

PSYCHOMETRIC PROPERTIES OF THE CHINESE EFL ADAPTED LANGUAGE LEARNING STRATEGIES SCALE FOR SPEAKING

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Abstract. This study presents the psychometric properties of an adapted version of the Strategy Inventory for Language Learning (SILL), an instrument employed for research on language learning strategies. It aimed to examine the reliability and construct validity evidence for the language strategies scale for speaking. Due to the limited validation research conducted in the Chinese EFL context, exploring the psychometric properties of the scale is, therefore, essential. A cross-sectional design with an appropriate sample size of EFL Chinese learners was employed to investigate the factor structure and item loadings across six strategic domains: memory, cognitive, compensation, metacognitive, affective, and social strategies. The reliability analysis of the scale demonstrated high internal consistency, while the Confirmatory Factor Analysis (CFA) conducted on the 30 items of a five-point Likert scale revealed that the six-factor model exhibited a good fit to the data. The findings support the scales factor stability and suggest its applicability for measuring speaking strategies among Chinese EFL learners. The study extends the utility of the six-factor structure instrument in assessing language learning strategies of the speaking dimension for EFL learners.

Keywords: *speaking, language learning strategies, psychometric properties, validation*

Introduction

English proficiency plays a significant role in communication, employment, and global navigation. A mastery of English enables individuals to engage effectively in various contexts and situations, such as establishing clear communication, improving career prospects, and supporting academic and professional growth (Shaikh et al., 2023). Apart from that, it facilitates global mobility and seamless access to international resources. From these perspectives, speaking proficiency, being a critical component of language competence, serves as a gateway to these opportunities and thus greatly influences language learners personal and professional success in life, according to Maldonado Murillo (2023). Speaking skills have long been recognized as a significant contributor to successful communication. Essentially, they help individuals express their ideas, thoughts, and information clearly and effectively, fostering better understanding and engagement in conversations. Empirically speaking, not only do they facilitate daily and professional interactions, but it also reflects a learner's overall language proficiency in many facets, such as fluency, accuracy, pronunciation, vocabulary, and grammar. Speaking is often prioritized as the most observable and practical skill that demonstrates the learners ability to use the target language in authentic situations; hence, it is a common indicator of proficiency. Evidently, speaking skills remain a vital element of successful communication and a key measure of language learning success to support learners in achieving proficiency in the target language. To communicate effectively, it is essential that language learners possess good speaking skills. The skills require them

to integrate multiple linguistic components, including grammar, vocabulary, pronunciation, fluency, and the effective conveyance of meaning, as mentioned by Antunes (2022). Investigating speaking skills in the EFL learners' context, Ghafar and Raheem (2023) argue that a myriad of factors, such as teacher and teaching-related aspects, curriculum, environmental factors, and affective and psychological factors, may also influence speaking skills. They suggest that effective speaking skills could be fostered through the interplay of cognitive, affective, and contextual factors. Given the complexity of these demands, language learners, therefore, must adopt a variety of speaking approaches to overcome obstacles in second language production or even to enhance their speaking skills in a foreign language. Through effective use of speaking strategies, language learners can overcome difficulties, regulate their learning process, and boost their speaking performance (Amin et al., 2024; Antunes, 2022). By acknowledging what helps develop speaking skills and enhance speaking proficiency, language learners can now learn how to employ speaking strategies that work best for them.

Research consistently demonstrates that the frequent and appropriate use of speaking strategies leads to significant improvements in learners speaking performance (Derakhshan and Fathi, 2023; Zhang et al., 2022; Lestari and Wahyudin, 2020). Learners with high strategic awareness are more likely to persevere through communicative difficulties, engage actively in speaking tasks, and demonstrate flexibility and resilience. Conversely, those with low strategic engagement may exhibit reduced participation, lower confidence, and stagnation in speaking skill development. However, speaking difficulties often persist when learners lack explicit training in the use of strategies, highlighting the need for pedagogical interventions that foster awareness, practice, and transfer of effective speaking strategies. Despite the acknowledged importance of speaking learning strategies, empirical research on the measurement and validation of strategy use specific to speaking remains limited, particularly in the Chinese EFL context. While Oxford (1990) Strategy Inventory for Language Learning (SILL) has provided a broad framework for assessing strategy use, its application to speaking-specific skills and across diverse cultural settings has revealed psychometric limitations (Ibrahim et al., 2023). This highlights the need for more contextual instruments that can accurately capture the multidimensional nature of the speaking strategy use among EFL learners. Researchers such as Ibrahim et al. (2023) adapted the original SILL to create the Language Learning Strategies Scale for Speaking (LLSS-S), specifically on strategies used to develop speaking skills. The adaptation process involved refining items to capture the nuances of speaking better, recognizing that speaking production presents distinct challenges compared to receptive skills like listening or reading. Ibrahim et al. (2023) study highlighted the necessity for speaking-specific measurement tools that maintain high construct validity and reliability across different cultural contexts.

Given the limited validation studies in the Chinese EFL environment, it is crucial to examine the psychometric properties of the LLSS-S. This could help guarantee that the scale accurately measures the strategic behaviors that Chinese learners engage in to improve their speaking abilities. Accordingly, the present study aimed to validate an adapted version of the Language Learning Strategies Scale for Speaking (LLSS-S) through employing Confirmatory Factor Analysis (CFA). The study primarily examined the reliability and construct validity of the LLSS-S. The findings were expected to

contribute to the development of robust assessment tools for speaking strategies and to inform pedagogical practices aimed at enhancing learners' speaking proficiency.

Literature review

Oxfords (1990) Strategy Inventory for Language Learning (SILL)

The study framed Oxfords Strategy Inventory for Language Learning (SILL) as its theoretical foundation because it is grounded on a comprehensive classification of language learning strategies and its extensive use in cross-cultural research. SILL provides a well-founded reference for adapting a strategy scale, particularly for speaking. By grounding the instrument in the framework, the study could pursue a rigorous investigation of the psychometric properties (e.g., reliability and construct validity) of the Chinese EFL-adapted Language Learning Strategies for Speaking. This Language Learning Strategies framework offers a widely validated framework for understanding language learning strategies across cultural and linguistic contexts. Oxford (1990) delineates language learning strategies into two overarching categories: direct and indirect strategies. Direct strategies are employed to engage directly with new language material and pertain specifically to tasks and situations involving the target language. They include memory, cognitive, and compensation strategies. In contrast, indirect strategies encompass broader aspects of learning management and are divided into metacognitive, affective, and social strategies. Drawing upon Oxford (1990) widely accepted framework, LLS-S can be classified into six categories, namely speaking memory strategies, speaking cognitive strategies, speaking compensation strategies, speaking metacognitive strategies, speaking affective strategies, and speaking social strategies as displayed in *Table 1*. Speaking memory strategies focus on retention and recall, speaking cognitive strategies involve processing new and known information, and speaking compensation strategies aim to overcome gaps in knowledge. Speaking metacognitive strategies deal with the overarching regulation of learning processes. Speaking affective strategies are about managing feelings, perceptions, and goals to positively influence the learning environment, while speaking social strategies focus on the use of learners' social interaction to facilitate language acquisition. The effective integration of these strategies is considered essential for achieving proficiency in speaking. These categories are closely aligned to speaking competence, thereby providing a robust basis for adapting and validating a skill-specific instrument for Chinese EFL learners

Table 1. *The classification of LLSS-S.*

Category	Subcategory
Speaking Memory Strategies	Using phonological tools such as rhymes and pronunciation to aid memory Translating from L1 to L2 and producing sentences orally Recording and replaying speech to reinforce retention
Speaking Cognitive Strategies	Self-speaking for practice Preparing grammatical rules Making oral sentences to learn new patterns Recalling L2 equivalents of L1 words
Speaking Compensation Strategies	Guessing the speaker's meaning from context Mixing L2 and L1 words Using gestures to communicate Focusing on speaker's main points
Speaking Metacognitive Strategies	Repeating words/sentences aloud Self-correcting errors Evaluating spoken output Monitoring pronunciation and grammar Planning responses in writing

	Comparing L2 and L1 structures
Speaking Affective Strategies	Encouraging yourself to speak Relaxing when anxious Thinking in L1 and translating to L2 Asking questions to initiate speech
Speaking Social Strategies	Asking others for correction Practicing with others Clarifying understanding from interlocutors Checking listener comprehension

Definition of language learning strategies for speaking construct

The Language learning strategies (LLS) construct has been defined variably across authors, indicating a significant lack of consensus regarding its definition and characteristics. This suggests that a unified notion of LLS remains elusive (Ranjan and Philominraj, 2019; Aouri, 2013; Griffiths, 2010). To address the need for clarity in defining the construct, Dörnyei (2014) proposes that effective strategies must be distinguished from non-strategic actions based on their efficacy and efficiency, as understanding the strategies learners employ during second language acquisition, according to Cohen and Macaro (2013), could enhance educational practices. In line with this, among the various definitions of language learning strategies (LLS), this study adopts the framework proposed by Oxford (1990), who defines strategies as specific actions, behaviours, steps, or techniques that students (often intentionally) use to improve their progress in developing L2 skills. She further elaborates that such strategies are specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations. In this study context, the LLS for speaking (LLS-S) construct can be further specifically and operationally defined as specific actions or techniques that EFL learners employ to enhance their skills development in speaking.

Previous studies

Establishing construct validity is a central step in psychometric evaluation, particularly when adapting or extending instruments across linguistic and cultural settings. A notable example is the study by Tragant et al. (2013), who revised and validated a 55-item LLS instrument using both exploratory (EFA) and CFA with a large sample of secondary school learners. Their results supported a two-factor model that distinguished between deep processing strategies (e.g., inference, evaluation, monitoring) and language study strategies (e.g., rote memorization, repetition, translation). The analysis yielded acceptable psychometric properties, reinforcing the conceptual distinction between surface-level and cognitively demanding strategy types. Similarly, Park (2011) conducted a large-scale CFA study on Oxfords Strategy Inventory for Language Learning (SILL) with 914 Korean university students. He compared three structural models: one-factor, two-factor (direct vs. indirect), and six-factor (aligned with Oxfords original classification). While the six-factor model showed a marginally better fit than the alternatives, none met established thresholds for model adequacy (CFI < .70, RMSEA > .06). These findings raised concerns about the universal applicability of the SILL structure, and they underscored the need for context-specific and skill-oriented instrument refinement. More recently, Ibrahim et al. (2023) adapted the original SILL to focus exclusively on speaking strategies, resulting in the development of the Language Learning Strategies Scale for Speaking (LLSS-S). Their validation study, conducted among Malaysian ESL learners, confirmed a six-factor

structure consistent with Oxfords taxonomy with strong internal consistency. However, the authors acknowledged the need for further cross-cultural validation, particularly in under-explored contexts such as East Asia. In response to this gap, CFA was used to confirm the six-factor structure of the adapted LLSS-S to ensure each item adequately loads onto its intended latent factors, by evaluating the models goodness of fit using the established statistical criteria, and thus, provide evidence for the scales structural and construct validity within the Chinese EFL learner population.

Materials and Methods

Participants

The sampled population for validation purposes consisted of 186 EFL learners from a university in Hebei Province, China, comprising 97 males and 89 females. They were selected using convenience sampling and completed the survey voluntarily. The sample size aligned with the recommendations for CFA, which suggest a range of 100-200 subjects to ensure the precision and stability of parameter estimates (Kyriazos, 2018). Their breakdown of demographic details is shown in *Table 2*, calculated using frequencies and percentages. Based on *Table 1*, the descriptions of the respondents profiles were based on their gender, age group, department types, years they spent studying English, years they spent speaking English through English courses, English speaking proficiency, and the level of importance they rated on speaking English. Of 186 respondents, more than half (56%) were aged between 18 and 21 years old, while the rest (43.5%) were between 22 and 25 years old. Many of them (83.9%) were from the Engineering and Medicine departments, with 43.6% and 40.3% respectively. The remaining (16.1%) were Humanities & Arts, and Economics & Management. Overall, the majority were Generation Z who studied Science and Technology.

Table 2. Descriptive statistics of respondents' demographic profiles in frequencies and percentages.

Variable	Frequency (N=186)	Percentage (%)
Gender		
Male	94	50.5
Female	92	49.5
Age Group		
18-21	105	56.5
22-25	81	43.5
Department		
Engineering	81	43.6
Medicine	75	40.3
Humanities and Arts	13	7.0
Economics & Management	17	9.1
Years of English study		
5-10 years	129	69.4
More than 10 years	57	30.6
Years of attending English-speaking courses		
1-3 years	16	8.6
4-6 years	79	42.5
7-10 years	69	37.1
More than 10 years	22	11.8

English-speaking proficiency		
Excellent	67	36.0
Good	77	41.4
Fair	27	14.5
Poor	15	8.1
Importance of speaking in English		
Very important	124	66.7
Important	45	24.2
Not important	17	9.1

In terms of years spent studying English, the majority (69.4%) had 5 to 10 years of studying English, while 30.6% spent more than 10 years studying English. Additionally, they also attended English-speaking courses. While 11.8% attended such courses for more than 10 years, most respondents (79.6%) had undertaken such training, where 42.5% had 4 to 6 years of learning speaking in English, and 37.1% went through such experience between 7 and 10 years. These indicate that there was a huge concern among the respondents to be proficient in EFL. Lastly, the demographic profiling of the respondents covered their English-speaking proficiency, which was based on standardized English test scores, and their rated level of importance of speaking in English. The results demonstrated that a substantial number of respondents had English-speaking proficiency ranging from good to excellent. 36% rated themselves as having excellent proficiency in speaking, and 41.4% had good speaking proficiency. Regarding the level of importance of speaking in English, the majority felt that speaking English was very important, with 66.7%, and 24.2% chose important, whereas not important received 9.1% responses. These findings indicated that more EFL learners are becoming more proficient as they see the importance of speaking in English.

Instruments of the study

The instrument utilized was an adapted version of the LLSS-S (Ibrahim et al., 2023), which encompasses six categories: speaking memory strategies, speaking cognitive strategies, speaking compensation strategies, speaking metacognitive strategies, speaking affective strategies, and speaking social strategies. Each item was rated on language learning strategies ranging from 1 (never use) to 5 (always use). A back-translation procedure was implemented to ensure the cultural and linguistic equivalence of the Chinese version of the scale. Expert reviews and pilot testing were conducted to verify the relevance, clarity, and appropriateness of the adapted items for the target population.

Data collection and analysis

Data collection was conducted during the 2024 academic year after obtaining research ethics approval. Two hundred questionnaires were distributed, of which 186 valid responses were returned. The response rate was 93%. Subjects were informed that their participation was voluntary and that their responses would remain anonymous and confidential. Data analysis was performed using IBM SPSS Statistics 26. Preliminary data screening was carried out to identify missing values and assess the normality of the distributions. Descriptive statistics were used to summarize participant demographics and item responses. For the reliability analysis, Cronbach's alpha coefficients were used to assess internal consistency; values greater than 0.70 were regarded as acceptable

(George and Mallery, 1999). Construct validity was assessed by calculating Composite Reliability (CR) and Average Variance Extracted (AVE), requiring CR > 0.70 and AVE > 0.50 (Hair et al., 2021). According to Fornell and Larcker (1981), discriminant validity was assessed by comparing each construct's correlations with other constructs to the square root of its AVE. Construct validity requires proof that indexes the latent variables in a study and is usually demonstrated through CFA (Lambert and Newman, 2023).

An EFA was initially run to explore the underlying factor structure of the adapted scale. Subsequently, CFA was employed to validate the factor structure identified by the EFA for validating the factor structure of psychometric instruments. The method enables researchers to test the extent to which observed data fit a hypothesized factor structure, assess item loadings, and evaluate overall model fit using indices such as the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR) (Lambert and Newman, 2023). Model fit was assessed using multiple indices, including the Chi-square statistic (χ^2), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Normed Fit Index (NFI), and Non-Normed Fit Index (NNFI). Recommended thresholds were RMSEA < 0.06, CFI and NNFI > 0.90, and $\chi^2/df < 3$ (Ximénez et al., 2022).

Results and Discussion

Validation of the adapted Language Learning Strategies Scale for Speaking (LLSS-S)

Reliability analysis

Table 3 reports the results of the reliability analysis of the factors of the scale. The results of the analysis demonstrated high internal consistency across all subscales of the adapted LLSS-S (Table 3). The Cronbach's alpha values ranged from 0.772 (Memory Strategies) to 0.880 (Metacognitive Strategies), exceeding the acceptable threshold of 0.70, indicating high reliability across all the factors. The overall Cronbach's alpha coefficient for the scale was 0.83, indicating robust reliability.

Table 3. LLSS-S reliability analysis results.

Factor	Cronbach's Alpha (α)
Speaking Memory Strategies	0.772
Speaking Cognitive Strategies	0.829
Speaking Compensation Strategies	0.845
Speaking Metacognitive Strategies	0.880
Speaking Affective Strategies	0.797
Speaking Social Strategies	0.842

Sampling adequacy

Table 4 presents the results of the factor analysis, reporting the assessment of sampling adequacy and item correlations. The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity were conducted to ensure the suitability of the data for factor analysis. The findings confirmed that the dataset met the necessary criteria for reliable factor extraction. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.822, surpassing the recommended threshold of 0.6, indicating that the

sample was adequate for factor analysis. Bartlett’s Test of Sphericity yielded a significant result ($\chi^2 = 2723.439$, $df = 435$, $p < 0.001$), confirming that the correlations among items were sufficiently large for CFA.

Table 4. Summary of factor analysis results.

Measure	Value	Recommended threshold
KMO	0.822	> 0.6
Bartlett’s Test χ^2	2723.439	-
Degrees of Freedom (df)	435	-
p-value	0.000	< 0.05

Confirmatory Factor Analysis (CFA): Construct Validity

CFA results indicated strong construct validity for the adapted LLSS-S as displayed in Table 5, evaluating the validity and reliability of the proposed measurement model. The model fit indices indicate a strong overall fit, confirming the robustness of the factor structure. All standardized factor loadings were found to exceed 0.50, ranging from 0.528 to 1.000, suggesting that all items meaningfully contributed to the respective constructs. All loadings were statistically significant at $p < 0.001$. Overall, the CFA results establish a well-fitted model, confirming the appropriateness of these strategies in supporting speaking proficiency development.

Table 5. Summary of the results of CFA.

Factor	Example Item	Standardized Estimate	Squared Multiple Correlation (R ²)
Speaking Memory Strategies	I use rhymes to remember new English words.	0.979	0.958
Speaking Cognitive Strategies	I try to speak with myself to improve my speaking.	0.973	0.947
Speaking Compensation Strategies	I practice guessing based on context.	1.000	1.000
Speaking Metacognitive Strategies	I speak a word several times to remember it.	0.989	0.977
Speaking Affective Strategies	I encourage myself to try to speak.	0.965	0.932
Speaking Social Strategies	I ask somebody to correct me when speaking.	0.986	0.972

Composite Reliability (CR) and Average Variance Extracted (AVE)

Composite Reliability (CR) exceeded 0.70 for all constructs, indicating good internal consistency. Most AVE values exceeded 0.50, Memory Strategies (0.476) and Metacognitive Strategies (0.457), which slightly fell below the recommended threshold, suggesting areas for potential refinement as displayed in Table 6.

Table 6. CR and AVE values for each speaking construct.

Factor	AVE	CR
Speaking Memory Strategies	0.476	0.772
Speaking Cognitive Strategies	0.557	0.829
Speaking Compensation Strategies	0.586	0.845
Speaking Metacognitive Strategies	0.457	0.880
Speaking Affective Strategies	0.508	0.797
Speaking Social Strategies	0.526	0.842

Discriminant validity analysis

In the present study, discriminant validity was evaluated through CFA by comparing the square root of the AVE with the inter-construct correlations. According to Cheung et al. (2024), the assessment followed established psychometric standards and comprised three key steps: First, in the correlation matrix, the diagonal entries represent the square roots of AVE for each construct, whereas the off-diagonal entries denote the inter-factor correlation coefficients. Second, the square root of AVE serves as an indicator of construct validity, while the inter-construct correlations reflect the degree of association between distinct constructs. The discriminant validity of the study’s constructs was satisfactory since a constructs AVE square root is substantially greater than the absolute value of its correlations with all other constructs. Third, if this pattern consistently holds across the constructs, the measurement model is deemed to possess robust discriminant validity.

An analytical inspection of the results revealed the following: For Speaking Memory Strategies, the AVE square root value was 0.690, which exceeded the highest absolute inter-construct correlation (0.433), thereby indicating satisfactory discriminant validity. For Speaking Cognitive Strategies, the AVE square root value (0.746) was greater than the maximum absolute correlation (0.379), supporting discriminant validity. For Speaking Compensation Strategies, the AVE square root value (0.766) surpassed the largest inter-construct correlation absolute value (0.382), confirming discriminant validity. For Speaking Metacognitive Strategies, the AVE square root value (0.676) exceeded the highest correlation value (0.433), further affirming discriminant validity. For Speaking Affective Strategies, the AVE square root value (0.713) was greater than the maximum absolute correlation (0.344), demonstrating good discriminant validity. For Speaking Social Strategies, the AVE square root value (0.726) exceeded the highest inter-construct correlation (0.374), indicating satisfactory discriminant validity as indicated in *Table 7*.

Table 7. Discriminant validity analysis.

Category	Speaking Memory Strategies	Speaking Cognitive Strategies	Speaking Compensation Strategies	Speaking Metacognitive Strategies	Speaking Affective Strategies	Speaking Social Strategies
Speaking Memory Strategies	0.690					
Speaking Cognitive Strategies	0.379	0.746				
Speaking Compensation Strategies	0.382	0.195	0.766			
Speaking Metacognitive Strategies	0.433	0.274	0.157	0.676		
Speaking Affective Strategies	0.313	0.232	0.031	0.204	0.713	
Speaking Social Strategies	0.374	0.187	0.154	0.229	0.344	0.726

Model fit indices

Model fit indices demonstrated that the six-factor model had an acceptable fit to the data. Although the Goodness-of-Fit Index (GFI) was slightly below 0.90, other indices such as CFI (0.961), NNFI (0.956), and RMSEA (0.037) indicated a well-fitting model (*Table 8*).

Table 8. Summary of the model fit indices.

Fit index	Value	Recommended threshold
Chi-square (χ^2)	487.694	-

Degrees of Freedom (df)	390	-
p-value	0.001	> 0.05
χ^2/df	1.250	< 3
Goodness-of-Fit Index (GFI)	0.858	> 0.90
RMSEA	0.037	< 0.06
Comparative Fit Index (CFI)	0.961	> 0.90
Normed Fit Index (NFI)	0.832	> 0.90
Non-Normed Fit Index (NNFI)	0.956	> 0.90

The present study has provided robust psychometric evidence for the scale. It revealed that CFA results supported the six-factor structure of the scale, and the discriminant validity checks demonstrated that the six factors were sufficiently distinct from each other, providing strong evidence for its construct validity. Additionally, Cronbach's Alpha values, indicating the internal consistency reliability of the scale, were high across all six subscales, exceeding 0.77. This corroborates with those of Ibrahim et al. (2023) study that reported similarly strong internal consistencies when adapting language learning strategy scales to specific skill areas and cultural contexts. The CFA results demonstrated a satisfactory model fit, as indicated by indices such as RMSEA (0.037), CFI (0.961), and NNFI (0.956), which all met or exceeded recommended thresholds. Similarly, in earlier studies such as Ximénez et al. (2022) as well as Oxford (1990), the findings also demonstrated the factorial stability of learning strategy constructs even when applied specifically to speaking skills in a Chinese EFL environment. Although the CR values for all the factors were above 0.70, the AVE values for Memory and Metacognitive strategies were slightly below the 0.50 benchmark. This suggests potential areas for refinement in future versions of the scale, particularly in clarifying items that measure learners memory-related and self-regulatory speaking behaviors. Nevertheless, discriminant validity was successfully established for all factors, as the square root of each AVE exceeded the maximum inter-construct correlations, in line with Fornell and Larcker (1981) criterion.

The inter-factor correlations observed in this study were generally positive, especially between cognitive, metacognitive, and compensation strategies. This finding mirrors previous research such as Zhang and Sukying (2022) as well as Saks and Leijen (2018), indicating that proficient speakers often integrate cognitive and self-regulatory strategies during speaking communication. The strong correlations also reflected the interconnected nature of strategy use in speaking tasks, suggesting that learners did not employ strategies in isolation but as part of broader, coordinated efforts to enhance performance. Finally, the findings reinforce the conceptualization of speaking learning strategies as a multidimensional construct, comprising six interrelated domains. This supports Oxford (1990) original taxonomy, as well as the adapted speaking-focused frameworks proposed by Ibrahim et al. (2023). The validation of the LLSS-S thus provides a reliable and contextually sensitive tool for assessing strategic behaviors that underpin speaking proficiency development in EFL settings.

Conclusion

This study validated an adapted version of LLSS-S in a Chinese EFL university context using Confirmatory Factor Analysis. The adapted scale demonstrated strong internal consistency, satisfactory model fit, and acceptable discriminant validity across six strategic domains. The study suggests that the adapted LLSS-S is a reliable and valid

instrument for assessing speaking strategy use among Chinese EFL learners. Several limitations should be acknowledged. First, only one university in Hebei Province was included in the study sample, which would have limited how broadly the results can be applied. Future studies should consider more diverse samples across different regions and proficiency levels. Second, while the adapted scale was effective for self-report data, it did not incorporate observational or performance-based assessments of speaking strategies, which could provide richer validation evidence. Third, the slightly lower AVE values for some factors suggest that further item refinement and testing could enhance the scales construct validity. Despite some minor limitations, this research contributes significantly to the field of language learning strategy assessment by providing an empirically tested tool specific to the speaking domain in an EFL context.

The study advances the understanding of a clear use of the adapted LLSS-S advance. It also yields several implications in terms of future research, language teaching, and curriculum design. For teachers and future research, it offers a reliable tool to measure or even diagnose speaking strategy use among Chinese EFL learners. In the context of language teaching, teachers can now prepare targeted instructions once they learn their language learners speaking strategies. For curriculum designers, the six-factor structure provides a framework for embedding strategy training into speaking-focused courses. Future research should not only validate the scale with larger and more diverse samples but also explore longitudinal designs to assess the stability of speaking strategy use over time. Additionally, qualitative methods, such as learner interviews or think-aloud protocols, could complement quantitative findings and provide deeper insights into learners strategic behavior. Lastly, future researchers can embark on further investigations, such as the relationship between learners speaking strategy use and learning outcomes (speaking proficiency, confidence, or language anxiety).

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Conflict of interest

The authors confirm that there is no conflict of interest involved with any parties in this research.

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