influences not only the linguistic demands placed on learners but also their cognitive orientations and learning preferences. Student teachers in fields such as Mathematics, Sciences, or Social Studies may approach language learning differently from those in English or Filipino, yet these variations remain underexplored in the Philippine context. Furthermore, the connection between strategy use and pedagogical readiness among future educators has not been sufficiently examined, leaving an incomplete understanding of how strategic learning behaviors may translate into teaching practice.

In response to these gaps, the present study aims to identify and compare the language learning strategies most frequently used by fourth-year Bachelor of Secondary Education (BSED) students across different specializations at Negros Oriental State University. Specifically, it seeks to determine the demographic profile of student teachers in terms of specialization; examine the extent to which they employ direct and indirect language learning strategies, including memory, cognitive, compensation, metacognitive, affective, and social strategies; assess whether significant differences exist in strategy use across specializations; and explore the pedagogical implications of these patterns for teacher education. Through this investigation, the study intends to contribute to a more nuanced understanding of how future educators engage with language learning and how such engagement can inform more responsive and effective instructional practices.

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## **2. Material and methods**

### **2.1 Research Design**

This study employed a quantitative descriptive-comparative research design to examine the language learning strategies (LLS) used by fourth-year Bachelor of Secondary Education (BSED) students. The descriptive component was utilized to identify the frequency and types of strategies employed by the respondents. The comparative aspect enabled the analysis of differences in strategy use across academic specializations. This research design was considered appropriate because the study aimed to describe naturally occurring patterns and determine whether statistically significant differences existed among groups without manipulating any variables. Through this approach, the study was able to determine both the overall strategic behavior of student teachers and the variations influenced by their academic specializations.

### **2.2 Locale of the Study**

The study was conducted at Negros Oriental State University Main Campus I during the academic year 2025–2026. The institution serves as one of the major state universities in Negros Oriental and offers various teacher education programs under the College of Teacher Education. The locale was selected because it houses fourth-year BSED students from different specializations, making it suitable for examining variations in language learning strategies among student teachers.

### **2.3 Respondents of the Study**

The respondents of the study consisted of one hundred thirty-two (132) fourth-year Bachelor of Secondary Education students enrolled at Negros Oriental State University Main Campus I during the academic year 2025–2026. The participants represented six academic specializations, namely English with eighteen (18) students, Filipino with twenty-five (25) students, Mathematics with fifteen (15) students, Sciences with twenty-six (26) students, Social Studies with twenty-four (24) students, and Values Education with twenty-four (24) students. These respondents were selected because they were student teachers who had sufficient exposure to language learning experiences relevant to the objectives of the study.

### **2.4 Sample and Sampling Procedure**

The study employed total population sampling. Since the number of fourth-year BSED students was manageable, all qualified students were included as participants in the study. This sampling procedure ensured complete representation of all specializations within the College of Teacher Education. The inclusion of the entire population strengthened the reliability and validity of comparative analysis by minimizing sampling bias and ensuring that all groups were adequately represented.

## 2.5 Research Instrument

The study utilized an adopted questionnaire known as the Strategy Inventory for Language Learning (SILL) developed by Rebecca Oxford in 1990. The instrument is widely used in assessing language learning strategies across different educational contexts. It consists of six subscales, namely memory strategies, cognitive strategies, compensation strategies, metacognitive strategies, affective strategies, and social strategies. Each item in the questionnaire was measured using a five-point Likert scale ranging from 5 (Always) to 1 (Never) to determine the frequency of strategy use among the respondents. The instrument demonstrated excellent reliability with a Cronbach's alpha of 0.9655, indicating high internal consistency and suitability for the present study.

## 2.6 Data Gathering Procedure

The data gathering process followed a systematic procedure. Formal permission to conduct the study was first secured from the Dean of the College of Teacher Education and the University Registrar of Negros Oriental State University Main Campus I. Upon approval, printed copies of the questionnaire were distributed to the identified respondents. Before answering the instrument, the participants were informed about the objectives and purpose of the study. They were also assured that their responses would remain confidential and would be used solely for academic purposes. Informed consent was obtained from all respondents prior to data collection. After the questionnaires were completed, the researcher collected, organized, and prepared the responses for statistical analysis.

## 2.7 Data Analysis Techniques

The study employed both descriptive and inferential statistical techniques in analyzing the gathered data. Frequency and percentage were used to describe the demographic profile of the respondents. Weighted mean was utilized to determine the level of language learning strategy use across the identified categories. To determine significant differences in language learning strategy use among the six specializations, a one-way Analysis of Variance (ANOVA) was applied. When significant differences were identified, Tukey's Honest Significant Difference (HSD) test was used as a post hoc analysis to determine which groups significantly differed from one another. These statistical procedures enabled systematic and objective interpretation of the data and ensured the accuracy of the study findings.

## 2.8 Ethical Considerations

The researcher observed proper ethical standards throughout the conduct of the study. Formal approval was secured from the appropriate university authorities before data collection commenced. The respondents were informed about the purpose and significance of the study prior to their participation. Participation in the study was voluntary, and respondents were given the freedom to decline participation if they wished. Informed consent was obtained from all participants before the administration of the questionnaire. The confidentiality and anonymity of the respondents were strictly maintained by ensuring that no personal identifying information was disclosed in the study. All collected data were used solely for academic and research purposes.

## 3. Results and Discussion

### 3.1 Demographic profile of student teachers in terms of their major or specialization

Table 1 *Students' Demographic Profile in terms of their Major or Specialization*

| Specialization   | Frequency  | Percentage (%) |
|------------------|------------|----------------|
| English          | 18         | 14             |
| Filipino         | 25         | 19             |
| Sciences         | 26         | 20             |
| Mathematics      | 15         | 11             |
| Social Studies   | 24         | 18             |
| Values Education | 24         | 18             |
| <b>Total</b>     | <b>132</b> | <b>100</b>     |

The data in Table 1 reveal that the 132 student teachers are distributed across six specializations, with Sciences comprising the largest proportion (20%), followed by Filipino (19%), Social Studies (18%), and Values Education (18%). English majors account for 14%, while Mathematics has the smallest share at 11%. This distribution suggests a relatively balanced representation across disciplines, although certain fields, particularly Sciences and language-related specializations, are more prominent within the cohort. Such variation provides a meaningful basis for examining how disciplinary background may relate to differences in language learning strategy use.

These findings are consistent with patterns noted in the literature, where enrollment trends in teacher education often reflect broader academic and institutional priorities. Programs such as Science and English Education tend to attract higher participation due to their perceived relevance and employability (Michael, 2024), while the sustained presence of Filipino,

Social Studies, and Values Education majors reflects an ongoing emphasis on culturally grounded and values-oriented instruction (Aboagye & Dlamini, 2021). Moreover, the role of specialization in shaping learners' cognitive engagement and strategic behavior has been highlighted in previous studies, which suggest that disciplinary orientation influences how students approach language learning tasks (He et al., 2023; Sarici, 2024). In particular, language and humanities majors often demonstrate more reflective and communicative tendencies, whereas other fields may engage differently with linguistic demands (Gu & Sharil, 2024; Posselt & Nuñez, 2022).

The differences observed in the distribution may be explained by a combination of curricular demands, student interest, and perceived career pathways. Specializations such as Sciences and Filipino may draw more students due to their alignment with national educational priorities and broader applicability, while Mathematics may have fewer enrollees due to its more specialized and technical nature. At the same time, the comparable representation of Social Studies and Values Education suggests a balanced institutional focus on both academic content and socio-cultural development. These variations are not merely numerical; they reflect distinct learning environments that shape how students interact with language, potentially influencing the frequency and type of strategies they employ (Lin et al., 2025; Freeling-Blackburn, 2025).

From a pedagogical perspective, the diversity of specializations underscores the importance of contextualizing language learning within teacher education. Since student teachers come from varied disciplinary backgrounds, a one-size-fits-all approach to strategy instruction may not be sufficient. Instead, programs should consider integrating language learning strategies in ways that are responsive to the specific demands of each field, ensuring that all future educators develop the linguistic competence necessary for effective instruction. As suggested in prior research, such diversity enhances the depth of analysis and provides valuable insight into how strategic learning can be adapted across disciplines (Zhang, 2025).

### 3.2 The extent to which student teachers employ direct and indirect language learning strategies in terms of memory

Table 2 *Language Learning Strategies used by student teachers in terms of Memory*

| Indicators                                                                                                               | $\bar{w}\bar{x}$          | Verbal Description    | Interpretation |
|--------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------|----------------|
| 1. I think of relationships between what I already know and new things I learn in English.                               | 4.10                      | Often                 | High           |
| 2. I use new English words in a sentence so I can remember them.                                                         | 3.70                      | Often                 | High           |
| 3. I connect the sound of a new English word and an image or picture of the word to help me remember the word.           | 3.63                      | Often                 | High           |
| 4. I remember a new English word by making a mental picture of a situation in which the word might be used.              | 3.86                      | Often                 | High           |
| 5. I use rhymes to remember new English words.                                                                           | 3.64                      | Often                 | High           |
| 6. I use flashcards to remember new English words.                                                                       | 2.98                      | Sometimes             | Moderate       |
| 7. I physically act out new English words.                                                                               | 3.32                      | Sometimes             | Moderate       |
| 8. I review English lessons often.                                                                                       | 3.37                      | Often                 | High           |
| 9. I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign. | 3.67                      | Often                 | High           |
| <b>Composite</b>                                                                                                         | <b>3.59</b>               | <b>Often</b>          | <b>High</b>    |
| <b>Legend: Scale</b>                                                                                                     | <b>Verbal Description</b> | <b>Interpretation</b> |                |
| 4.21 – 5.00                                                                                                              | Always                    | Very High             |                |
| 3.41 – 4.20                                                                                                              | Often                     | High                  |                |
| 2.61 – 3.40                                                                                                              | Sometimes                 | Moderate              |                |
| 1.81 – 2.60                                                                                                              | Rarely                    | Low                   |                |
| 1.00 – 1.80                                                                                                              | Never                     | Very Low              |                |

The results in Table 2 indicate that memory strategies are employed at a **high level** among the student teachers, as reflected by a composite mean of 3.59 ("Often"). The data suggest that learners consistently rely on associative and imagery-based techniques to retain and recall English vocabulary. The highest-rated indicator, "I think of relationships between what I already know and new things I learn in English" ( $M = 4.10$ ), points to a strong tendency toward meaningful learning through connection and prior knowledge. Similarly, strategies involving mental imagery and contextual use of words also received high ratings, indicating that students prefer approaches that integrate understanding with retention. However, strategies such as using flashcards ( $M = 2.98$ ) and physically acting out words ( $M = 3.32$ ) were only moderately used, suggesting that more tactile or tool-based techniques are less frequently applied.

These findings align with existing literature that frames memory strategies as essential tools for storing and retrieving linguistic input through association and visualization. Hidayat et al. (2025) emphasize that such strategies enable efficient encoding of new information, particularly when learners connect new knowledge with existing schemas. The strong preference for relational thinking observed in this study supports the idea that meaningful encoding enhances long-term retention, as discussed by Cotton & Ricker (2022). Furthermore, the frequent use of mental imagery corresponds with dual-coding principles, where visual and verbal processing reinforce memory, a pattern also supported by Xodabande et al. (2025) and Tai et al. (2022). The use of repetition and contextual application, as reflected in sentence construction and review practices, is likewise consistent with findings that emphasize the effectiveness of distributed and meaningful practice (Bastawros, 2024).

The variation in strategy use, particularly the moderate reliance on flashcards and physical enactment, may be attributed to learners' familiarity with more traditional, cognitively driven approaches to studying. Student teachers may gravitate toward strategies that align with academic tasks such as reading and writing, while less emphasis is placed on kinesthetic or technology-supported techniques. This pattern suggests that while learners demonstrate strong engagement with deep-processing strategies, they may have limited exposure to or preference for multimodal approaches. Such differences highlight how learning habits, prior experiences, and instructional environments shape the selection of strategies, resulting in a repertoire that favors conceptual understanding over physical or tool-assisted methods.

From a pedagogical perspective, the findings underscore the importance of reinforcing effective memory strategies while also expanding students' strategic repertoire. Teacher education programs can build on students' existing strengths in associative and imagery-based learning by integrating structured activities that promote deeper processing of language. At the same time, there is a need to introduce and model underutilized strategies, such as flashcard systems and kinesthetic techniques, to encourage more varied and flexible learning approaches. In doing so, future teachers can develop not only stronger personal learning habits but also the capacity to implement diverse strategy instruction in their own classrooms, ultimately supporting more inclusive and effective language learning environments.

### 3.3 The extent to which student teachers employ direct and indirect language learning strategies in terms of cognitive

Table 3 *Language Learning Strategies used by student teachers in terms of Cognitive*

| Indicators                                                                                            | $w\bar{x}$                | Verbal Description    | Interpretation |
|-------------------------------------------------------------------------------------------------------|---------------------------|-----------------------|----------------|
| 1. I say or write new English words several times.                                                    | 3.66                      | Often                 | High           |
| 2. I try to talk like native English speakers.                                                        | 3.54                      | Often                 | High           |
| 3. I practice the sounds of English.                                                                  | 3.72                      | Often                 | High           |
| 4. I use the English words I know in different ways.                                                  | 3.83                      | Often                 | High           |
| 5. I start conversation in English.                                                                   | 3.41                      | Often                 | High           |
| 6. I watch English language TV shows spoken in English or go to movies spoken in English.             | 4.13                      | Often                 | High           |
| 7. I read for pleasure in English.                                                                    | 3.41                      | Often                 | High           |
| 8. I write notes, messages, letters, or reports in English.                                           | 3.86                      | Often                 | High           |
| 9. I first skim an English passage (read over the passage quickly) then go back to read it carefully. | 3.89                      | Often                 | High           |
| 10. I look for words in my own language that are similar to new words in English.                     | 3.77                      | Often                 | High           |
| 11. I try to find patterns in English.                                                                | 3.49                      | Often                 | High           |
| 12. I try to find the meaning of an English words by dividing it into parts that I understand.        | 3.67                      | Often                 | High           |
| 13. I try not to translate word-for-word.                                                             | 3.71                      | Often                 | High           |
| 14. I make summaries of information that I hear or read in English.                                   | 3.73                      | Often                 | High           |
| 15. To understand unfamiliar words, I make guesses.                                                   | 3.80                      | Often                 | High           |
| <b>Composite</b>                                                                                      | <b>3.71</b>               | <b>Often</b>          | <b>High</b>    |
| <b>Legend: Scale</b>                                                                                  | <b>Verbal Description</b> | <b>Interpretation</b> |                |
| 4.21 – 5.00                                                                                           | Always                    | Very High             |                |
| 3.41 – 4.20                                                                                           | Often                     | High                  |                |
| 2.61 – 3.40                                                                                           | Sometimes                 | Moderate              |                |
| 1.81 – 2.60                                                                                           | Rarely                    | Low                   |                |
| 1.00 – 1.80                                                                                           | Never                     | Very Low              |                |

The results in Table 3 show that cognitive strategies are employed at a **high level**, with a composite mean of 3.71 ("Often"), indicating that student teachers actively engage in practice-oriented and analytical language use. Among the indicators, the

highest mean was recorded for exposure to authentic input through watching English media ( $M = 4.13$ ), suggesting that learners frequently rely on real-world language contexts to reinforce understanding. Other high-ranking strategies, such as writing in English ( $M = 3.86$ ), skimming and rereading texts ( $M = 3.89$ ), and using known words in varied ways ( $M = 3.83$ ), reflect a consistent pattern of active manipulation and application of language. The uniform “high” ratings across all indicators further imply that learners do not rely on a single approach but instead employ a broad and integrated set of cognitive strategies.

These findings are consistent with the literature, which characterizes cognitive strategies as essential mechanisms for processing and using language meaningfully. Kalabata & Mallet (2022) describe these strategies as mental operations that enable learners to engage directly with the target language through practice, analysis, and transformation. The strong preference for authentic exposure aligns with Heddy (2025), who emphasized the role of audiovisual materials in enhancing comprehension and fluency, as well as Galimberti et al. (2025), who highlighted the value of digital media in providing contextualized input. Similarly, the frequent use of writing, summarizing, and strategic reading corresponds with findings by Yi et al. (2024) and Serrano & Luquez (2025), which link these practices to deeper processing and improved comprehension. The use of inferencing and flexible language application further supports observations by Shadiev et al. (2023), Weder (2022), and Shuang (2022), who noted that such strategies contribute to adaptive language use and lexical development.

The consistently high use of cognitive strategies may be attributed to the academic demands placed on student teachers, who are required to read, write, and communicate effectively in English across various contexts. These demands likely encourage the development of strategies that promote active engagement with language rather than passive reception. At the same time, the prominence of media-based exposure suggests that learners are increasingly integrating informal and digital sources into their learning practices. This blend of academic and experiential learning may explain the uniformity in high ratings, as students draw from multiple contexts to support their language development. The absence of lower-rated indicators indicates that cognitive strategies are well-established within their learning routines, possibly reinforced by both formal instruction and everyday exposure.

From a pedagogical perspective, the findings highlight the importance of sustaining and refining the use of cognitive strategies in teacher education. Since these strategies directly support comprehension, production, and critical thinking, they should be intentionally embedded in instructional practices across specializations. Activities that promote authentic language use, strategic reading, and reflective writing can further strengthen these skills. Moreover, teacher education programs can build on students’ existing engagement with media and real-world input by incorporating technology-enhanced learning tasks. In doing so, future educators can develop not only their own linguistic competence but also the ability to design learning experiences that encourage active and meaningful language use among their students.

### 3.4 The extent to which student teachers employ direct and indirect language learning strategies in terms of compensation

Table 4 *Language Learning Strategies used by student teachers in terms of Compensation*

| Indicators                                                                                | $w\bar{x}$  | Verbal Description | Interpretation |
|-------------------------------------------------------------------------------------------|-------------|--------------------|----------------|
| 1. When I can't think of a word during a conversation in English, I use gestures.         | 4.12        | Often              | High           |
| 2. I make up new words if I don't know the right ones in English.                         | 3.43        | Often              | High           |
| 3. I read English without looking up every new word.                                      | 3.31        | Sometimes          | Moderate       |
| 4. I try to guess what the other person will say next in English.                         | 3.54        | Often              | High           |
| 5. If I can't think of an English word, I use a word or phrase that means the same thing. | 4.16        | Often              | High           |
| <b>Composite</b>                                                                          | <b>3.71</b> | <b>Often</b>       | <b>High</b>    |
| <b>Legend: Scale</b>                                                                      |             |                    |                |
| 4.21 – 5.00                                                                               | Always      | Very High          |                |
| 3.41 – 4.20                                                                               | Often       | High               |                |
| 2.61 – 3.40                                                                               | Sometimes   | Moderate           |                |
| 1.81 – 2.60                                                                               | Rarely      | Low                |                |
| 1.00 – 1.80                                                                               | Never       | Very Low           |                |

The results presented in Table 4 demonstrate that fourth-year Bachelor of Secondary Education (BSED) students frequently employ compensation strategies in learning and using English, as indicated by a composite mean of 3.71, which falls within the “high” category. This suggests that the respondents are able to sustain communication despite gaps in vocabulary or linguistic knowledge, particularly through strategies such as paraphrasing and the use of gestures. The highest-rated indicators, including the use of alternative expressions ( $M = 4.16$ ) and gestures ( $M = 4.12$ ), reflect a strong tendency toward

maintaining communicative flow. Meanwhile, the moderate rating for reading without looking up unfamiliar words ( $M = 3.31$ ) indicates that learners are comparatively less confident in applying compensatory techniques in reading contexts. These findings align with the conceptualization of compensation strategies as techniques learners use to overcome linguistic limitations and ensure continuity in communication. As defined by Nargiza & Musayeva (2024), such strategies allow learners to make up for gaps in their linguistic knowledge while maintaining interaction. The frequent use of paraphrasing and gestures corresponds to what Bachman & Palmer (2024) describe as “achievement strategies,” where learners rely on alternative means to express meaning. Empirical evidence further supports this pattern, as Aririguzoh (2022) found that learners who frequently use circumlocution, paraphrasing, and nonverbal cues demonstrate greater communicative confidence and fluency.

The variation in strategy use across tasks may be explained by the differing cognitive and contextual demands of communication and reading. In spoken interaction, learners are often compelled to respond in real time, prompting the use of adaptive strategies such as guessing, predicting, and substituting expressions. This is reflected in the moderate to high use of anticipatory strategies ( $M = 3.54$ ), which aligns with the predictive processing framework suggesting that learners actively anticipate incoming language based on contextual cues (Gastaldon et al., 2024). In contrast, reading tasks allow more time for processing, which may lead learners to rely less on guessing and more on direct comprehension, thereby explaining the lower mean in this area.

From a pedagogical standpoint, the findings highlight the importance of strengthening students’ ability to apply compensation strategies across different language contexts. Teacher education programs can enhance this by incorporating activities that promote inferencing, paraphrasing, and strategic guessing in both oral and written tasks. Emphasizing communicative effectiveness over accuracy can also encourage learners to take risks and develop confidence in using the language. In fostering these adaptive skills, future teachers will be better prepared to model strategic language use and support their own students in navigating communication challenges effectively.

### 3.5 The extent to which student teachers employ direct and indirect language learning strategies in terms of metacognitive

Table 5 *Language Learning Strategies used by student teachers in terms of Metacognitive*

| Indicators                                                                     | $\bar{w}\bar{x}$ | Verbal Description | Interpretation |
|--------------------------------------------------------------------------------|------------------|--------------------|----------------|
| 1. I try to find as many ways as I can to use my English.                      | 3.91             | Often              | High           |
| 2. I notice my English mistakes and use that information to help me do better. | 4.20             | Often              | High           |
| 3. I pay attention when someone is speaking English.                           | 4.42             | Often              | High           |
| 4. I try to find out how to be a better learner of English.                    | 4.31             | Always             | Very High      |
| 5. I plan my schedule so I will have enough time to study English.             | 3.12             | Sometimes          | Moderate       |
| 6. I look for people I can talk to in English.                                 | 3.30             | Sometimes          | Moderate       |
| 7. I look for opportunities to read as much as possible.                       | 3.47             | Often              | High           |
| 8. I have clear goals for improving my English skills.                         | 3.76             | Often              | High           |
| 9. I think about my progress in learning English.                              | 3.92             | Often              | High           |
| 10. I try to relax whenever I feel afraid of using English.                    | 3.98             | Often              | High           |
| <b>Composite</b>                                                               | <b>3.84</b>      | <b>Often</b>       | <b>High</b>    |
| <b>Legend: Scale</b>                                                           |                  |                    |                |
| 4.21 – 5.00                                                                    | Always           | Very High          |                |
| 3.41 – 4.20                                                                    | Often            | High               |                |
| 2.61 – 3.40                                                                    | Sometimes        | Moderate           |                |
| 1.81 – 2.60                                                                    | Rarely           | Low                |                |
| 1.00 – 1.80                                                                    | Never            | Very Low           |                |

The results in Table 5 indicate that metacognitive strategies are employed at a **high level**, with a composite mean of 3.84 (“Often”), suggesting that student teachers actively regulate and monitor their own learning processes. The highest-rated indicators, such as paying attention when someone is speaking English ( $M = 4.42$ ) and trying to become better learners ( $M = 4.31$ ), reflect strong awareness and intentionality in language learning. Similarly, noticing errors ( $M = 4.20$ ) and reflecting on progress ( $M = 3.92$ ) indicate that learners are engaged in continuous self-evaluation. However, moderate ratings in planning study schedules ( $M = 3.12$ ) and seeking conversational opportunities ( $M = 3.30$ ) suggest that while awareness is high, consistent implementation of planning and interaction strategies is less evident.

These findings are consistent with the literature emphasizing the central role of metacognitive strategies in self-regulated learning. Indicators such as goal-setting, monitoring errors, and evaluating progress align with the notion of metacognitive orchestration described in prior studies (Sidorkin, 2025). The respondents’ strong attentional control and reflective behaviors also support findings that pre-service teachers tend to demonstrate higher levels of metacognitive engagement due to the demands of teacher training (Pousi et al., 2025). At the same time, the moderate scores in planning-related

behaviors correspond with observations that learners may possess awareness but struggle with consistent execution of structured learning routines (Wongdaeng & Higgins, 2023).

The variation between high awareness and moderate implementation may be attributed to the nature of academic workloads and learning environments. Student teachers are often required to engage in reflective tasks, which strengthens their monitoring and evaluation skills; however, time constraints and competing responsibilities may limit their ability to systematically plan or seek additional practice opportunities. This suggests a gap between knowing what strategies are effective and consistently applying them in practice. It also reflects the transitional stage of learners who are developing autonomy but have not yet fully internalized structured self-regulation habits.

From a pedagogical perspective, the findings highlight the need to strengthen not only metacognitive awareness but also its practical application. Teacher education programs can support this by incorporating structured activities that emphasize planning, time management, and deliberate practice. Providing guided opportunities for goal-setting and reflective evaluation can help bridge the gap between awareness and action. In reinforcing these strategies, future teachers can develop stronger self-regulatory skills and, in turn, model effective learning behaviors that promote autonomy and reflective thinking in their own classrooms.

### 3.6 The extent to which student teachers employ direct and indirect language learning strategies in terms of affective

Table 6 *Language Learning Strategies used by student teachers in terms of Affective*

| Indicators                                                                       | $\overline{wx}$           | Verbal Description    | Interpretation |
|----------------------------------------------------------------------------------|---------------------------|-----------------------|----------------|
| 1. I encourage myself to speak English even when I am afraid of making mistakes. | 4.13                      | Often                 | High           |
| 2. I give myself a reward or treat when I do well in English.                    | 3.29                      | Sometimes             | Moderate       |
| 3. I notice if I am tense or nervous when I am studying or using English.        | 3.70                      | Often                 | High           |
| 4. I write down my feelings in a language learning diary.                        | 3.05                      | Sometimes             | Moderate       |
| 5. I talk to someone else about how I feel when I am learning English.           | 3.34                      | Sometimes             | Moderate       |
| <b>Composite</b>                                                                 | <b>3.50</b>               | <b>Often</b>          | <b>High</b>    |
| <b>Legend: Scale</b>                                                             | <b>Verbal Description</b> | <b>Interpretation</b> |                |
| 4.21 – 5.00                                                                      | Always                    | Very High             |                |
| 3.41 – 4.20                                                                      | Often                     | High                  |                |
| 2.61 – 3.40                                                                      | Sometimes                 | Moderate              |                |
| 1.81 – 2.60                                                                      | Rarely                    | Low                   |                |
| 1.00 – 1.80                                                                      | Never                     | Very Low              |                |

The results in Table 6 show that affective strategies are used at a **high level**, with a composite mean of 3.50 (“Often”), indicating that emotional regulation plays a meaningful role in the students’ language learning process. The highest-rated indicator, encouraging oneself to speak despite fear of mistakes ( $M = 4.13$ ), suggests that learners possess a strong degree of self-motivation and willingness to take risks. Additionally, awareness of emotional states, such as noticing tension or nervousness ( $M = 3.70$ ), reflects a level of emotional consciousness. However, strategies involving self-reward ( $M = 3.29$ ), journaling ( $M = 3.05$ ), and discussing feelings ( $M = 3.34$ ) were only moderately used, indicating less frequent engagement in explicit emotional management practices.

These findings align with the view that affective strategies are integral to sustaining motivation and reducing anxiety in language learning. The tendency to encourage oneself despite fear resonates with research highlighting the role of emotional self-regulation in promoting communicative willingness (Taherkhani and Moradi, 2022). Moreover, the overall high use of affective strategies supports the idea that learners who manage their emotions effectively are better able to engage in language tasks and maintain persistence. At the same time, the moderate use of reflective and expressive strategies corresponds with findings that such practices are not always fully integrated into learners’ routines (Tomas and Poroto, 2023).

The variation in strategy use may be influenced by cultural and contextual factors that shape how learners express and manage emotions. While students appear comfortable with internal forms of motivation, such as self-encouragement, they may be less inclined to externalize their feelings through writing or discussion. This suggests that affective regulation is present but tends to remain internalized rather than explicitly articulated. Additionally, academic environments that prioritize performance may not always provide space for reflective emotional practices, contributing to their lower frequency.

From a pedagogical standpoint, the findings emphasize the importance of integrating affective support into language instruction. Teacher education programs can foster this by creating learning environments that normalize emotional challenges and encourage reflective practices such as journaling and peer discussion. Activities that promote self-encouragement, resilience, and anxiety management can further enhance learners’ confidence and engagement.

### 3.7 The extent to which student teachers employ direct and indirect language learning strategies in terms of social

Table 7 *Language Learning Strategies used by student teachers in terms of Social*

| Indicators                                                                                          | $w\bar{x}$                | Verbal Description    | Interpretation |
|-----------------------------------------------------------------------------------------------------|---------------------------|-----------------------|----------------|
| 1. If I don't understand something in English, I ask the other person to slow down or say it again. | 4.10                      | Often                 | High           |
| 2. I ask English speakers to correct me when I talk.                                                | 3.80                      | Often                 | High           |
| 3. I practice English with other students.                                                          | 3.69                      | Often                 | High           |
| 4. I ask for help from English speakers.                                                            | 3.54                      | Often                 | High           |
| 5. I ask questions in English.                                                                      | 3.66                      | Often                 | High           |
| 6. I try to learn about the culture of English speakers.                                            | 3.41                      | Often                 | High           |
| <b>Composite</b>                                                                                    | <b>3.70</b>               | <b>Often</b>          | <b>High</b>    |
| <b>Legend: Scale</b>                                                                                | <b>Verbal Description</b> | <b>Interpretation</b> |                |
| 4.21 – 5.00                                                                                         | Always                    | Very High             |                |
| 3.41 – 4.20                                                                                         | Often                     | High                  |                |
| 2.61 – 3.40                                                                                         | Sometimes                 | Moderate              |                |
| 1.81 – 2.60                                                                                         | Rarely                    | Low                   |                |
| 1.00 – 1.80                                                                                         | Never                     | Very Low              |                |

The results in Table 7 indicate that social strategies are utilized at a **high level**, with a composite mean of 3.70 (“Often”), suggesting that student teachers actively engage in interaction to support their language learning. The highest-rated indicator, asking others to slow down or repeat when something is not understood ( $M = 4.10$ ), reflects learners’ willingness to seek clarification to ensure comprehension. Other indicators, such as asking for correction ( $M = 3.80$ ), practicing with peers ( $M = 3.69$ ), and asking questions in English ( $M = 3.66$ ), further demonstrate a consistent reliance on collaborative and interactive processes. Even the relatively lower-rated indicator, learning about the culture of English speakers ( $M = 3.41$ ), still falls within the “high” range, indicating that learners recognize the broader social and cultural dimensions of language use.

These findings are consistent with the literature emphasizing the role of interaction in language development. The frequent use of clarification, feedback-seeking, and peer interaction aligns with the interaction hypothesis, which posits that negotiation of meaning facilitates language acquisition (Sommet et al., 2023). Similarly, the learners’ engagement in collaborative practices reflects sociocultural perspectives on learning, where knowledge is co-constructed through interaction and guided participation (Newman, 2018; Khan et al., 2025). The inclusion of cultural learning also supports the view that language competence extends beyond linguistic forms to include intercultural awareness (Bielykh, 2025).

The consistently high use of social strategies may be attributed to the communicative demands of teacher education, where students are frequently required to participate in discussions, group work, and classroom interactions. Such environments naturally encourage learners to seek clarification, request feedback, and collaborate with peers. At the same time, the slightly lower emphasis on cultural exploration may reflect limited exposure to authentic intercultural contexts, suggesting that while interaction is common, deeper cultural engagement may not be as strongly emphasized in everyday learning experiences.

From a pedagogical perspective, the findings highlight the importance of fostering interactive and collaborative learning environments in teacher education. Activities that promote peer discussion, feedback exchange, and authentic communication can further strengthen students’ social strategy use. Additionally, integrating intercultural components into instruction can enhance learners’ understanding of language in its broader social context. Through cultivating these strategies, future teachers will be better prepared to create classrooms that value interaction, collaboration, and meaningful communication as central elements of language learning.

### 3.8 Significant Difference in Language Learning Strategies Use among Student Teachers when grouped according to their BSED Major or Specialization

Table 8 *Significant Difference in Language Learning Strategies Use among Student Teachers when grouped according to their BSED Major or Specialization*

| Variables            | n  | Mean | F    | p     | Decision                      | Remark          |
|----------------------|----|------|------|-------|-------------------------------|-----------------|
| <b>Memory</b>        |    |      |      |       |                               |                 |
| English              | 18 | 3.78 | 5.65 | 0.000 | Reject H <sub>o1</sub>        | Significant     |
| Filipino             | 25 | 3.77 |      |       |                               |                 |
| Sciences             | 26 | 3.61 |      |       |                               |                 |
| Mathematics          | 15 | 3.24 |      |       |                               |                 |
| Social Studies       | 24 | 3.13 |      |       |                               |                 |
| Values Education     | 24 | 3.90 |      |       |                               |                 |
| <b>Cognitive</b>     |    |      |      |       |                               |                 |
| English              | 18 | 4.16 | 5.88 | 0.000 | Reject H <sub>o1</sub>        | Significant     |
| Filipino             | 25 | 3.58 |      |       |                               |                 |
| Sciences             | 26 | 3.79 |      |       |                               |                 |
| Mathematics          | 15 | 3.41 |      |       |                               |                 |
| Social Studies       | 24 | 3.33 |      |       |                               |                 |
| Values Education     | 24 | 3.97 |      |       |                               |                 |
| <b>Compensation</b>  |    |      |      |       |                               |                 |
| English              | 18 | 3.71 | 3.03 | 0.013 | Reject H <sub>o1</sub>        | Significant     |
| Filipino             | 25 | 3.79 |      |       |                               |                 |
| Sciences             | 26 | 3.77 |      |       |                               |                 |
| Mathematics          | 15 | 3.45 |      |       |                               |                 |
| Social Studies       | 24 | 3.38 |      |       |                               |                 |
| Values Education     | 24 | 4.06 |      |       |                               |                 |
| <b>Metacognitive</b> |    |      |      |       |                               |                 |
| English              | 18 | 4.32 | 5.34 | 0.000 | Reject H <sub>o1</sub>        | Significant     |
| Filipino             | 25 | 3.83 |      |       |                               |                 |
| Sciences             | 26 | 3.85 |      |       |                               |                 |
| Mathematics          | 15 | 3.51 |      |       |                               |                 |
| Social Studies       | 24 | 3.46 |      |       |                               |                 |
| Values Education     | 24 | 4.07 |      |       |                               |                 |
| <b>Affective</b>     |    |      |      |       |                               |                 |
| English              | 18 | 3.77 | 2.05 | 0.076 | Failed Reject H <sub>o1</sub> | Not Significant |
| Filipino             | 25 | 3.46 |      |       |                               |                 |
| Sciences             | 26 | 3.40 |      |       |                               |                 |
| Mathematics          | 15 | 3.32 |      |       |                               |                 |
| Social Studies       | 24 | 3.23 |      |       |                               |                 |
| Values Education     | 24 | 3.83 |      |       |                               |                 |
| <b>Social</b>        |    |      |      |       |                               |                 |
| English              | 18 | 4.00 | 3.54 | 0.005 | Reject H <sub>o1</sub>        | Significant     |
| Filipino             | 25 | 3.72 |      |       |                               |                 |
| Sciences             | 26 | 3.68 |      |       |                               |                 |
| Mathematics          | 15 | 3.41 |      |       |                               |                 |
| Social Studies       | 24 | 3.29 |      |       |                               |                 |
| Values Education     | 24 | 4.06 |      |       |                               |                 |

The results in Table 8 reveal that there are **significant differences** in the use of language learning strategies across specializations for memory, cognitive, compensation, metacognitive, and social strategies, as indicated by p-values less than 0.05, leading to the rejection of the null hypothesis in these areas. In contrast, affective strategies showed no significant difference ( $p = 0.076$ ), indicating a relatively uniform use across groups. Notably, English and Values Education majors consistently recorded higher mean scores across most strategy categories, particularly in cognitive (English = 4.16; Values Education = 3.97), metacognitive (English = 4.32; Values Education = 4.07), and social strategies (English = 4.00; Values Education = 4.06). Meanwhile, Mathematics and Social Studies majors tended to have comparatively lower mean scores, especially in memory, cognitive, and social strategies. These results suggest that specialization plays a meaningful role in shaping how frequently and diversely students employ language learning strategies.

These findings are consistent with prior literature indicating that disciplinary orientation influences learners' strategic behavior. As discussed earlier, He et al. (2023) emphasized that academic specialization affects cognitive engagement and strategy preference, while Sarici (2024) found that pre-service teachers' disciplinary backgrounds shape their metacognitive awareness and language use. Similarly, Gu & Sharil (2024) reported that language-focused majors tend to demonstrate higher use of cognitive and compensation strategies, whereas other disciplines may rely more on different

strategic patterns. These studies collectively support the present findings, where English and Values Education majors exhibit more frequent and varied strategy use compared to their counterparts.

The differences observed across specializations may be explained by the varying linguistic demands and learning orientations associated with each field. English and Values Education majors are more frequently engaged in tasks that require communication, reflection, and interpretation, which naturally promote the use of cognitive, metacognitive, and social strategies. In contrast, students in Mathematics and Social Studies may focus more on content-specific knowledge and analytical reasoning, which may not always require extensive use of diverse language strategies. The absence of significant differences in affective strategies suggests that emotional regulation and motivation are more universal aspects of learning, less influenced by disciplinary context.

From a pedagogical perspective, these findings underscore the importance of adopting a differentiated approach to strategy instruction in teacher education. Since students from different specializations exhibit distinct patterns of strategy use, instructional interventions should be tailored to address their specific needs and gaps. Integrating explicit language learning strategy training across all disciplines can help ensure that all student teachers, regardless of specialization, develop a balanced and effective strategic repertoire. This approach not only enhances their own language proficiency but also equips them with the skills necessary to model and teach strategic learning behaviors in their future classrooms.

### **3.9 The pedagogical implications of the identified language learning strategies in enhancing instruction and teacher preparation across BSSED specializations**

The findings of the study reveal that student teachers across specializations consistently employ language learning strategies at a high frequency, with notable strengths in metacognitive, cognitive, and social domains. This pattern suggests that learners are not merely passive recipients of language input but are actively engaged in regulating, processing, and negotiating meaning in their learning experiences. However, the variation in strategy use across specializations indicates that these strategic behaviors are shaped by disciplinary demands, with English and Values Education majors demonstrating more frequent and diverse strategy use compared to Mathematics and Social Studies majors. At the same time, the relatively moderate use of certain strategies, particularly those related to planning, affective expression, and some compensation techniques, points to areas where strategic engagement remains underdeveloped.

These patterns carry important implications for teacher education. As emphasized in the study, language learning strategies are not isolated techniques but integral components of learner autonomy and communicative competence (Oxford, 1990). The strong presence of metacognitive and cognitive strategies reflects the development of self-regulated learning behaviors, which are essential for future educators who must not only manage their own learning but also guide their students in doing the same. Furthermore, the observed use of social and compensation strategies highlights the importance of interaction and adaptability in language use, reinforcing the idea that effective teaching extends beyond content delivery to include the facilitation of meaningful communication (Bachman & Palmer, 2024; Aririguzoh, 2022).

The differences across specializations suggest that a uniform approach to strategy instruction may not be sufficient. Disciplinary contexts shape how students engage with language, influencing both the frequency and type of strategies they employ. For instance, language-oriented fields naturally promote communicative and reflective strategies, while content-driven disciplines may prioritize analytical or problem-solving approaches. This divergence underscores the need for specialization-sensitive pedagogical interventions that recognize the unique linguistic and cognitive demands of each field. At the same time, the consistent use of affective strategies across groups indicates that emotional regulation and motivation are shared aspects of the learning experience, providing a common foundation for strategy development.

In light of these findings, teacher education programs should move toward the intentional integration of language learning strategies into curriculum design and instructional practice. This includes embedding explicit strategy instruction across courses, designing activities that promote planning, reflection, interaction, and adaptive language use, and creating learning environments that encourage both cognitive engagement and emotional support. Through this, institutions can cultivate student teachers who are not only proficient in language use but also strategically aware and pedagogically equipped to foster similar competencies in their future learners. Ultimately, strengthening the strategic dimension of teacher preparation contributes to the development of reflective, autonomous, and effective educators capable of navigating the complex demands of language teaching in diverse educational contexts.

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## **4. Conclusion & Recommendations**

This study examined the language learning strategies (LLS) employed by fourth-year Bachelor of Secondary Education (BSSED) students across six specializations and revealed that all six categories, namely memory, cognitive, compensation, metacognitive, affective, and social strategies, were used at a generally high frequency. Among these, metacognitive strategies emerged as the most consistently utilized, reflecting strong tendencies toward planning, monitoring, and self-evaluation, followed closely by cognitive and social strategies that support active engagement and interaction. While compensation and memory strategies were also frequently employed, certain specific techniques within these categories were used only moderately, indicating areas for further development. Importantly, the findings demonstrated that

significant differences existed in the use of most strategy types across specializations, except for affective strategies, suggesting that disciplinary orientation plays a meaningful role in shaping how student teachers approach language learning. The study contributes to the growing body of literature on language learning strategies by providing a focused analysis within the context of Philippine teacher education, particularly among pre-service teachers from diverse academic backgrounds. By disaggregating strategy use across specializations, the research offers a more nuanced understanding of how disciplinary contexts influence strategic behavior. Furthermore, the findings highlight the dual role of student teachers as both learners and future educators, emphasizing that their strategic practices not only affect their own language development but also have implications for their future teaching approaches.

Based on these findings, the study recommends the integration of explicit language learning strategy instruction within teacher education curricula, with particular attention to underutilized strategies such as planning, affective regulation, and certain compensation techniques. Instructional designs should be responsive to disciplinary differences to ensure that strategy training remains relevant to the linguistic and cognitive demands of each specialization. Additionally, creating learning environments that encourage reflection, interaction, and strategic experimentation may further strengthen students' autonomy and communicative competence. Future research may expand this investigation by exploring additional variables such as proficiency level, motivation, or longitudinal changes in strategy use to deepen the understanding of how language learning strategies evolve and inform effective teaching practice.

Despite the valuable findings of the study, certain limitations should be acknowledged. The study was limited to fourth-year Bachelor of Secondary Education students from one institution, which may affect the generalizability of the findings to other educational settings or student populations. The use of a self-report questionnaire may also have influenced the accuracy of responses, as participants may have answered based on personal perceptions rather than actual practices. Furthermore, the study focused only on differences across specializations and did not consider other variables that may influence language learning strategy use, such as language proficiency, socioeconomic background, learning experiences, or motivation. These limitations provide opportunities for future researchers to conduct broader and more comprehensive investigations on language learning strategies among pre-service teachers.

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### **Compliance with ethical standards**

The researcher adhered to the ethical standards and institutional guidelines required in the conduct of the study. Formal permission to conduct the research was secured from the appropriate authorities of Negros Oriental State University prior to data collection. Participation in the study was entirely voluntary, and all respondents were properly informed regarding the objectives, significance, and procedures of the research before providing informed consent. The confidentiality and anonymity of the participants were strictly maintained by ensuring that all gathered information was used solely for academic and research purposes. No identifying information of the respondents was disclosed in any part of the study. The researcher ensured that the data collected were handled responsibly and interpreted objectively to preserve the integrity and credibility of the findings. The author declares that there were no conflicts of interest that could have influenced the conduct, analysis, or presentation of the study. Proper acknowledgement was also given to all sources, references, and individuals who contributed to the completion of the research. Furthermore, the researcher affirms that the study is an original work and that all copyright and authorship responsibilities have been properly observed in accordance with academic and ethical standards.

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