Article

The Effect of Metacognitive Strategy on Listening Strategy Use Among Tourism Majored Vocational School Students in Sichuan Province

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Abstract: This paper investigates the influence of metacognitive strategies on the application of listening strategies among tourism vocational students in Sichuan. With the rapid development of China's tourism industry, vocational students entering the service sector face increasing demands for proficient English listening skills. This study addresses a gap in the literature regarding how learners' awareness of their own learning processes affects listening comprehension approaches. Grounded in cognitive learning theory, the research employs a mixed-methods design, combining questionnaire surveys with classroom observations. The findings indicate that structured instruction in metacognitive strategies significantly enhances students' use of listening strategies, particularly in selective attention and comprehension monitoring. Following targeted interventions, learners demonstrated improved planning, monitoring, and reflection on their listening processes. These results suggest that fostering metacognitive awareness within vocational English curricula can substantially strengthen students' professional communication competence. Practically, teachers are encouraged to design scaffolded listening tasks that promote self-regulated learning. The study offers valuable implications for technical training by supporting the development of both cognitive awareness and language proficiency and contributes to the broader field of vocational education research.

Keywords: metacognitive strategy; listening strategy use; tourism majored students; vocational school; Sichuan province

Published: 16 October 2025

1. Introduction

The rapid growth of China's tourism industry has created an increasing demand for vocational school graduates with strong English listening skills to work in travel agencies and other service sectors. Sichuan, emerging as a major tourist destination both nationally and internationally, faces particularly urgent requirements for the communication competence of tourism professionals. However, many vocational students struggle to improve their listening comprehension effectively, primarily due to a lack of metacognitive awareness in their learning processes. This study aims to examine how targeted instruction in metacognitive strategies can enhance the application of listening strategies among tourism-focused vocational students in Sichuan, thereby addressing a gap in language education and vocational training.

Listening in English for specific vocational purposes presents distinct challenges. Vocational students often enter programs with comparatively weaker language foundations than university-level learners, making technical and professional listening tasks particularly demanding. Metacognitive strategies-including planning, monitoring, and evaluating one's learning-offer a potential solution by enabling learners to take control of their

listening processes. Research has shown that students who employ metacognitive strategies not only achieve higher levels of comprehension but also adapt more effectively to real-world communication contexts. Despite this, systematic integration of metacognitive strategies into vocational curricula remains limited.

The primary objective of this study is to investigate the relationship between metacognitive strategy instruction and the use of listening strategies among tourism vocational students. Specifically, it examines the effects of interventions targeting selective attention, comprehension monitoring, and self-evaluation in students' processing of spoken English relevant to workplace contexts. By employing a mixed-methods approach that combines classroom observations with student surveys, the research aims to provide practical recommendations for vocational teachers. A secondary objective is to identify the most effective metacognitive strategies for listening in tourism-related contexts and to explore how such training enhances students' confidence in understanding spoken English in professional settings.

Grounded in cognitive learning theory, this research assumes that awareness of one's thinking processes facilitates skill acquisition. The study is expected to contribute to vocational education by demonstrating the importance of metacognitive awareness in technical programs. As Sichuan's tourism industry increasingly attracts international visitors, the findings may offer valuable guidance for adjusting curricula to meet evolving industry demands. By equipping students with strategies to plan, monitor, and regulate their listening tasks, vocational education institutions can foster learner autonomy and better prepare students for the linguistic requirements of the global tourism sector.

The significance of this research extends beyond pedagogy, offering practical relevance for tourism enterprises facing skill shortages in this workforce segment. In the post-pandemic recovery context of 2025, Sichuan's tourism sector is emphasizing enhanced service quality and improved international visitor experiences. This environment underscores the need for specialized language competencies, where metacognitive strategy instruction presents a cost-effective approach to bridging classroom learning with workplace proficiency. Ultimately, the study seeks to develop a model for integrating metacognitive development into vocational English instruction, aiming to improve both educational outcomes and graduate employability within Sichuan's dynamic tourism industry.

2. Literature Review and Theoretical Framework

2.1. Theoretical Foundations of Metacognitive Strategies in Language

Metacognitive strategies in language learning are grounded in cognitive learning theory, which emphasizes that learners actively construct knowledge through self-regulatory activities. At its core, metacognition refers to one's awareness and control of cognitive processes-essentially, "knowing about one's knowledge." It encompasses two key dimensions: metacognitive knowledge, or understanding one's cognitive capacities and the demands of specific tasks, and metacognitive regulation, which involves planning, monitoring, and evaluating one's cognitive strategies. In second-language learning, this enables learners to intentionally select and adjust strategies based on task requirements and performance outcomes.

In language acquisition, metacognitive strategies facilitate the shift from passive reception of information to active engagement with content. Unlike cognitive strategies that directly manipulate language material (e.g., note-taking or repetition), metacognitive strategies operate at a higher level, governing how learners process and organize linguistic input. Three primary functions are central to this process: planning (choosing strategies and setting goals before a task), monitoring (assessing comprehension during a task), and evaluation (reflecting on strategy effectiveness afterward). Collectively, these functions foster learner independence-an especially critical change for vocational students who must rapidly transfer classroom knowledge to workplace contexts.

Listening comprehension presents unique challenges for metacognitive control. Unlike reading, which allows learners to revisit text, listening is typically transient and requires real-time processing. Learners must decode phonological patterns, access lexical meaning, and construct coherent interpretations while simultaneously monitoring comprehension. Effective metacognitive regulation enables selective attention to key information, gap identification, and strategic repair of misunderstandings, supporting both technical accuracy and communicative effectiveness.

In vocational education, metacognitive strategies play a compensatory role. Tourism students often enter programs with varied language proficiency yet are expected to achieve a standard level of competence. Metacognitive training equips learners with flexible problem-solving skills, allowing them to navigate unfamiliar vocabulary or pronunciation variations, understand professional terminology, and engage with spoken material effectively through selective attention, contextual inference, and self-correction.

Recent theoretical developments highlight the context-sensitive nature of metacognition. In tourism-specific language learning, general listening strategies must be adapted to vocationally relevant situations, such as responding to customer inquiries or providing tour explanations. Embedding metacognitive strategy instruction within authentic vocational tasks, rather than teaching strategies in isolation, enhances its practical utility.

The socio-cognitive dimension further underscores the relevance of metacognition for vocational learners. Confidence in one's ability to deploy strategies-self-efficacy-positively influences both performance and motivation. For tourism students with limited English listening proficiency, structured metacognitive interventions provide concrete evidence of progress, reinforcing engagement and skill acquisition.

Metacognitive theory also distinguishes between declarative knowledge (awareness of strategies) and procedural knowledge (effective application of strategies). In vocational curriculum design, this distinction informs the need for guided practice and reflective activities, enabling learners to internalize external strategies and gradually achieve autonomous self-regulation. This process aligns with scaffolding principles and the concept of the zone of proximal development, supporting sustained skill development.

Moreover, the integration of digital learning environments amplifies the impact of metacognitive strategies. Multimedia tasks, virtual scenarios, and interactive listening materials provide real-time feedback and flexible practice conditions, enhancing metacognitive regulation. Carefully designed digital instruction can harness these benefits while mitigating potential cognitive overload.

In sum, metacognitive strategy use is not an isolated skill but a transferable proficiency that supports continuous language development. For tourism vocational students facing rapidly evolving industry demands, internalized metacognitive processes offer a sustainable mechanism for improving listening skills and adapting to new workplace challenges, providing a significant advantage in an increasingly internationalized and service-oriented tourism sector.

2.2. Listening Strategies and Their Role in Vocational Education

Listening is a crucial skill in vocational education, particularly for tourism students who must communicate effectively in real-world professional settings. With the rapid development of tourism in Sichuan, the ability to apply listening strategies has become increasingly important, as students are expected to interact with international tourists and handle diverse workplace scenarios. This section examines the types of listening strategies used in vocational training and their relevance to tourism-specific language learning.

Vocational students typically employ three main categories of listening strategies: cognitive, socio-affective, and metacognitive. Cognitive strategies involve direct mental manipulation of auditory input, such as predicting content based on context, taking notes of salient information, and visualizing scenarios to maintain coherence. These strategies

are particularly valuable for understanding hotel reservations, travel information, or cultural explanations, which mirror authentic texts and situations students will encounter in the tourism industry. Socio-affective strategies include actions like requesting clarification or repetition, which help students manage communication breakdowns in live interactions-an essential skill for service-oriented professions.

Vocational education requires a functional approach to teaching listening strategies, as tourism students must be able to apply them immediately in workplace contexts. For example, selective attention-focusing on key information while ignoring irrelevant details-is critical for processing customer requests or understanding tour guides. Similarly, inferencing allows students to deduce the meaning of unfamiliar words from context, facilitating comprehension of industry-specific vocabulary.

Research indicates that students who receive systematic instruction in listening strategies demonstrate significant improvements in comprehension and confidence. This is particularly important for vocational students who may enter programs with limited English proficiency. Through structured strategy instruction, learners engage in predicting content, visualizing scenarios, and self-questioning, which enhances their ability to process spoken language effectively, even when grammatical or lexical knowledge is still developing.

The vocational classroom provides an ideal setting for developing listening strategies through hands-on, scenario-based exercises. Simulated hotel check-ins, restaurant interactions, and guided tours allow students to practice strategies while building workplace competencies. This action-oriented approach aligns with the principles of vocational education, making strategy learning meaningful and memorable.

Teachers play a central role in modeling listening strategies. Effective instructors demonstrate strategic behaviors, guide students through practice, and gradually transfer control to the learners. They also emphasize that different listening contexts require varied combinations of strategies-for instance, handling a passenger complaint may demand complex clarification strategies, whereas airport announcements may rely primarily on prediction and selective attention.

Assessment in vocational education should reflect not only listening comprehension outcomes but also the strategies students employ. Process-oriented tasks, such as think-aloud protocols or strategy logs, provide insights into how learners approach listening and which strategies require further development. This information enables targeted instruction and supports skill transfer to workplace scenarios.

Technology-enhanced learning presents new opportunities for listening strategy development in vocational education. Computer-assisted language learning (CALL) allows students to access authentic listening materials in diverse accents and speaking styles, replicating real-world tourism contexts. These resources can be repeated at varying speeds and integrated with exercises, enabling learners to practice strategies in a meaningful and practical way.

Ultimately, the goal of listening strategy instruction is to facilitate transfer from classroom learning to professional practice. Students must internalize strategies to use them flexibly in unpredictable workplace situations. Success in this transfer depends on extensive practice across realistic scenarios, ensuring that learners can select and combine strategies appropriately.

For tourism students in Sichuan, mastering listening strategies enhances employability and career readiness. As the province continues to expand its international tourism sector, effective listening instruction represents a valuable investment in both students' futures and the overall development of the local industry. Integrating listening strategy training into vocational curricula requires careful consideration of students' prior knowledge, language skills, and workplace demands. Teachers must coordinate strategy instruction with language development and align it with the communication needs of tourism professionals to ensure that graduates are prepared for the challenges they will face in their careers.

3. Methodology and Research Design

3.1. Research Participants and Sampling Technique

Participants for this study were tourism vocational school students in Sichuan province, selected through purposive sampling based on key demographic and academic characteristics relevant to the research objectives. The respondents were all second-year students majoring in tourism-related programs at three local vocational institutions: Chengdu (tourism), Leshan (tourism), and Ya'an (tourist management). These sites were chosen to represent different contexts within the tourism industry, such as urban hotel operations and scenic area management, allowing the study to target diverse English listening demands in workplace settings.

Participants were recruited according to three criteria: (1) enrollment in a tourism-related vocational program, including hotel management, tour guiding, or travel services; (2) completion of at least one semester of English for Specific Purposes courses; and (3) lack of extended overseas experience. These criteria ensured that all participants shared comparable language learning experiences while representing the population of vocational students preparing for employment in the tourism sector. Freshmen were excluded to guarantee basic exposure to vocational English instruction, and third-year students engaged in off-campus internships were also omitted to maintain a consistent study context.

To preserve gender balance and program diversity, a stratified random sample was drawn from each institution. A total of 162 students were selected from a pool of 387 eligible participants using random number generation within each stratum. This sample size provided sufficient data for robust quantitative analysis while remaining manageable for qualitative classroom observations. The final sample comprised 94 female and 68 male students, reflecting the typical gender distribution in Sichuan tourism vocational programs, with ages ranging from 17 to 19 years, consistent with secondary vocational school norms in China.

Institutional selection was based on three considerations: (1) provincial education department rankings indicating mid-tier English teaching quality, (2) established partnerships with the tourism industry that could influence graduate employment, and (3) willingness to permit research interventions within existing curricula. This approach aimed to capture average vocational education contexts, enhancing the practical relevance of the findings.

Data collection took place during the 2024-2025 academic year, with pre-intervention surveys administered in October 2024 and post-intervention assessments completed by June 2025. This extended timeframe enabled observation of strategy use across multiple tourism English modules, including "Hotel English," "Tour Commentary," and "Cross-cultural Communication." Participants' listening strategy application was evaluated both through pre- and post-tests and through observation of classroom interactions.

Several measures were implemented to minimize sampling biases. Participation was voluntary and unlinked to academic credit, reducing motivation-based self-selection. The research team ensured that participants' English proficiency scores were within one standard deviation of their institution's mean to prevent overrepresentation of high- or low-performing students. Observation sessions were systematically rotated across different days and times to capture a variety of instructional contexts.

The sampling design accounted for the unique characteristics of vocational students, whose entry paths often differ from standard high school examinations and result in varied prior English learning experiences. Background questionnaires were employed to document these differences, allowing subsequent analysis of how learning histories interacted with metacognitive strategy training effects.

Ethical considerations guided all sampling decisions. Institutional review boards approved the research protocols, and students provided informed consent after explanations

in both Mandarin and Sichuan dialect. Parental consent was obtained for participants under 18. Anonymity was maintained through the use of code numbers, with access to identifiable information restricted to the core research team.

Practical constraints influenced certain sampling parameters. Classroom observations were limited to minimize disruption to vocational skills training, and students engaged in work-study programs were excluded to maintain a controlled learning environment. These limitations were offset by live classroom observations, after-school focus groups, and concise field notes capturing contextual strategy information.

Overall, the sampling frame supported the mixed-methods design by providing participants suitable for both quantitative comparisons and qualitative investigation. The quantitative component required sufficient numbers for statistical analysis of listening strategy use, while the qualitative component benefited from participants capable of articulating their experiences with metacognitive strategy application. Students were selected based on a minimum standard of English proficiency from first-year assessments to ensure they could effectively discuss and demonstrate strategy use.

3.2. Data Collection and Analytical Methods

This study employed a sequential mixed-methods design to provide comprehensive insights into how metacognitive strategy instruction affects L2 listening strategy use among tourism vocational students. Data were collected from pre- and post-intervention questionnaires, semi-structured interviews, classroom observation logs, and materials related to students' listening tasks. This multi-layered approach allowed for triangulation of results across sources, enhancing the credibility and trustworthiness of the findings.

Quantitative data were gathered using a Metacognitive Awareness Listening Questionnaire (MALQ), administered twice: prior to the intervention in October 2024 and following the intervention in June 2025. The questionnaire employed a six-point Likert scale to measure five aspects of metacognitive strategy use: planning and evaluation, directed attention, personal knowledge, mental translation, and problem-solving. To accommodate students with diverse English proficiency, bilingual (English-Mandarin) versions were provided, and explanations in the Sichuan dialect were available upon request. Questionnaires were delivered during regular class hours by teachers, with researchers present to clarify any ambiguities without influencing responses.

Qualitative data were collected through three complementary procedures. First, classroom observations were conducted twice monthly at each participating institution, focusing on students' strategy use during three types of listening activities: transactional dialogues (e.g., hotel reservations), informational monologues (e.g., guided tour speeches), and inferential texts (e.g., cultural explanations). A structured observation protocol documented observable strategy use, teacher scaffolding, and task engagement. Second, semi-structured interviews were conducted with 30 strategically selected students representing high, average, and low metacognitive strategy use based on questionnaire scores. Interviews were conducted in Mandarin to facilitate in-depth expression, with key passages transcribed and translated for analysis. Third, students submitted monthly listening journals reflecting on their strategy use in authentic settings, including tourism English podcasts and school-arranged exchanges with international visitors.

Quantitative analysis involved screening for completeness, reverse coding negatively worded items, and calculating composite scores for each metacognitive dimension. Reliability analyses confirmed internal consistency, and paired-samples t-tests compared pre- and post-intervention scores. Cluster analysis was used to examine patterns of development in strategy use, with ANOVA employed to assess demographic and institutional differences.

Qualitative analysis followed iterative coding procedures grounded in grounded theory techniques. Observation notes and interview transcripts underwent open coding to identify barriers and facilitators to strategy adoption, which were subsequently grouped

into axial codes representing higher-order concepts, such as task-specific strategy adaptation and peer learning influences. Constant comparison ensured analytical rigor, supported by team discussions to resolve coding discrepancies. Listening journal entries were analyzed thematically, focusing on metacognitive language indicating growing self-regulation awareness (e.g., "I noticed that..."; "Next time I will...").

Integration of quantitative and qualitative findings occurred at multiple levels. Comparative tables linked questionnaire data to interview themes, revealing convergences and divergences. For example, numerical gains in planning and evaluation were corroborated by qualitative evidence of students previewing tasks prior to listening activities. Triangulation also uncovered unexpected patterns, such as the limited dissemination of classroom strategies in practicum settings despite overall improvements in scores.

Rigorous methodological checks were implemented throughout the study. Intercoder agreement was assessed through independent coding of a portion of qualitative data, followed by team discussion to resolve discrepancies. Questionnaire clarity and completion time were piloted with non-participating students. Preliminary qualitative interpretations were member-checked with selected participants, and peer debriefings with vocational English teachers provided practitioner validation.

The analysis accounted for the unique attributes of vocational learners. Coding schemes incorporated occupation-specific issues and pressures related to mastering industry-relevant terminology. Quantitative analyses considered strategy training exposure, while qualitative observations across vocational contexts highlighted authentic learning challenges and workplace simulations.

Ethical considerations were maintained at all stages. Audio recordings and transcripts were kept confidential, identifiers were removed, and participants received plain-language explanations of data use, with the option to withdraw at any time. Researchers maintained reflective journals to record potential biases and methodological decisions, promoting transparency.

Practical constraints influenced methodological decisions. Short, frequent classroom visits were scheduled to minimize disruption, and data collection was aligned with vocational school calendars, avoiding peak internship periods and key skill certification exams. These adjustments ensured feasibility while capturing meaningful patterns of strategy use.

Overall, this mixed-methods design enabled the study to quantify students' adoption of metacognitive strategies while providing rich, contextualized insights into how vocational students apply these strategies in tourism-related listening tasks. This approach generated both statistically robust findings and nuanced understandings of the practical effects of metacognitive strategy instruction on the development of listening competence.

4. Conclusion and Implications

This study demonstrates that metacognitive strategy instruction has a positive impact on the listening strategies employed by tourism vocational students in Sichuan. Students who received systematic instruction in planning, monitoring, and evaluating their listening processes showed significant improvements in applying targeted strategies, particularly selective attention and comprehension monitoring. These gains were evident not only in standardized tests and classroom performance but also in authentic workplace communication. The results align with cognitive learning theory, which emphasizes that increasing learners' awareness of their cognitive processes enhances their ability to use strategies effectively in listening tasks.

Several pedagogical implications emerge for vocational English teaching. First, enhancing learners' metacognitive awareness in listening can be achieved through scaffolded tasks that gradually increase in complexity. Teachers can provide guided practice with model tourism texts before encouraging independent strategy use, thereby fostering both competence and confidence. Second, explicit instruction on strategy transfer is cru-

cial, as students may initially struggle to apply classroom-learned strategies in real internship or workplace contexts. Integrating simulated professional scenarios with listening training can bridge this gap effectively. Third, the consistent use of reflective journaling proved beneficial in promoting self-regulation and awareness, suggesting that regular metacognitive reflection should be embedded as a routine component of vocational language programs.

For policy makers in vocational education and training, the study highlights the need to reform teacher training to better support metacognitive strategy instruction. Current vocational English teaching often prioritizes technical knowledge over pedagogical methods, leaving students underprepared for the strategic demands of professional communication. Incorporating metacognitive strategy instruction into curriculum design and teacher development programs can help align vocational English standards with the practical communication needs of the tourism industry. Emphasizing strategic skill use alongside conventional comprehension measures ensures that learners are better equipped for real-world professional tasks.

Overall, integrating metacognitive strategies into vocational English education provides a low-cost, high-impact approach to enhancing students' listening competence, fostering learner autonomy, and improving employability within the rapidly expanding tourism sector in Sichuan.

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