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| RESEARCH ARTICLE

Academic Major and Grammar Learning Strategies: A Correlation Study

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| ABSTRACT

This study examines how English majors and non-English majors employ four different strategies of grammar learning: (1) cognitive, (2) meta-cognitive, (3) social and (4) affective. Through a survey, the study explores the relationship between learners' academic majors and strategy usage frequency, as well as the variations in the frequency of strategies use in the two groups. The results show that there is no significant difference between the two types of learners in the use of cognitive strategy and metacognitive one. Nonetheless, there is a correlation between the employment of social and emotive tactics and academic major. Furthermore, when compared to English majors, non-English majors utilize affective tactics much more frequently. This research backs up Pawlak's (2019) claim that a number of mediating factors affect how grammar learning strategies (GLS) are used. The findings provide important information for developing social and affective approaches tailored to students in different disciplines.

| KEYWORDS

Second language learning; Grammar learning strategies; Academic major

| ARTICLE INFORMATION

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1. Introduction

A key element of second language learning techniques, grammar learning strategies (GLS) are essential for improving learners' command of the target language's grammar. However, research on GLS remains scarce, with most studies focusing on English majors and neglecting the strategies adopted by students in other academic fields. According to Pawlak (2019), there is a dearth of empirical data about the influence of mediating variables on GLS application; few studies have examined parameters like age, gender, experience, educational background, or proficiency, and the results of these studies are frequently inconclusive. Consequently, there is a lack of in-depth exploration of the effectiveness of strategy use and the underlying influencing factors. Oxford and Lee (2007) point out that how students use GLS can vary depending on multiple factors, such as age, developmental stage, gender, first language background, education level, and learning goals. This means that students from different majors might use GLS in quite different ways, so more research is needed to explore these differences.

To address this gap, the present study explores the correlation between academic major and GLS use in second language acquisition, and also the differences in GLS use among Chinese university students from various academic majors.

By examining these correlations and differences, this study provides new insights into learners' strategy choices in second language acquisition. Additionally, the findings offer practical implications for foreign language instruction, particularly in selecting and implementing teaching strategies tailored to students from diverse academic majors to enhance learning outcomes.

2. Literature Review

In this section, a relatively brief introduction will be made to demonstrate the significant studies on grammar learning strategies and the findings that have a great impact on the field of this research.

2.1 Definition and classification of grammar learning strategies

Grammar learning strategies (GLS) fall under the broader category of strategies for second language (L2) learning. According to Oxford (1990), learning strategies are specific actions or techniques learners employ to enhance their learning process—a definition that naturally includes GLS. Since grammar is vitally important in the language acquisition process, how learners use GLS can greatly impact their overall learning outcomes. Oxford (2017, p. 244) defines L2 grammar learning strategies as "teachable dynamic thoughts and behaviors that learners consciously select and employ in specific contexts to improve their self-regulated autonomous L2 grammar development for effective task performance and long-term proficiency." As Pawlak (2013) explains, these strategies refer to conscious efforts learners make—whether through specific steps or actions—to better grasp, retain, and accurately apply grammatical rules. Pawlak (2018, p. 353) further defines grammar learning strategies (GLS) as "deliberate thoughts and actions that students consciously employ for learning and gaining better control over grammatical structures", emphasizing that proficient use of GLS not only aids learners in understanding the complexities of target language grammar and mastering grammatical rules but also helps them apply these rules automatically in various situations.

Different scholars have various definitions of GLS, but they generally agree that these strategies involve conscious learning behaviors aimed at enhancing learners' grammatical knowledge and application abilities.

Pawlak (2018) proposed the most comprehensive classification system of grammar learning strategies to date. Building on existing language learning strategy frameworks, this system incorporates the unique characteristics of grammar acquisition, ultimately identifying four distinct categories of strategies: cognitive strategies, metacognitive strategies, social strategies, and affective strategies. This taxonomy has become particularly significant as it represents the only systematic classification specifically addressing grammar learning strategies. Cognitive strategies involve behaviors that directly manipulate linguistic information, such as memorizing rules, applying them, and engaging in analytical reasoning, helping learners to acquire and consolidate grammatical knowledge. Metacognitive strategies include several ways such as planning, monitoring, and evaluating the learning process, thereby enhancing learning outcomes through self-regulation. Social strategies promote understanding and application of grammar through interactions with others, such as cooperative learning and seeking help. Affective strategies focus on regulating learners' emotions and motivations, supporting grammar learning by reducing anxiety and boosting confidence. Pawlak's classification system clearly reveals the multidimensional strategy used in grammar learning and provides valuable references for related research.

2.2 Researches on grammar learning strategies

In the field of second language learning strategies, there has been relatively little research on grammar learning strategies (Oxford, 2017). The few existing studies mainly pay attention to identifying and describing the GLS used by learners. For example, Pawlak (2012), based on the early definition of GLS by Oxford et al. (2007), used a questionnaire to survey the use of GLS by English majors and found that while learners most frequently used cognitive GLS for grammar use in communication, traditional cognitive strategies still dominated. Pawlak (2013) combined macro and micro perspectives to explore the frequency and manner of GLS use by learners under general conditions, as well as the application and influencing factors of GLS in specific tasks. His studies demonstrate that while learners typically default to traditional cognitive strategies in most learning situations, the specific characteristics of language tasks play a decisive role in determining both strategy selection and effectiveness. This contextual nature of GLS use was further corroborated by Wach's (2016) comparative study of Polish university students. Her investigation uncovered significant variations in how students employed GLS when learning English (L2) versus Russian (L3), suggesting that language-specific factors may interact with strategic learning approaches.

Most of the questionnaires used in the above studies were adapted from Oxford's (1990) classification of language learning strategies and the Strategy Inventory for Language Learning (SILL). However, the results could not capture the uniqueness and complexity of grammar learning. Therefore, Pawlak (2018) designed a grammar learning strategy inventory (GLSI) based on his classification of GLS. Xu Jinfeng (2024) conducted a survey on the use of English grammar learning strategies by junior high school students using a questionnaire adapted from the GLSI. Xu noted that "the inventory not only fully considers the specificity of learning and using grammatical structures but also reflects the distinction between explicit and implicit knowledge. However, there are still relatively few empirical studies based on the GLSI" (p. 211).

Moreover, the majority of existing research focuses on the strategy use of English majors, with little attention given to non-English major students. To date, studies comparing the use of GLS between students of different majors are scarce, thereby overlooking the potential impact of academic major on strategy selection and use. Pawlak (2013) also pointed out that existing research has not thoroughly explored the effectiveness of strategy use and the underlying influencing factors. Based on the above research findings, this research aims to explore the relationship between students' academic majors and their use of grammar learning strategies (GLS) in the process of second language acquisition. Specifically, it addresses two key research questions:

(1)Does academic major (English majors vs. non-English majors) correlate with differences in GLS usage?

(2)Are there significant variations in how frequently these two groups employ GLS?

By comparing strategy use across disciplines, this study intends to provide deeper insights into how learners' academic backgrounds may influence their approach to grammar learning.

3. Methodology

Based on the above theoretical framework and research questions, this study uses quantitative research methods to systematically examine the differences in grammar learning strategies among students from different majors. This section will elaborate on the research methods.

3.1 Participants

The participants in this study were 70 students from Chinese universities, including 35 English majors (EM) and 35 non-English majors (NEM). The participants were aged between 18 and 26 and had all studied English for more than seven years. The participants included undergraduates and graduate students, and all had passed the College English Test Band 4 (CET-4). Some English majors and non-English majors had also passed higher-level English proficiency tests.

3.2 Questionnaire and data collection

The survey questionnaire was based on Pawlak's (2018) GLSI, which is the most comprehensive and validated instrument for investigating grammar learning strategies to date (Pawlak, 2018; Pawlak & Csizér, 2023). The original GLSI contains 70 five-point Likert scale items designed for university students. The final questionnaire used in this study retained 40 items from the original instrument, with good reliability (Cronbach's alpha > 0.7). A total of 70 anonymous questionnaires were distributed, and 64 valid responses were collected.

3.3 Data analysis

First, descriptive statistics were conducted using SPSS 27.0 to understand the general usage of GLS among EM and NEM. Given that the academic major is a dichotomous variable (1 for EM, 2 for NEM) and the scores of strategy use are approximately normally distributed continuous variables, a Point-Biserial Correlation Analysis was employed to test the correlation between the frequency of strategy use and academic majors. In SPSS, the Point-Biserial Correlation can be calculated using Pearson correlation. Finally, the differences in strategy use between the two groups were tested using the Mann-Whitney U test.

4. Research Results and Discussion

4.1 Descriptive analysis of strategy use

Table 1 shows descriptive statistics on the use of GLS by EM and NEM. According to the Likert 5-point scale survey standard proposed by Oxford & Burry-Stock (1992), mean scores in the questionnaire ranging from 1.0 to 2.4 indicate low frequency of use, 2.5 to 3.4 indicate moderate frequency, and 3.5 to 5.0 indicate high frequency.

Table 1. Descriptive Statistics for Grammar Learning Strategies

Strategies	Mean		Standard Deviation	
	EM	NEM	EM	NEM
Cognitive	3.80	3.76	0.43	0.55
Metacognitive	3.30	3.19	0.73	0.67
Social	3.42	3.75	0.69	0.60
Affective	3.15	3.56	0.71	0.72

Table 1 reveals notable patterns in grammar learning strategy use between EM and NEM. NEM students reported relatively high engagement with cognitive, social and affective strategies, as evidenced by mean usage frequencies all exceeding 3.4 on the measurement scale. While EM students demonstrated moderate use of metacognitive and affective strategies (means above 2.5), both groups showed similar patterns in terms of prioritizing cognitive strategies as the most commonly used method, followed by social strategies. Interestingly, there were negligible differences in the use of cognitive strategies between the different groups, which suggests the fundamental role of this approach in grammar learning regardless of academic background. However, distinct group differences emerged in other strategy types: EM students showed slightly greater preference for metacognitive strategies, whereas NEM students exhibited significantly higher engagement with both social and affective strategies. These variations may reflect differing learning approaches shaped by disciplinary backgrounds and language learning contexts. This may indicate that English majors are slightly more conscious and proactive in planning, monitoring, and evaluating their learning processes, while non-English majors are more inclined to promote grammar learning through interactions with others, such as discussing with peers and seeking help from teachers, and rely more on affective regulation when facing language challenges.

4.2 Correlation between strategy use frequency and academic major

The descriptive results mentioned above show distinct patterns in the use of GLS between the two groups. To determine whether these differences correlate with academic major, we conducted a Point-Biserial Correlation analysis between strategy use frequency and major. This analysis examines the potential relationship between disciplinary background and strategy preferences.

Table 2. Correlation between the Use Frequency of Strategies and Major

	Major	
	Pearson Correlation	Sig.
Cognitive	-.034	.791
Metacognitive	-.078	.538
Social	.247*	.049
Affective	.275*	.028

Table 2 presents the Pearson correlation coefficients between strategy use frequency and academic major, along with their significance levels. The results indicate that the correlations between academic major and both cognitive strategies ($r = -.034$, $p = .791 > 0.5$) and metacognitive strategies ($r = -.078$, $p = .538 > 0.5$) are not significant. This indicates that the difference in the frequency of using these two strategies between the two groups of students is unrelated to their majors. In other words, both EM and NEM tend to use cognitive and metacognitive strategies regularly. However, social strategies ($r = .247$, $p = .049 < 0.5$) and affective strategies ($r = .275$, $p = .028 < 0.5$) show a positive correlation with academic major, and this correlation is statistically significant. This indicates that the difference in the use frequency of these two strategies correlates with the students' majors. Specifically, students majoring in non-English subjects exhibit an increased tendency to employ social and affective strategies than those majoring in English, which is influenced by their majors.

This finding aligns with Pawlak's (2019) view, who pointed out that the use of GLS is influenced by various mediating variables, including learners' language proficiency, learning experience, educational background, gender, and age. Gu (2003) also supports the notion that strategies, as actions initiated by learners, inherently relate to individual difference factors such as motivation, self-efficacy, gender, learning background, and learning style. Since learners' language proficiency, learning experience, and educational background can vary depending on their academic major, it follows that academic major can also impact the use of GLS.

4.3 Differences in strategy use between the two groups of learners

The above analysis indicates that academic specialization has a significant impact on the use of different strategies, with a particularly significant correlation between academic specialization and the use of social and emotional strategies, warranting further investigation. To further explore the statistical significance of academic specialization on the differences in strategy use between the two groups of learners, a Mann-Whitney U test is required for further data analysis.

Table 3 shows that the differences between the two groups in the use of cognitive strategies ($U = 500.5$, $p = .925 > 0.5$) and metacognitive strategies ($U = 453.5$, $p = .464 > 0.5$) are not significant. This further corroborates the findings in Table 2, indicating that the use of cognitive and metacognitive strategies might not be influenced by academic specialization, and therefore the differences between the two groups are not significant.

Table 3. Differences in Strategy Use Frequency between the Two Groups

	Mann-Whitney U	Sig.
Cognitive	500.5	.925
Metacognitive	453.5	.464
Social	384	.094
Affective	359	.044

However, for affective strategies, the difference is statistically significant ($U = 359$, $p = .044 < 0.5$), indicating that non-English majors use affective strategies significantly more than English majors. This is consistent with the conclusion of the previous analysis, namely that the use of affective one is to some extent associated with learners' academic majors. On the other hand, the difference in social strategy use is approaching statistical significance ($U = 384$, $p = .094 > 0.5$) but does not reach the traditional threshold for statistical significance. Therefore, while we cannot definitively conclude that academic major influences the use of social strategies, the possibility cannot be entirely ruled out. To further explore whether there is a significant correlation between

the two, it would be necessary to increase the sample size, improve the questionnaire's reliability and validity, and continue the research.

5. Conclusion

Over the past few decades, grammar learning strategies (GLS) have gradually attracted the attention of scholars as an important branch of second language (L2) learning strategy research. However, existing research has mainly centered on the classification and identification of GLS, with little attention paid to exploring the strategy use patterns among learners from different backgrounds. In addition, many studies rely on traditional questionnaire survey methods, which may not adequately capture the complexity and specificity of grammar learning.

This study employed a modified version of Pawlak's (2018) Grammar Learning Strategies Inventory (GLSI) to quantitatively examine strategy use frequency among 70 Chinese university students (35 English majors and 35 non-English majors). Descriptive statistics, Point-Biserial Correlation, and Mann-Whitney U tests were used to analyze the data collected from the questionnaire survey. The aim was to systematically explore the variations in the use of grammar learning strategies across different disciplines, together with the relationship between strategy usage patterns and academic majors.

The results reveal distinct patterns in how academic majors relate to grammar learning strategy preferences. While cognitive and metacognitive strategies appear consistently used across disciplines, suggesting their fundamental role in language learning, social and affective strategies show clear disciplinary differentiation. Notably, non-English majors demonstrate greater reliance on affective strategies compared to English majors, highlighting how academic background may shape emotional and interpersonal aspects of grammar learning. The correlation analyses further support this disciplinary effect, confirming that academic major significantly predicts the use of social and affective strategies, but not more universal cognitive or metacognitive approaches. This pattern suggests that while certain core strategies transcend academic training, others are more sensitive to disciplinary context. The observed variation in affective strategy use particularly underscores how learners from different academic cultures may engage differently with the emotional dimensions of grammar acquisition. This suggests that non-English majors are more inclined to support their learning process through social interaction and emotional regulation when facing language learning challenges. Although the differences in social strategies approached statistical significance, they did not reach the traditional threshold. This indicates that further research is needed, using larger sample sizes and improved research methods, to explore this relationship in greater depth.

Although this study provides valuable insights into the influence of subject area on the use of grammar learning strategies, it is important to acknowledge its limitations. The relatively small sample and reliance on self-reported data may restrict the applicability of the findings. It would be beneficial for future research to incorporate larger, more diverse participant pools and combine questionnaire data with classroom observations or interviews to reflect strategy use more comprehensively.

Additionally, the relationship between subject area and strategy use is likely to be affected by other factors, such as personal motivation, teaching context, and learner proficiency, which warrant systematic investigation. Understanding these complex interactions could contribute to better applications of strategy instruction for different learner groups.

In conclusion, this study advances current understanding of how disciplinary backgrounds shape the pattern of GLS use, particularly highlighting differences in affective and social strategy use. The findings carry significant implications for language pedagogy, suggesting that strategy instruction may need to be adapted to learners' academic profiles. Moving forward, researchers should further examine how these strategies use patterns manifest in actual classroom settings and explore their teaching effectiveness across different contexts. Such investigations will contribute to more targeted and effective strategy-based instruction in second language education.

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References

[1] Ellis, R. (2006). Current issues in the teaching of grammar: An SLA perspective. *TESOL Quarterly, 40*(1), 83-107.

[2] Gu, P. Y. (2003). Vocabulary learning in a second language: Person, task, context and strategies. *Tesl-Ej, 7*(2), 1-25.

[3] O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge University Press.

[4] Oxford, R. L. (1990). *Language learning strategies: What every teacher should know.* Newbury House Publishers.

[5] Oxford, R. L. (2017). *Teaching and researching language learning strategies: Self-regulation in context* (2nd ed.). Routledge.

[6] Oxford, R. L., Lee, K. R., & Park, G. (2007). L2 grammar strategies: The second Cinderella and beyond. In A. D. Cohen & E. Macaro (Eds.), *Language learner strategies: Thirty years of research and practice*. Oxford University Press, 117-139.

[7] Oxford, R., & Burry-Stock, J. A. (1992). Assessing the use of language learning strategies worldwide with the ESL/EFL version of the Strategy Inventory for Language Learning (SILL). *System, 23*(1), 1-23.

[8] Pawlak, M. (2012). Instructional mode and the use of grammar learning strategies. In M. Pawlak (Ed.), *New perspectives on individual differences in language learning and teaching*. Springer, 263-287.
[9] Pawlak, M. (2013). Grammar learning strategies and teaching grammar. In C. A. Chapelle (Ed.), *The encyclopedia of applied linguistics*. Wiley-Blackwell, 1-8.
[10] Pawlak, M. (2013). Researching grammar learning strategies: Combining the macro-and micro-perspective. *Perspectives on foreign language learning*, 193-211.
[11] Pawlak, M. (2018). Grammar learning strategy inventory (GLSI): Another look. *Studies in Second Language Learning and Teaching, 8*(2), 351-379.
[12] Pawlak, M. (2019). Grammar learning strategies as a key to mastering second language grammar: A research agenda. *Language Teaching*, 1-13.
[13] Pawlak, M., & Csizér, K. (2023). Investigating the use of grammar learning strategies in Hungary and Poland: A comparative study. *Applied Linguistics, 44*(2), 347-369.
[14] Wach, A. (2016). L1-based strategies in learning the grammar of L2 English and L3 Russian by Polish learners. *System*, 61, 65-74.
[15] Xu Jinfen. (2024). Examining the Correlation between the Use of Grammar Learning Strategies and English Learning Achievements. *Modern Foreign Languages, 47*(2), 209-221.