

The Application Value and Implementation Path of DeepSeek in College English Listening and Speaking Teaching Under the Guidance of Core Literacy

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ABSTRACT

The cultivation of core literacy has become the core direction of college English teaching reform, and as the basic carrier of language application, the quality of listening and speaking teaching directly affects the effectiveness of core literacy implementation. The rapid development of AI technology has provided possibilities for the innovation of listening and speaking teaching, and DeepSeek, with its characteristics of intelligent interaction and personalized adaptation, has shown unique advantages in addressing the dilemmas of traditional listening and speaking teaching. Based on the goal of cultivating college English core literacy, this paper explores the application value of DeepSeek in listening and speaking teaching and sorts out specific implementation paths; by analyzing the integration logic of technological application and teaching practice, it provides theoretical reference and practical guidance for improving the quality of college English listening and speaking teaching and promoting the all-round development of core literacy.

Keywords: *Core literacy, DeepSeek, College English, Listening and speaking teaching, Application value.*

1. INTRODUCTION

In the context of globalization, English listening and speaking abilities have become a key support for cross-cultural communication, and the College English Teaching Syllabus clearly proposes that teaching should be guided by the cultivation of core literacy and strengthen students' language application abilities.[1] Traditional college English listening and speaking teaching has long faced many challenges: limited class time makes it difficult for teachers to provide personalized guidance, students have insufficient opportunities to speak, and listening training lacks targeted feedback, all of which result in difficulties in implementing the cultivation of language ability, thinking quality and other dimensions of core literacy.

The in-depth integration of AI technology and the field of education is reconstructing teaching models, and the development of generative AI has provided new technical support for listening and speaking teaching; as a typical representative of

generative AI, DeepSeek has functions such as natural language understanding and real-time interactive feedback, whose application in language teaching can break through the time and space limitations of traditional teaching and enrich teaching scenarios. Integrating DeepSeek into college English listening and speaking teaching is therefore in line with the needs of teaching reform guided by core literacy.

Current academic circles have discussed the application of AI technology in English teaching, but most focus on the introduction of general technical functions, with relatively scarce research on the in-depth integration of DeepSeek and core literacy cultivation. Based on this, starting from the orientation of core literacy, this paper explores the application value of DeepSeek in listening and speaking teaching and explores practical application paths, which not only supplements the research on AI + education, but also provides new ideas for college English listening and speaking teaching practice.

2. CORE REQUIREMENTS OF COLLEGE ENGLISH LISTENING AND SPEAKING TEACHING UNDER THE GUIDANCE OF CORE LITERACY

College English core literacy includes four dimensions: language ability, cultural awareness, thinking quality and learning ability. Each dimension is interrelated and together constitutes a complete literacy system. [2] As an important carrier for the cultivation of core literacy, listening and speaking teaching needs to construct teaching objectives and practical frameworks around these four dimensions.

Language ability is the basic goal of listening and speaking teaching, which requires students to have the ability to accurately understand listening materials and grasp the main idea and details of the discourse, while their oral expression should be standardized in pronunciation, coherent in semantics and capable of conveying views clearly. The cultivation of this ability not only requires a lot of language input, but also needs the support of real expression scenarios; however, in traditional listening and speaking teaching, listening materials are single and oral practice is mostly mechanical repetition, making it difficult to meet the needs of language ability progression.

The cultivation of cultural awareness requires listening and speaking teaching to go beyond surface-level language learning: through listening and speaking training, students should be guided to understand language habits and communication norms in different cultural backgrounds, and in cross-cultural dialogue scenarios, they should be able to accurately interpret cultural connotations and avoid communication misunderstandings. Currently, the integration of cultural elements in listening and speaking teaching is insufficient, which often leads to students' lack of sensitivity and adaptability in cross-cultural communication.

The cultivation of thinking quality needs to rely on critical thinking training in listening and speaking teaching: during listening comprehension, students should be guided to analyze and judge information, and in oral expression, they should be encouraged to form a logically clear thinking framework and put forward unique views. Under the traditional teaching model, however, students are mostly in a passive acceptance state, which weakens the training of critical thinking ability.

The improvement of learning ability emphasizes guiding students to master effective listening and speaking learning strategies and cultivate the awareness of autonomous learning, enabling them to take the initiative to plan the learning process and use diverse resources to improve their abilities. In traditional teaching, students rely heavily on teachers, and the cultivation of autonomous learning ability lacks systematicness.

The reform of listening and speaking teaching guided by core literacy needs to break the limitations of traditional teaching, use technical means to enrich teaching forms and build a teaching model that balances personalization and systematicness; [3] the technical characteristics of DeepSeek are inherently consistent with the needs of core literacy cultivation, thus providing strong support for teaching reform.

3. THE APPLICATION VALUE OF DEEPSEEK IN COLLEGE ENGLISH LISTENING AND SPEAKING TEACHING

3.1 Optimizing Scenarios for Language Ability Cultivation

DeepSeek's intelligent interaction function provides diversified scenarios for listening and speaking training, and its speech recognition and synthesis technology can simulate real communication situations, allowing students to conduct immersive practice through the voice dialogue function to improve their language response ability. Compared with traditional recording practice, DeepSeek can capture pronunciation deviations in real time and provide precise pronunciation correction suggestions, which helps students optimize pronunciation details and improve the accuracy of oral expression.

In terms of listening training, DeepSeek can generate adaptive listening materials according to students' ability levels—these materials have clear difficulty gradients and cover different themes and registers, breaking the limitation of single materials in traditional textbooks and meeting students' personalized needs for listening improvement. At the same time, the system can conduct data analysis on students' listening test results to identify weak links, providing data support for teachers to carry out targeted teaching and improving the accuracy of listening teaching.

3.2 Facilitating In-depth Cultivation of Cultural Awareness

DeepSeek's built-in massive corpus includes language materials from different cultural backgrounds, which can naturally integrate cultural elements into listening and speaking training; in dialogue practice, it presents differences in communication norms and language habits in different cultural scenarios, guiding students to perceive cultural connotations in language learning and improve their sensitivity to cross-cultural communication.

With DeepSeek's discourse analysis function, cultural symbols in listening and speaking materials can be interpreted, which helps students understand the cultural logic behind the language and avoid cultural misunderstandings. This model that combines language learning with cultural understanding is in line with the requirements of cultural awareness cultivation in core literacy, making listening and speaking teaching go beyond the surface of language and realize the synchronous improvement of cultural literacy.

3.3 Promoting the Progressive Development of Thinking Quality

DeepSeek can guide students to carry out critical learning through question design: after listening training, it generates exploratory questions to urge students to conduct in-depth analysis of listening materials and extract core views; in oral practice, the system can set up tasks such as debates and opinion presentations according to the theme, which promotes students to form a logically clear expression idea and cultivate critical thinking ability.

Relying on its intelligent analysis function, DeepSeek can sort out the logic of students' oral expressions, point out logical flaws in expressions and provide optimization suggestions, which helps students improve the organization and rigor of their thinking. This targeted thinking training makes up for the lack of emphasis on thinking cultivation in traditional listening and speaking teaching.

3.4 Strengthening the Independent Construction of Learning Ability

DeepSeek's personalized learning recommendation function can adapt to the learning rhythm and needs of different students: based on the results of students' listening and speaking level

tests, it generates personalized learning plans that clarify learning objectives and key tasks, guiding students to carry out autonomous learning. Students can use the system to record the learning process and track the trajectory of ability improvement, which enhances the autonomy and pertinence of learning.

The system provides a wealth of autonomous learning resources and tools, allowing students to choose listening materials and carry out oral practice according to their own needs; during the autonomous learning process, they can get real-time feedback and guidance when encountering problems, gradually mastering effective listening and speaking learning strategies and improving autonomous learning ability. The cultivation of this ability not only serves English learning, but also helps students' lifelong learning and development.

4. THE IMPLEMENTATION PATH OF DEEPSEEK IN LISTENING AND SPEAKING TEACHING UNDER THE GUIDANCE OF CORE LITERACY

4.1 Building a Personalized Listening and Speaking Teaching Platform

An online-offline integrated listening and speaking teaching platform should be constructed relying on DeepSeek, and pre-class learning situation diagnosis should be conducted through the platform: with DeepSeek's testing function, students' listening comprehension ability and oral expression level are comprehensively evaluated, and personalized learning situation reports are generated to clarify students' development shortcomings in each dimension of core literacy. Teachers design targeted teaching plans based on the diagnosis results to achieve precise lesson preparation.

Interactive teaching is carried out through the platform in class: with DeepSeek's real-time interaction function, group dialogue practice is organized, and the system monitors students' expressions in real time and corrects pronunciation and grammar errors in a timely manner. Teachers can check students' practice status through the platform, give centralized explanations on common problems, and provide individual guidance on personalized problems, which breaks the limitations of traditional classroom interaction and improves teaching efficiency.

Learning scenarios are extended through the platform after class: DeepSeek pushes supporting listening and speaking practice resources according to the classroom learning content, and after students complete the practice independently, the system generates a detailed feedback report that analyzes the problems in the practice and provides personalized improvement suggestions. Teachers track students' after-class learning status through the platform and dynamically adjust teaching strategies, forming a complete teaching closed loop of pre-class diagnosis, in-class teaching and after-class consolidation.

4.2 Designing Hierarchical Listening and Speaking Training Modules

Combining the goal of core literacy cultivation, hierarchical listening and speaking training modules are designed based on DeepSeek: the basic level focuses on language ability cultivation, setting up basic listening training, standardized pronunciation practice and other contents, and through a lot of basic material input and mechanical practice, it helps students consolidate their language foundation, with DeepSeek recording the entire practice process to ensure that basic abilities meet the standards.

The advanced level focuses on the cultivation of thinking quality and cultural awareness, designing thematic listening and speaking tasks that carry out training around themes such as cross-cultural communication and social hot topics; DeepSeek provides cultural background materials related to the theme, guiding students to understand cultural differences in listening and speaking practice, and by setting open-ended questions, it promotes students to conduct in-depth thinking and improve their critical thinking ability.

The high-level focuses on the improvement of learning ability and comprehensive literacy, assigning autonomous learning tasks that guide students to independently choose learning resources with the help of DeepSeek, formulate learning plans and carry out inquiry-based learning. The system tracks and analyzes students' learning processes to help them optimize learning strategies, and students are encouraged to use the platform to carry out listening and speaking exchange activities across classes and colleges to improve their comprehensive language application ability.

A flexible transition mechanism is set up between modules at all levels: after students

complete the basic level learning and pass the assessment, they can enter the advanced level learning, and teachers provide targeted guidance according to students' learning progress and ability improvement to ensure that each student can achieve effective development at a suitable level.

4.3 Constructing a Diversified Teaching Evaluation System

Guided by core literacy cultivation, a diversified teaching evaluation system is constructed relying on DeepSeek, changing the traditional single score evaluation model and combining process evaluation with summative evaluation. Process evaluation relies on DeepSeek's learning tracking function to record students' learning performance before, during and after class, including indicators such as practice completion quality, progress range and autonomous learning investment, which comprehensively reflects students' learning process and literacy development trajectory.

Summative evaluation adopts a combination of human-machine evaluation: DeepSeek conducts objective tests on students' listening and speaking abilities and generates standardized evaluation results, while teachers conduct subjective evaluations combined with students' process performance, focusing on the development of students' thinking quality, cultural awareness and other dimensions to form a comprehensive evaluation conclusion that provides a basis for subsequent teaching.

An evaluation feedback mechanism is established to timely feedback the evaluation results to students to help them clarify their strengths and weaknesses; DeepSeek generates personalized improvement plans based on the evaluation results, and teachers adjust teaching strategies according to common problems found in the evaluation. Through the positive interaction between evaluation and teaching, the all-round development of students' core literacy is promoted.

4.4 Strengthening Teachers' Technical Application Ability Training

The in-depth integration of technology and teaching cannot do without the leading role of teachers, so schools need to strengthen technical application training for college English teachers, carrying out special training on DeepSeek operation skills and teaching integration strategies to help teachers master the methods and skills of using

DeepSeek to carry out listening and speaking teaching and improve their technical application ability and teaching design ability.

A teacher teaching exchange mechanism is established to organize teachers to carry out seminars on the application of DeepSeek in teaching, where they share teaching experience and practical cases, and discuss problems encountered in the application process and their solutions.[4] Teachers are encouraged to explore personalized technology integration models combined with their own teaching practice, improving the overall level of teaching application through communication and cooperation.

Teachers need to constantly update their educational concepts, correctly understand the auxiliary role of technology in teaching and avoid over-reliance on technology; in the teaching process, they should always adhere to student-centered and core literacy cultivation as the goal, reasonably using DeepSeek to optimize the teaching process and improve teaching quality so as to realize the organic unity of technological empowerment and the essence of teaching.

5. GUARANTEE MEASURES FOR THE APPLICATION OF DEEPSEEK IN LISTENING AND SPEAKING TEACHING

5.1 Improving the Technical Application Environment

Schools need to increase investment in hardware facilities to ensure that teaching venues are equipped with complete network equipment, voice equipment and other facilities, providing hardware support for the smooth application of DeepSeek;[5] at the same time, they should optimize the campus network environment to ensure the stable operation of the online teaching platform, avoiding the impact on teaching progress and effect due to network problems.

Technical service support should be strengthened by establishing a special technical support team responsible for the daily maintenance and update of the DeepSeek teaching platform, which can timely solve the problems encountered by teachers and students in the process of technical application, collect user feedback and dock with technology developers for function optimization to ensure that platform functions are accurately matched with teaching needs.

Attention should be paid to data security and privacy protection: sound data management specifications should be formulated to clarify the processes and permissions for data collection, storage and use, ensuring the security of students' personal learning data and avoiding privacy issues caused by data leakage to create a safe environment for technical application.

5.2 Optimizing the Construction of Teaching Resources

A high-quality listening and speaking teaching resource library is built relying on DeepSeek, integrating textbook resources, network resources and other materials, which are classified and sorted according to the requirements of core literacy cultivation; the types of resources are enriched to cover listening materials and oral tasks of different difficulties and themes, ensuring the pertinence and practicality of resources.

Teachers are encouraged to participate in resource construction, developing characteristic listening and speaking teaching resources combined with teaching practice experience and sharing them through the DeepSeek platform to realize resource co-construction and sharing.[6] The resource library is regularly updated and optimized by introducing the latest language materials and cultural materials to ensure the timeliness and advancement of resources.

Inter-school resource cooperation should be strengthened: exchanges and cooperation in listening and speaking teaching resources with other colleges and universities should be carried out to share high-quality resources and teaching experience, and inter-school joint teaching activities should be carried out with the platform advantages of DeepSeek to broaden students' learning horizons and improve the utilization efficiency of teaching resources.

5.3 Improving the Teaching Management Mechanism

A sound management system for the teaching application of DeepSeek should be established and improved to clarify the responsibilities and requirements of teachers and students in technological application, standardize teaching processes and evaluation standards to ensure the orderly development of teaching activities, and the effect of technological application should be incorporated into the teacher teaching assessment

system to encourage teachers to actively participate in teaching reform.

Supervision of the teaching process should be strengthened: real-time monitoring of teachers' teaching activities and students' learning activities is conducted through the teaching platform to timely identify problems existing in the teaching process and take targeted measures to solve them, and regular teaching inspections and evaluations are carried out to summarize teaching experience and optimize teaching management strategies.

A teaching feedback and improvement mechanism should be established to collect teachers' and students' opinions and suggestions on the teaching application of DeepSeek through questionnaires, interviews and other methods; based on the feedback information, teaching plans and management measures are continuously optimized to form a positive cycle of management, teaching, feedback and improvement, ensuring the continuous improvement of teaching quality.

6. CONCLUSION

The application of DeepSeek in college English listening and speaking teaching has provided a new path for the teaching reform guided by core literacy, and its characteristics of personalized adaptation and intelligent interaction have effectively addressed many dilemmas in traditional listening and speaking teaching, demonstrating significant value in improving teaching efficiency and cultivating students' core literacy; however, technological application is not a panacea, and in the practice process, vigilance should be maintained against the phenomenon of technological dependence to avoid over-reliance on DeepSeek for teaching and neglect of the leading role of teachers and the emotional communication between teachers and students.

The application of DeepSeek also faces certain challenges: some students have insufficient digital literacy, making it difficult for them to quickly adapt to the technological teaching model, which requires strengthening guidance for students on the use of technology; at the same time, technology itself has certain limitations and may have deviations in pragmatic understanding and cultural interpretation, so teachers need to provide reasonable guidance and correction. With the continuous upgrading of technology in the future, the teaching adaptability of DeepSeek will be further improved.

Looking forward to the future, college English listening and speaking teaching guided by core literacy needs to further deepen the integration of technology and teaching, explore the collaborative application model of DeepSeek and other teaching technologies, build a more intelligent and efficient teaching ecology, strengthen long-term empirical research on the effect of technological application, accumulate rich teaching experience, promote the continuous improvement of college English listening and speaking teaching quality, and help the all-round development of students' core literacy; in the era background where globalization and digitalization proceed in parallel, it will cultivate more compound talents with cross-cultural communication ability and lifelong learning ability.

AUTHORS' CONTRIBUTIONS

Wei Yang, the first author, conceived and designed the study, conducted the research, and drafted the manuscript. Yu Zhang, the corresponding author, provided critical revisions and supervised the overall research process. The final version of the manuscript was approved by both authors.

ACKNOWLEDGMENTS

Funds: 2025 Jilin Provincial Higher Education Teaching Reform Research Project (20250PSJ23A007L); 2022 Jilin Provincial Higher Education General Research Project (JGJX2022D696); 2025 Jilin Provincial Higher Education General Research Project (JGJX25D1348); 2024 Specific Scientific Research Project of Innovation and Entrepreneurship Development Fund, The Tourism College of Changchun University (JS2024010).

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