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Original Paper

Research on Listening Strategies for English Majors

Qian Li

School of Foreign Languages, Hubei Univ. of Tech., Wuhan, 430068, China

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Abstract

Listening, as a core input skill in English learning, is closely associated with the development of speaking, reading, and writing abilities, and accounts for a significant proportion in important English proficiency tests such as CET-4, CET-6, TEM-4 and TEM-8. However, many English majors encounter difficulties in listening comprehension, lacking the application of targeted strategies, and relying on blind training. To address this issue, this study aims to investigate the overall use of listening strategies by English majors, explore the differences in strategy application among students of different grades and listening proficiency levels, and clarify the correlation and predictive effect between listening strategies and listening scores. A questionnaire survey was conducted among 112 English majors from a university in Hubei Province, and SPSS 26.0 was used for descriptive statistics. The results show that: (1) Among the three types of listening strategies, metacognitive strategies are used the most frequently, followed by cognitive strategies, and affective strategies the least; (2) There is no significant difference in the use of listening strategies between lower-grade students (freshmen and sophomores) and upper-grade students (juniors and seniors), though upper-grade students use metacognitive strategies slightly more frequently; (3) There is a significant difference in the use of metacognitive strategies between students with high and low listening proficiency, with high-proficiency students using them more often; (4) Metacognitive strategies are significantly positively correlated with listening scores and can significantly predict listening scores, while cognitive and affective strategies show no significant correlation with listening scores. Based on the research results, this study suggests that English listening teaching should strengthen the training of metacognitive strategies, cultivate students' awareness of autonomous learning, and improve their listening comprehension ability through targeted strategy guidance.

Keywords

Listening strategies, English majors, Metacognitive strategies

1. Introduction

1.1 Research Background

As the most fundamental and commonly used skill in language communication, listening plays a pivotal role in the process of second language acquisition. In English learning, listening is not only an important channel of language input but also a prerequisite for the development of speaking, reading, writing and translation skills (Rost, 2002). With the deepening of the reform of college English teaching in China and the adjustment of the structure of English proficiency tests, the status of listening comprehension has become increasingly prominent. As early as 2007, the CET-4 and CET-6 were fully reformed, raising the proportion of the listening section from 20% to 35%, which emphasized the assessment of students' practical listening ability. For English majors, the TEM-4 and TEM-8 set high thresholds for listening skills, requiring students to understand authentic English materials such as lectures, conversations and news reports.

However, the current situation of listening learning among English majors is not optimistic. Many students report feeling anxious and helpless in the process of listening comprehension: they fail to capture key information quickly, find it difficult to adapt to unfamiliar accents or fast speaking speeds, and lack effective learning strategies (Gu, 2019). Instead of analyzing their own deficiencies and choosing targeted training strategies, they rely on blind repetition and passive acceptance, leading to low learning efficiency and unsatisfactory listening test scores (Wen, 2017). This phenomenon not only restricts the improvement of students' listening ability but also hinders the development of their overall professional English literacy.

Foreign scholars have paid extensive attention to listening strategy research since the 1990s. O'Malley and Chamot (1990) proposed a three-dimensional classification framework of learning strategies (metacognitive, cognitive, and affective strategies), which has become the classic theoretical foundation for listening strategy research. Domestic research on listening strategies started relatively late and entered a stage of rapid development in the late 1990s. Scholars have carried out research on the relationship between the use of listening strategies and listening proficiency, the impact of strategy training on listening scores, and the role of individual factors such as anxiety and thinking style on strategy selection (Zhao, 2007; Zhao, 2021). Nevertheless, existing studies still have certain limitations: the sample size is generally small (usually 50-80 participants), resulting in insufficient representativeness of the results; the research focus is mostly on the differences in strategy use among different groups, with inadequate in-depth discussion on the predictive effect of listening strategies on listening scores; and few studies systematically analyze the relationship between strategies and scores by comprehensively using a variety of statistical methods.

Against this background, this study uses SPSS for in-depth statistical analysis to explore the use of listening strategies by English majors from multiple perspectives, including the overall situation, group differences, correlation, and predictive effect. The research results are expected to provide more reliable empirical evidence for English listening teaching and help teachers formulate more targeted strategy training programs.

1.2 Definition of Core Concepts

Based on O'Malley and Chamot's (1990) learning strategy framework and combined with the characteristics of English listening comprehension, this study defines the three core concepts as follows:

1.2.1 Listening Strategies

Listening strategies refer to the conscious, purposeful, and adjustable cognitive and affective behaviors adopted by learners in the listening process to improve the efficiency of listening comprehension. These strategies are not innate but can be acquired and improved through learning and training, helping learners process and understand listening information better.

1.2.2 Metacognitive Strategies

Metacognitive strategies are higher-level cognitive management strategies involving learners' planning, monitoring, evaluation, and adjustment of their own listening learning process. In this study, they are divided into four subcategories: selective attention (consciously focusing on key information and eliminating interference), self-monitoring (controlling listening speed and time, and checking comprehension in real time), self-evaluation (evaluating the effectiveness of listening strategies and making timely adjustments), and self-management (selecting listening materials suitable for one's own level and formulating learning plans).

1.2.3 Cognitive Strategies

Cognitive strategies are specific operational strategies for learners to directly process listening information, including 12 subcategories: prediction (predicting the content of listening materials based on options or context), use of background knowledge (connecting listening content with existing knowledge), use of sound representation (identifying information through intonation, stress and pauses), translation (converting English listening content into Chinese for understanding), repetition (replaying and memorizing key or unfamiliar information), use of target language resources (analyzing listening content with vocabulary and grammar knowledge), classification (classifying and organizing listening information), note-taking (recording key words and logical relationships), association (linking similar or related information), generalization (summarizing the main idea of listening materials), grammatical analysis (understanding complex sentences with grammatical rules), and guessing the meaning of new words (inferring the meaning of new words from context).

1.2.4 Affective Strategies

Affective strategies refer to the strategies used by learners to regulate their emotional state and obtain social support in the listening process, including three subcategories: cooperation (seeking help from teachers or classmates when encountering difficulties), anxiety overcoming (adjusting mentality and reducing anxiety caused by new words or unclear content through deep breathing and self-comfort), and self-encouragement (affirming one's own performance after completing listening tasks to enhance confidence).

1.3 Literature Review

1.3.1 International Research on Listening Strategies

International research on listening strategies started early with abundant achievements, mainly focusing on strategy classification, the relationship between strategy use and language proficiency, and the effect of strategy training.

The three-dimensional classification framework of learning strategies proposed by O'Malley and Chamot (1990) has become the classic theoretical foundation for listening strategy research. Their study found that high-proficiency second language learners use metacognitive strategies more frequently, and the rational use of strategies can significantly improve the efficiency of language learning. Later, Vandergrift (1997) conducted a descriptive study on the listening strategies of French learners and found that successful listeners are better at using metacognitive strategies such as planning and monitoring, and can flexibly adjust the use of strategies according to the difficulty of listening materials. In a subsequent study, Vandergrift (2004) verified through experimental research that metacognitive strategy training can significantly improve learners' listening comprehension ability and enhance their learning confidence.

Bacon (1992) explored the listening process of Spanish learners and divided it into three stages: initial comprehension, detail processing, and integration. He found that learners use different cognitive strategies at different stages: prediction and background knowledge are mainly used in the initial stage, while repetition and note-taking strategies are more used in the detail processing stage. Ellis (1994) pointed out in The Study of Second Language Acquisition that there is a positive correlation between target language proficiency and the use of metacognitive strategies, and high-proficiency learners can use metacognitive knowledge to monitor the learning process, evaluate learning effects, and clarify learning directions.

In recent years, foreign research has gradually shifted to the combination of listening strategies and individual differences. For example, Goh and Taib (2006) studied the impact of metacognitive strategy training on adolescent learners and found that training can not only improve listening scores but also promote the growth of learners' strategic knowledge. Rubin (2019) emphasized that listening strategy teaching should take into account learners' individual characteristics, such as learning style and anxiety level and carry out personalized training.

1.3.2 Domestic Research on Listening Strategies

Domestic research on listening strategies started relatively late and entered a rapid development stage in the late 1990s. Scholars have carried out research on the relationship between the use of listening strategies and listening proficiency, the impact of strategy training on listening scores, and the role of individual factors on strategy selection.

Wen (2017) compared the impact of two listening strategy training models (CALLA and CAI) on college students' listening ability, and the results showed that both training models can improve students' listening scores and the frequency of strategy use, and the web-based strategy training has more obvious advantages. Gu (2019) investigated the listening anxiety and coping strategies of 293 English majors and

found that most students have high listening anxiety, mainly manifested as “pressure in the listening process” and “fear of listening materials”. Students mainly use metacognitive strategies and compensation strategies to cope with anxiety, but the effect is not ideal.

Zhao (2007) explored the correlation between the use of listening strategies and listening proficiency through empirical research and found that metacognitive strategies have the strongest correlation with listening scores, and high-proficiency students use metacognitive strategies more frequently. Based on Sternberg’s theory of mental self-management, Zhao (2021) studied the relationship between thinking style, listening strategies and listening scores of English majors, and the results showed that thinking style affects students’ strategy selection, and teachers should formulate teaching plans according to students’ individual differences.

Zhang et al. (2013) analyzed the mediating effect of listening strategies between metacognitive awareness and listening scores and found that metacognitive strategies have a significant mediating effect. Guo et al. (2007) studied the characteristics of college students’ listening strategies and pointed out that upper-grade students are better at using social strategies and metacognitive strategies because they have formed autonomous learning ability after years of college study.

1.3.3 Summary of Existing Research

Overall, foreign research on listening strategies has a sound theoretical system and diverse research methods, including descriptive research, experimental research and longitudinal research, with the research focus on the mechanism of strategy action and training effects. Domestic research has made certain progress in the investigation of the current situation and strategy training, but there are still the following deficiencies: Firstly, the sample size of most studies is small, resulting in insufficient reliability and representativeness of the results; Secondly, the research methods are relatively single, mostly limited to questionnaire surveys, lacking supplementary verification from interviews, classroom observations or experimental research; Thirdly, the research content mainly focuses on group differences, with inadequate in-depth discussion on the correlation and predictive effect between listening strategies and listening scores; Fourthly, few studies systematically analyze the relationship between variables by comprehensively using a variety of statistical methods such as correlation analysis and regression analysis.

In view of this, this study collects questionnaire data on listening strategies of English majors and uses statistical software for analysis to comprehensively explore the use of listening strategies by English majors from multiple perspectives. The research results are expected to make up for the deficiencies of existing studies and provide more scientific guidance for English listening teaching.

1.4 Research Questions and Objectives

1.4.1 Research Questions

Based on the above background and literature review, this study puts forward the following three research questions:

(1) What is the overall situation of the use of listening strategies by English majors in this university?

Which type of strategy is used the most frequently and which the least?

(2) Are there significant differences in the use of listening strategies among English majors of different grades and listening proficiency levels?

(3) What is the correlation between metacognitive, cognitive, affective strategies and listening scores? Can listening strategies significantly predict listening scores?

1.5 Research Objectives

This study aims to investigate the overall usage of listening strategies by English majors, including the frequency of use of metacognitive, cognitive and affective strategies, explore the differences in the use of listening strategies between lower and upper-grade students and between low and high-proficiency students, clarify the impact of grade and listening proficiency on strategy selection, analyze the correlation between various listening strategies and listening scores, verify the predictive effect of listening strategies on listening scores, and identify the key strategies affecting listening scores.

Based on the research results, targeted suggestions are put forward for English listening teaching and strategy training to help English majors overcome listening anxiety, improve their listening comprehension ability and promote the development of their professional English literacy.

2. Research Methods

2.1 Research Participants

The research participants are English majors from a common university in Hubei province, covering four grades: freshmen, sophomores, juniors and seniors. 120 questionnaires were distributed through online platforms such as QQ and WeChat, and 112 valid questionnaires were obtained after data cleaning, with an effective recovery rate of 93.33%. The specific demographic information and listening proficiency distribution of the participants are shown in Table 1 and Table 2.

Table 1. Demographic Information of Research Participants (N=112)

	Category	Number	Percentage (%)
Grade	Freshmen	30	26.79
	Sophomores	28	25.00
	Juniors	29	25.89
	Seniors	25	22.32
	Lower grades (Freshmen and Sophomores)	58	51.79
	Upper grades (Juniors and Seniors)	54	48.21
Gender	Male	23	20.54
	Female	89	79.46

Note. Lower grades include freshmen and sophomores, and upper grades include juniors and seniors, which is consistent with the classification method of existing studies (Guo et al., 2007; He et al., 2016).

Table 2. Distribution of CET-4 Listening Scores of Research Participants

Listening Proficiency	Score Range	Number	Percentage (%)
Low	0-149	32	28.57
Medium	150-199	50	44.64
High	200-249	30	26.79

The full score of CET-4 listening is 249. Referring to the general evaluation criteria, 60% (149.4) of the full score is the passing line, and 80% (199.2) is the good line. Therefore, this study divides listening proficiency into three levels: low (0-149), medium (150-199) and high (200-249) (Shang, 2015; Zhao, 2007). Freshmen and sophomores who have not taken the official CET-4 filled in the simulated CET-4 listening scores, while juniors and seniors filled in the official scores.

2.2 Research Instruments

2.2.1 Listening Strategy Questionnaire

The questionnaire used in this study is revised based on O'Malley and Chamot's (1990) learning strategy framework and with reference to the listening strategy questionnaires designed by domestic scholars such as Zhao (2007) and Gu (2019). The questionnaire consists of two parts: the first part is personal information, including gender, grade, age and CET-4 listening scores (simulated scores for those who have not taken the official exam). The second part is the listening strategy scale, which includes three dimensions: metacognitive strategies (6 items), cognitive strategies (8 items) and affective strategies (5 items), with a total of 19 items. The questionnaire uses a 5-point Likert scale, with options ranging from "1=Strongly Disagree" to "5=Strongly Agree", and a higher score indicates a higher frequency of students' use of the strategy. Among them, Item 11 and Item 12 are reverse-scored items (e.g., "I rarely use intonation, tone and pauses to understand listening content in the listening process" and "I feel nervous and anxious about new and difficult words in the listening process"), which need to be reverse-converted during data processing.

2.2.2 Reliability and Validity Test of the Questionnaire

Before the official distribution of the questionnaire, a pilot study was randomly conducted among 8 English majors, and the questionnaire items were revised according to the pilot results to ensure the clarity and rationality of the questionnaire. After collecting the official data, the reliability and validity of the questionnaire were tested.

Cronbach's α coefficient was used to measure the internal consistency of the questionnaire. The results showed that the overall Cronbach's α coefficient of the questionnaire was 0.83, the α coefficient of the metacognitive strategy dimension was 0.82, the α coefficient of the cognitive strategy dimension was 0.78, and the α coefficient of the affective strategy dimension was 0.75. All α coefficients were greater than 0.7, indicating that the questionnaire has good internal consistency reliability (Nunnally, 1978).

Content analysis was used for validity test. The questionnaire was designed based on the classic

theoretical framework and mature scales, and was reviewed and revised by two professors in the field of foreign language teaching, who believed that the questionnaire can effectively measure the use of listening strategies by English majors, so it has good content validity.

2.3 Research Procedure

The data collection of this study is divided into two stages: questionnaire distribution and data cleaning.

2.3.1 Questionnaire Distribution

The questionnaire was designed through the "Wenjuanxing" platform and distributed to English majors of the university through social media platforms such as QQ groups and WeChat Moments. Before filling in the questionnaire, participants were informed of the research purpose and significance, and it was emphasized that the questionnaire was filled in anonymously and the data was only used for academic research to ensure the authenticity of participants' responses. The questionnaire collection period was 4 weeks, and a total of 120 questionnaires were collected.

2.3.2 Data Cleaning

To ensure data validity, the author cleaned the collected questionnaires according to the following criteria. Questionnaires with too short or too long filling time were excluded: the average filling time of the questionnaire was 92 seconds, and questionnaires with filling time less than 40% (37 seconds) or more than 160% (147 seconds) of the average time were excluded, with a total of 3 questionnaires eliminated. Questionnaires with inconsistent answers to reverse-scored items were excluded: for the two reverse-scored items (Item 13 and Item 14), if the answers were obviously contradictory to other relevant items (e.g., choosing "Strongly Agree" for Item 13 and "Strongly Disagree" for Item 11), they were regarded as invalid questionnaires, with a total of 2 questionnaires eliminated. Questionnaires with identical answers to all items were excluded: questionnaires where all items were given the same score were regarded as randomly filled in, with a total of 3 questionnaires eliminated. After cleaning, 112 valid questionnaires were finally obtained for subsequent statistical analysis.

2.4 Data Analysis Methods

Excel and SPSS 26.0 statistical software were used for data processing and analysis. First, descriptive statistics were used to calculate the mean (M), standard deviation (SD), minimum (Min) and maximum (Max) of each listening strategy dimension (metacognitive, cognitive and affective strategies) to understand the overall situation of strategy use and the distribution characteristics of different groups (grade and proficiency). Second, independent samples t-test was used to compare the differences in the use of each listening strategy dimension between lower and upper-grade students and between low and high-proficiency students. Before the t-test, normality test and homogeneity of variance test were conducted on the data. If the data conformed to the normal distribution and the variance was homogeneous, the independent samples t-test was adopted; otherwise, the non-parametric Mann-Whitney U test was used. Then, Pearson correlation analysis was used to analyze the correlation between each listening strategy dimension (metacognitive, cognitive and affective strategies) and listening scores, as well as the correlation between the various dimensions of listening strategies, to explore the internal

relationship between variables. Finally, stepwise regression analysis was conducted with listening scores as the dependent variable and the three listening strategy dimensions as independent variables to verify the predictive effect of listening strategies on listening scores and identify key predictive variables.

3. Research Results

3.1 Descriptive Statistical Results of Listening Strategy Use

3.1.1 Overall Situation of Listening Strategy Use

Table 3. Descriptive Statistical Results of Listening Strategy Use

Strategy Dimension	Mean (M)	Standard Deviation (SD)	Minimum (Min)	Maximum (Max)
Metacognitive Strategies	2.58	0.62	1.20	4.33
Cognitive Strategies	2.45	0.59	1.13	4.13
Affective Strategies	2.33	0.65	1.00	4.20
Overall Strategies	2.46	0.58	1.15	4.21

Table 3 shows the descriptive statistical results of the three listening strategy dimensions of 112 English majors. It can be seen from the table that the overall mean of participants' listening strategy use is 2.46, slightly lower than the midpoint 3 of the 5-point scale, indicating that the overall frequency of listening strategy use by English majors is at a low to medium level.

Among the three strategy dimensions, metacognitive strategies have the highest mean, followed by cognitive strategies, and affective strategies the lowest. This indicates that English majors use metacognitive strategies most frequently in the listening process, while affective strategies are used the least frequently.

3.1.2 Descriptive Statistical Results of Listening Strategy Use by Students of Different Grades

Table 4. Descriptive Statistical Results of Listening Strategy Use by Students of Different Grades

Strategy Dimension	Lower Grades (n=58)		Upper Grades (n=54)	
	Mean (M)	SD	Mean (M)	SD
Metacognitive Strategies	2.49	0.65	2.68	0.58
Cognitive Strategies	2.48	0.61	2.42	0.57
Affective Strategies	2.29	0.68	2.37	0.62
Overall Strategies	2.42	0.60	2.50	0.56

As shown in Table 4, in terms of metacognitive strategies, the mean of upper-grade students is higher than that of lower-grade students, indicating that upper-grade students use metacognitive strategies more frequently. In terms of cognitive strategies, the mean of lower-grade students is slightly higher than that

of upper-grade students, but the difference is small. In terms of affective strategies, the mean of upper-grade students is slightly higher than that of lower-grade students, but the difference is not obvious. The standard deviation of each strategy dimension of lower-grade students is greater than that of upper-grade students, indicating that the dispersion of strategy use frequency among lower-grade students is larger with more significant individual differences, while the strategy use frequency among upper-grade students is more concentrated with smaller individual differences.

3.1.3 Descriptive Statistical Analysis of Listening Strategy Use by Students of Different Listening Proficiency Levels

Table 5. Descriptive Statistical Results of Listening Strategy Use by Students of Different Listening Proficiency Levels

Strategy Dimension	Low (n=32)		Medium (n=50)		High (n=30)	
	Mean (M)	SD	Mean (M)	SD	Mean (M)	SD
Metacognitive Strategies	2.31	0.63	2.56	0.59	2.89	0.51
Cognitive Strategies	2.47	0.60	2.46	0.58	2.42	0.57
Affective Strategies	2.35	0.67	2.32	0.64	2.31	0.61
Overall Strategies	2.38	0.60	2.45	0.58	2.54	0.53

Table 5 shows the descriptive statistical results of listening strategy use by students of different listening proficiency levels. It can be seen from the table that:

In terms of metacognitive strategies, the mean shows an increasing trend with the improvement of listening proficiency: low < medium < high. The mean of high-proficiency students is significantly higher than that of low-proficiency students, with a difference of 0.58. In terms of cognitive strategies, the means of students of different proficiency levels are relatively close, and there is no obvious increasing or decreasing trend with the improvement of proficiency. In terms of affective strategies, the means of students of different proficiency levels are also relatively close, with no significant group differences.

3.2 Results of Independent Samples t-test

3.2.1 Normality and Homogeneity of Variance Test

Before the independent samples t-test, normality test and homogeneity of variance test were conducted on the data. The results showed that the p-values of each strategy dimension of different groups (grade and proficiency) were all greater than 0.05, indicating that the data conformed to the normal distribution and the variance was homogeneous, meeting the preconditions of the independent samples t-test.

3.2.2 t-test Results of Listening Strategy Use between Lower and Upper-grade Students

Table 6. Independent Samples t-test Results of Listening Strategy Use between Lower and Upper-grade Students

Strategy Dimension	t-value	p-value	Mean Difference	Standard Error Difference
Metacognitive Strategies	-1.87	0.064	-0.19	0.102
Cognitive Strategies	0.58	0.563	0.06	0.103
Affective Strategies	-0.65	0.516	-0.08	0.123
Overall Strategies	-0.79	0.431	-0.08	0.101

Table 6 shows the independent samples t-test results of listening strategy use between lower and upper-grade students. It can be seen from the table that, in terms of metacognitive strategies, $p=0.064>0.05$, indicating that there is no significant difference in the use of metacognitive strategies between lower and upper-grade students, but the p-value is close to 0.05, showing a marginally significant difference. In terms of cognitive strategies, $p=0.563>0.05$, indicating no significant difference in the use of cognitive strategies between lower and upper-grade students. In terms of affective strategies, $p=0.516>0.05$, indicating no significant difference in the use of affective strategies between lower and upper-grade students. In terms of overall strategies, $p=0.431>0.05$, indicating no significant difference in the overall use of listening strategies between lower and upper-grade students.

3.2.3 t-test Results of Listening Strategy Use between Low and High-proficiency Students

To further explore the differences in strategy usage among students of different proficiency levels, this study selected low-proficiency (0-149) and high-proficiency (200-249) students for independent samples t-test, and the results are shown in Table 7.

Table 7. Independent Samples t-test Results of Listening Strategy Use between Low and High-proficiency Students (n=62)

Strategy Dimension	t-value	Mean Difference	Standard Error Difference
Metacognitive Strategies	-4.32***	-0.58	0.134
Cognitive Strategies	0.41	0.05	0.122
Affective Strategies	0.29	0.04	0.138
Overall Strategies	-1.73	-0.16	0.092

Note. The asterisks in the upper right corner of the t-value correspond to significance: *p<0.05, **p<0.01, **p<0.001; no asterisk means p>0.05 (not significant), the same below.

It can be seen from the table that in terms of metacognitive strategies, there is a significant difference in the use of metacognitive strategies between low and high-proficiency students. The mean of high-proficiency students is significantly higher than that of low-proficiency students, indicating that high-proficiency students use metacognitive strategies more frequently. In terms of cognitive strategies, there

is no significant difference in the use of cognitive strategies between low and high-proficiency students. In terms of affective strategies, there is no significant difference between low and high-proficiency students. In terms of overall strategies, there is no significant difference, but a marginally significant difference is shown.

3.3 Correlation Analysis Results

Pearson correlation analysis was used to explore the correlation between each listening strategy dimension and listening scores, as well as the correlation between the various dimensions of listening strategies, and the results are shown in Table 8.

Table 8. Pearson Correlation Analysis Results (t-value and Significance) (N=112)

Variable	1. Metacognitive Strategies	2. Cognitive Strategies	3. Affective Strategies	4. Listening Scores
1	1			
2	0.45 (5.68***)	1		
3	0.32 (3.85***)	0.28 (3.31**)	1	
4	0.38 (4.27***)	0.09 (0.98)	-0.05 (-0.57)	1

3.3.1 Correlation between Listening Strategies and Listening Scores

It can be seen from Table 8 that metacognitive strategies are significantly positively correlated with listening scores, indicating that the higher the frequency of students' use of metacognitive strategies, the better their listening scores. Cognitive strategies are weakly positively correlated with listening scores, but the correlation does not reach a statistically significant level. Affective strategies are weakly negatively correlated with listening scores, and the correlation also does not reach a statistically significant level.

3.3.2 Correlation between the Various Dimensions of Listening Strategies

Metacognitive strategies are significantly positively correlated with cognitive strategies, indicating that students who use metacognitive strategies frequently also tend to use cognitive strategies more frequently. Metacognitive strategies are significantly positively correlated with affective strategies, indicating a certain positive correlation between the use of metacognitive and affective strategies. Cognitive strategies are significantly positively correlated with affective strategies, indicating a positive correlation between the use of cognitive and affective strategies, but the correlation coefficient is relatively small.

3.4 Regression Analysis Results

To further explore the predictive effect of listening strategies on listening scores, stepwise regression analysis was conducted with listening scores as the dependent variable and metacognitive, cognitive and affective strategies as independent variables, and the results are shown in and Table 9 and Table 10.

3.4.1 Regression Model Summary

Table 9 shows the summary information of the regression model. It can be seen from the table that after stepwise regression, only metacognitive strategies entered the regression equation, and the regression model was significant ($p<0.001$). The adjusted R^2 of the model is 0.14, indicating that metacognitive strategies can explain 14% of the variation in listening scores.

Table 9. Regression Model

Model	R-value	R Square	Adjusted R Square	Standard Error of the Estimate	F-value	p-value
1	0.38	0.14	0.13	28.65	18.25	<0.001***

Note. Predictors: (Constant), Metacognitive Strategies; Dependent variable: Listening Scores.

3.4.2 Regression Coefficients

Table 10. Regression Coefficients

Model	Variable	Unstandardized Coefficients		Standardized Coefficients (β)	t-value
		B	Std. Error		
1	(Constant)	135.62	15.38		8.82***
	Metacognitive Strategies	18.75	4.39	0.38	4.27***

Note. Dependent variable: Listening Scores; Predictor: Metacognitive Strategies.

Table 10 shows the regression coefficients of the model. It can be seen from the table that the regression coefficient of metacognitive strategies is positive and significant, indicating that metacognitive strategies can significantly predict listening scores in a positive way. For each 1-point increase in the metacognitive strategy score, the listening score increases by an average of 0.38 points. Cognitive and affective strategies did not enter the regression equation ($p>0.05$), indicating that they have no significant predictive effect on listening scores.

4. Discussion

4.1 Overall Situation of Listening Strategy Use by English Majors

The descriptive statistical results show that the overall frequency of listening strategy use by English majors is at a low to medium level, which is consistent with the research results of Gu (2019) and He et al. (2016). This indicates that English majors have not fully mastered and applied listening strategies in the process of listening learning, and there is still great room for improvement in strategy application.

Among the three types of strategies, metacognitive strategies are used the most frequently, followed by

cognitive strategies, and affective strategies the least. This result is different from the findings of foreign studies such as Bacon (1992) and Vandergrift (1997), which found that learners use cognitive strategies most frequently. The reason why metacognitive strategies are the most frequently used in this study may be related to the learning characteristics of Chinese English majors: English majors have a strong sense of autonomous learning and pay more attention to the planning, monitoring and evaluation of the learning process (Zhao, 2007). In addition, English listening courses in Chinese universities often emphasize the training of learning methods and strategies, making students attach more importance to the use of metacognitive strategies.

The low frequency of affective strategy use may stem from the following reasons: first of all, Chinese students are generally implicit in expression and are not used to seeking help from teachers or classmates when encountering listening difficulties, leading to less use of cooperation strategies (Guo et al., 2007). Secondly, many students lack effective emotional regulation methods and adopt passive coping methods such as avoidance when facing listening anxiety, rather than active emotional regulation strategies such as deep breathing and self-encouragement (Gu, 2019). Thirdly, students lack the awareness of emotional regulation and do not realize that excessive anxiety will affect listening comprehension, so they do not attach importance to the use of affective strategies.

4.2 Differences in Listening Strategy Use between Students of Different Grades

The results of the independent samples t-test show that there is no significant difference in the use of listening strategies between lower and upper-grade students, but upper-grade students use metacognitive strategies more frequently, showing a marginally significant difference. This result is inconsistent with the research results of Zhong et al. (2013) and Guo et al. (2007). Zhong et al. (2013) found that sophomores and juniors have the highest frequency of listening strategy use, and Guo et al. (2007) pointed out that upper-grade students are better at using metacognitive and social strategies. The possible reasons for the inconsistency are as follows: first, the grade classification method is different. This study divides grades into lower grades (freshmen and sophomores) and upper grades (juniors and seniors), while previous studies often analyze each grade separately, and grade combination may mask the differences between individual grades. Second, the learning environment and teaching methods are relatively consistent. With the popularization of the reform of college English teaching, the listening teaching content and methods of different grades in this university are relatively unified, and lower-grade students also receive systematic strategy training, so the gap in strategy use between grades is not obvious. Third, the individual differences among students are large. Although upper-grade students have more learning experience, some lower-grade students have a solid English foundation and strong autonomous learning ability, and their frequency of strategy use is not lower than that of upper-grade students, leading to no significant difference in strategy use between different grades.

The marginally significant difference in metacognitive strategies between grades indicates that students' metacognitive awareness is gradually enhanced with the increase in learning experience. Upper-grade students have a clearer understanding of their own listening level and learning needs, and can better use

metacognitive strategies such as planning, monitoring and evaluation to regulate the learning process (Ellis, 1994). This result also reminds us that listening teaching should attach importance to the cultivation of metacognitive awareness from the lower grades to help students form good learning habits as early as possible.

4.3 Differences in Listening Strategy Use between Students of Different Listening Proficiency Levels

The results of the independent samples t-test show that there is a significant difference in the use of metacognitive strategies between low and high-proficiency students ($t=-4.32$, $p<0.001$), with high-proficiency students using them more frequently; while there is no significant difference in cognitive and affective strategies among students of different proficiency levels. This result is consistent with the research results of Zhao (2007) and Zhang et al. (2013), verifying Ellis's (1994) view that there is a positive correlation between target language proficiency and the use of metacognitive strategies.

High-proficiency students use metacognitive strategies more frequently, probably because they have a stronger sense of autonomous learning and can better monitor and adjust the listening process. For example, they predict the content according to the options before listening, focus on key information and adjust the listening speed in a timely manner during listening, and evaluate their own performance and analyze the reasons for mistakes after listening (Vandergrift, 2004). These metacognitive behaviors help to improve listening efficiency and accuracy.

The absence of significant differences in cognitive strategy use among students of different proficiency levels indicates that cognitive strategies are basic operational strategies, and both low and high-proficiency students will use cognitive strategies such as prediction, note-taking and repetition in the listening process. However, the difference lies in the flexibility and effectiveness of strategy use: high-proficiency students can choose appropriate cognitive strategies according to the characteristics of listening materials and their own needs, while low-proficiency students often use cognitive strategies mechanically, which makes it difficult to achieve the desired effect (Wen, 2017).

The absence of significant differences in affective strategy use among students of different proficiency levels may be because affective strategies are more related to students' personality and emotional regulation ability rather than listening proficiency. Both high and low-proficiency students may adopt similar coping methods when facing listening anxiety, and the effect of strategy use has no direct correlation with listening proficiency (Gu, 2019).

4.4 Correlation and Predictive Effect between Listening Strategies and Listening Scores

The correlation analysis results show that metacognitive strategies are significantly positively correlated with listening scores, while cognitive and affective strategies show no significant correlation with listening scores. The regression analysis results further indicate that metacognitive strategies can significantly predict listening scores, explaining 14% of the variation. This result is consistent with the research results of Zhao (2007) and Zhang et al. (2013), confirming that metacognitive strategies are the key factor affecting listening scores.

Metacognitive strategies can predict listening scores because they are higher-level management strategies

that can help students optimize the listening process. For example, selective attention can help students focus on key information and avoid being disturbed by irrelevant information; self-monitoring can help students find and correct comprehension errors on time; self-evaluation can help students identify deficiencies and adjust learning plans (O'Malley & Chamot, 1990). These behaviors can significantly improve the efficiency and accuracy of listening comprehension, thereby enhancing listening scores.

The absence of a significant correlation between cognitive strategies and listening scores may have the following reasons: first of all, the use of cognitive strategies is affected by many factors, such as the difficulty of listening materials, students' language foundation and strategy use skills. Even if students use cognitive strategies frequently, if the strategy selection is inappropriate or the application is inflexible, it cannot improve listening scores (Wen, 2017). Secondly, the cognitive strategy dimension in this study includes 8 items. Some cognitive strategies (such as note-taking and use of background knowledge) may be positively correlated with listening scores, while other strategies (such as translation and repetition) may be negatively correlated with listening scores, and the overall correlation is offset, leading to no significant correlation between the total score of cognitive strategies and listening scores.

The absence of a significant correlation between affective strategies and listening scores may be because the role of affective strategies is indirect. Affective strategies can help students reduce listening anxiety and improve learning confidence, but their impact on listening scores needs to be mediated by other factors such as metacognitive and cognitive strategies (Gu, 2019). In addition, the affective strategy dimension in this study includes both emotional regulation strategies and cooperation strategies, and different types of affective strategies may have different impacts on listening scores, leading to no significant correlation between the total score and listening scores.

4.5 Comparison with Previous Studies

The findings of this study that metacognitive strategies are the most frequently used and can predict listening scores are consistent with most domestic and foreign studies (O'Malley & Chamot, 1990; Vandergrift, 2004; Zhao, 2007). However, there are also some differences between this study and previous studies:

First of all, previous studies (Bacon, 1992; Sun & Li, 2008) found that learners use cognitive strategies most frequently, while this study shows that metacognitive strategies are the most frequently used, which may be due to the different research participants. The research participants of this study are English majors, whose autonomous learning level and metacognitive awareness are higher than those of non-English majors.

Secondly, previous studies (Guo et al., 2007; Zhong et al., 2013) found significant differences in strategy use between students of different grades, while this study shows no significant difference between grades, which may be due to the different sample sizes and grade classification methods. This study has a larger sample size and combines grades into lower and upper grades, reducing the impact of individual grade differences.

Thirdly, this study uses stepwise regression analysis to verify the predictive effect of listening strategies

on listening scores and finds that only metacognitive strategies have a significant predictive effect, which is more in-depth than previous studies that only conducted correlation analysis, further clarifying the key role of metacognitive strategies.

4.6 Research Limitations and Suggestions for Future Research

4.6.1 Limitations of This Study

This study has the following limitations: first and foremost, the sample scope is narrow. The research participants are only English majors from a university in Hubei Province, excluding students from other universities or non-English majors, so the research results may not be generalized to other groups. Moreover, the research method is single. This study only uses questionnaire surveys to collect data, lacking supplementary verification from interviews, classroom observations, or experimental research, making it difficult to deeply understand the actual situation of students' strategy use and the reasons for strategy selection. Last but not least, the research variables are limited. This study only explores the impact of listening strategies on listening scores, without considering other factors such as learning motivation, learning style and listening anxiety, which may also affect listening scores and have an interactive effect with listening strategies. Finally, the research on strategy training lacks systematicness. The strategy training research is a short-term intervention, lacking long-term tracking and evaluation, and cannot verify the sustainability of training effects.

4.6.2 Suggestions for Future Research

In view of the above limitations, future research can be improved in the following aspects: first and foremost, expand the sample scope. Future research can select English majors and non-English majors from multiple universities as research participants to improve the representativeness of the sample and enhance the generalizability of the research results. In addition, combine a variety of research methods. Future research can combine quantitative methods such as questionnaire surveys with qualitative methods such as interviews and classroom observations to comprehensively and in-depth explore students' strategy use. For example, after the questionnaire survey, select some students for in-depth interviews to understand their specific strategy use process and reasons. Thirdly, increase research variables. Future research can introduce mediating or moderating variables such as learning motivation, listening anxiety and learning style to construct a more complex theoretical model and explore the interactive effect of various factors on listening scores. Fourthly, carry out longitudinal or experimental research. Future research can conduct long-term tracking of students to explore the changes in strategy use and listening scores over time. In addition, experimental research can be carried out to verify the impact of metacognitive strategy training on listening scores, providing more direct evidence for strategy teaching. Finally, optimize the questionnaire design. Future research can further refine the listening strategy scale, increase the number of items in each dimension, and improve the reliability and validity of the questionnaire. In addition, questionnaires can be designed according to different listening scenarios (such as news listening, conversation listening and lecture listening) to explore the differences in strategy use in different scenarios.

5. Conclusion

Taking English majors from a university in Hubei Province as research participants, this study explores the use of listening strategies, the differences in strategy use among students of different grades and proficiency levels, as well as the correlation and predictive effect between listening strategies and listening scores through questionnaire surveys and statistical analysis. The main research conclusions are as follows: first and foremost, the overall frequency of listening strategy use by English majors is at a low to medium level. Among the three types of strategies, metacognitive strategies are used the most frequently, followed by cognitive strategies, and affective strategies the least. Moreover, there is no significant difference in the use of listening strategies between lower and upper-grade students, but upper-grade students use metacognitive strategies more frequently. In addition, there is a significant difference in the use of metacognitive strategies between low and high-proficiency students, with high-proficiency students using them more frequently; there is no significant difference in cognitive and affective strategies among students of different proficiency levels. Last but not least, metacognitive strategies are significantly positively correlated with listening scores and can significantly predict listening scores; cognitive and affective strategies show no significant correlation with listening scores and have no significant predictive effect.

Based on the above conclusions, this study puts forward the following suggestions for English listening teaching: Firstly, strengthen the training of metacognitive strategies. Teachers can explicitly teach metacognitive strategies such as planning, monitoring, evaluation and selective attention in listening classes, and guide students to apply these strategies in the listening process. For example, guide students to predict the content of materials according to the options before listening; remind students to focus on key information and adjust the listening speed promptly during listening; organize students to evaluate their own performance and analyze the reasons for mistakes after listening. Secondly, pay attention to students' individual differences. Teachers can use characteristics and listening proficiency of each student and carry out personalized strategy guidance. For low-proficiency students, focus on cultivating their metacognitive awareness and basic strategy use skills; for high-proficiency students, guide them to flexibly use various strategies to improve listening efficiency. Thirdly, strengthen the training of affective strategies. Teachers can help students realize the impact of listening anxiety on listening scores and teach effective emotional regulation methods such as deep breathing, self-encouragement and positive self-suggestion. In addition, teachers create a relaxed and harmonious learning atmosphere and encourage students to cooperate and communicate with each other to increase the frequency of use of the cooperation strategy. Finally, optimize listening teaching methods. Teachers are supposed to combine traditional listening teaching with modern educational technology, and use multimedia, online courses and other resources to provide students with a variety of listening materials and strategy training platforms. For example, use listening software to carry out targeted metacognitive strategy training, and encourage students to share listening experience and strategy use skills through online discussion groups. In conclusion, listening strategies, especially metacognitive strategies, play an important role in

improving the listening scores of English majors. English listening teaching should attach importance to listening strategy training, help students master scientific listening methods, improve their listening comprehension ability and autonomous learning ability, and thus promote the development of their overall professional English literacy.

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Appendix: Listening Strategy Questionnaire

Please choose the degree that fits your actual situation:1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

Gender: □ Male □ Female

Grade: □ Freshman □ Sophomore □ Junior □ SeniorCET-4 Listening Score (for those without an official score, please fill in your mock score; total listening score = 249): _____

Metacognitive Strategies

1. I evaluate whether my listening learning strategies are effective and adjust them in time during listening practice.
2. I control the speed and time of listening (e.g., timing or playing at double speed) during practice.
3. When choosing listening materials, I try to find materials suitable for me or slightly above my level.
4. I consciously eliminate distractions and concentrate when practicing listening.
5. I tend to use intensive listening (understanding sentence by sentence and thinking repeatedly) in listening practice.
6. I tend to use extensive listening (grasping the main idea and listening widely) in listening practice.

Cognitive Strategies

7. Before listening, I underline key words in the questions.
8. After reading the options, I predict the general content of the listening material.
9. During listening, I can relate what I hear to my background knowledge.
10. After listening, I consciously listen again to the parts I did not understand or the wrong questions.
11. I seldom use intonation, tone and pauses to understand the content during listening.

Social-Affective Strategies

12. I feel nervous and anxious about new or difficult words during listening.
13. When encountering difficulties in listening, I ask teachers or classmates for help.
14. After feeling anxious about new words, I adjust my mindset immediately.
15. I relax myself by taking deep breaths or other methods during listening.

16. If I fail to catch some words in listening, I comfort myself that it is unnecessary to understand every single word.

17. After finishing a listening task, I keep telling myself that I have done a good job.