

Balancing Human and AI: Exploring the Role of DeepSeek in High School Oral English Teaching

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Abstract. With the rapid development of artificial intelligence (AI), its application in language education has gained increasing attention. But up to now, research has largely been devoted to higher learning or English learning in general, without much examination of its application to teaching of oral English at the high school level. Therefore, the following research investigates application of DeepSeek to teaching of oral English at Chinese high school, including its operation, benefit, drawback, and potential developmental path. Both the conducive influence, like the individualized feed-back, teaching of higher learning motivation, and boost of teaching efficiency—in addition to the harmful influence, including over-dependency of the learners of the AI program software and questions over authenticity and formal correctness of AI product, can be identified from the following research. Based on reference to such matters, practical agendas are proposed by the following research, for example, application of equilibrium-oriented teaching methods favorable to autonomy of thoughts, reinforcement of instructor supervision and knowledge competence toward assurance of authenticity, and realization of human-AI co-evaluation to accommodate tech efficiency and human professional competence. The outcomes aspire to contribute to AI-based teaching research by proclaiming the specific existence of the AI program to the teaching of oral English at the high school level, and indicate its potential significance to developing communicative competency and intercultural competence under the AI-partitioned world.

Keywords: DeepSeek, AI-assisted Language Teaching, High School Oral English, Communicative Competence

1. Introduction

Artificial Intelligence (AI) technologies are becoming remarkably sophisticated, and they are adding immense value to domains like education [1]. AI-based platforms enable learners to acquire speaking proficiency by practicing repeatedly, even without real face-to-face interaction. By making use of simulated dialogues and application-based contextualization, platforms of this sort promote more natural language use by putting learners into scenario-based practice [2]. Scholars examined how AI-assisted language learning influences English as a Foreign Language (EFL) learners' engagement in oral English learning. Using instruments such as motivation, social presence, and human-likeness questionnaires, along with recordings of learner interactions with the AI tool, it was

found that the integration of AI significantly enhanced students' motivation and overall participation in the learning process [3]. Since English is a foreign language in China, opportunities for learners to engage in authentic conversations with native speakers are scarce. This results in limited exposure to natural language use, thus hindering the development of fluency and flexibility in English speaking. At the same time, effective oral English communication skills have been consistently recognized as a crucial factor in enhancing EFL undergraduates' international competitiveness within today's globalized society, as highlighted by the findings of numerous scholars [4].

Although AI tools, especially advanced platforms like DeepSeek, can support oral English development by providing speech recognition and personalized feedback in class-the application of this AI-powered tool in Chinese high school remains underexplored. Currently, with the acceleration of globalization and the widespread use of digital technologies, the significance of English speaking as a global language has become increasingly prominent. However, in China, English language instruction is still largely exam-oriented, with greater emphasis placed on grammar, reading, and writing skills [5]. As a result, there remains a huge gap between the current state of oral English teaching in China and the communicative needs of the real world.

Though previous studies have examined the potential of artificial intelligence in oral English teaching, most of the existing research has primarily focused on higher education or general English learning contexts. Limited attention has been given to oral English instruction at the high school level in China [4]. Moreover, challenges associated with the application of DeepSeek lack professional investigation. If such challenges could not be solved in time, the application of this platform into high school oral English teaching may face uncertainties. Meanwhile, it holds the potential to become a driving force in the intelligent transformation of English education because of its advanced reasoning capacity and multi-modal interaction features. Its role is highly critical in fostering students' communicative competence and building their confidence in using English in authentic contexts [6]. Therefore, this study seeks to explore the influence of DeepSeek in the context of high school English oral teaching, with a focus on its effectiveness and challenges.

Against such challenges, the focus of the current research is to examine DeepSeek's role in enhancing oral English teaching. In particular, by examining the efficacy of applying this platform to real-situation teaching practice, the focus of the research is to learn from its practical merits as well as its drawbacks. Therefore, the current research attempts to delve into the following: What are the benefits of DeepSeek for oral English teaching in the high school context? What are the complications of teaching oral English at the high school level through DeepSeek use? And how can they be followed to ensure that the tool is effectively incorporated into oral English teaching?

2. Teaching functions of DeepSeek

DeepSeek has many teaching abilities, and it can be directly applied to high school classrooms, especially on a large scale. As for students, DeepSeek can play an helpful actor in the process of student's the preparation of examinations. To be specific, students' learning behaviors and their participation in class can be collected and analyzed by DeepSeek. Then, this AI tool can mark students' assignments and show the way for them to revise assignments. Further, DeepSeek can create specific files for each students to record their information on learning, including their weaknesses and progresses they made. As a result, teachers have a comprehensive picture of students' situations and can take actions to adjust their teaching methods in order to facilitate students' learning [7]. Additionally, this can enable students to become more aware of their own flaws, and therefore preview and prepare for examinations more easily. Teachers can take those

perceptions to incorporate more specific English teaching in the interim. It is particularly beneficial in large-sized classes at high school, as it is otherwise difficult to provide individual care.

In addition, DeepSeek is actively engaged in supporting teachers to design activities for classrooms. During the pre-class preparation period, it can be used by teachers to prepare for the layout of lessons, to design discussion topics, and to prepare activities for the classroom. DeepSeek also supports preparing innovative activities and quizzes. Hence, it can enhance the efficacy of preparation for lessons. More importantly, it provides extension resource recommendations, for instance, videos, articles, and cultural myths, thereby enriching teaching resources and stimulating the interest of the learners. For instance, after uploading the digital version of the textbook, DeepSeek is capable of automatically developing a comprehensive teaching plan. It defines learning intents, resources to be utilized, procedures for measuring learning, and extended activities. It arranges the learning framework of the lesson into six sections-warm-up, reading, comprehension, practice of words, role play, comparative analysis, and reflection, making it practical and doable [8].

3. Advantages of DeepSeek in oral English teaching

The DeepSeek application, facing high school spoken English classes, has already achieved various wanted outcomes. Firstly, it enables superior teaching quality, by forming an effective teaching assistant, offering timely feedback about students' English spoken language proficiency and adapting learning aid to suit their accent, as an effective and relentless tutor throughout all learning phases [8]. As a consequence, teachers can spend more time on fostering higher-level speaking skills, such as fluency and coherence, intercultural communication, and discourse management. At the same time, data-driven research using this instrument makes it possible for instructors to track students' learning with enhanced systematization. By recognizing the difficult parts in English speaking, such as wrong pronunciation or lack of coherence in certain sentences, teachers are able to improve their teaching strategy in a more specific way. Thus, the whole teaching process will become more effective, as well as containing more high-quality content.

Moreover, this system is able to boost interest when students decide to learn English speaking. Unlike the usual fixed learning materials people are used to using every day, DeepSeek will dynamically adjust what to learn in one class according to the learning habits of students, as well as how much knowledge they have already grasped. If the students lack interest in learning, extra learning steps will be added, such as playing fun little games before the actual beginning. In this way, students' motivation in class will be boosted. This kind of personalized learning environment has been proved remarkably helpful, especially in students' participation, their passion while attending class, and most importantly, their overall grades [9]. For students who have worse speaking habits, this system offers excellent help in addressing these problems, and their coherence in speaking improves gradually. To conclude, with the support of DeepSeek, obvious improvements have been shown in students' coherence and cohesion in English speaking. This huge progress not only makes them more confident in discussing things in group learning or even in English debating, but also sparks their sense of achievement as well as their desire to further improve oral skills in English [10].

4. Challenges of DeepSeek in English oral teaching

Despite all the enormous DeepSeek can bring towards enhancing high school oral English classes, challenges can never be avoided [11]. The next section will reveal three main challenges, with regards to AI-generated contents' correctness, and over-reliance by students on AI tools.

First of all, one of the key points while using DeepSeek is whether the answers it generates are authentic. The materials that AI depends on to generate content are processed by computer programs. As a consequence, there may be concerns about its reliability, especially in oral English teaching and learning. The reason is that effective oral communication depends on contextual pragmatics and comprehension [11]. Therefore, although this tool is aimed at creating a free environment and letting speakers practice contextual dialogues, the content AI generates sounds harsh from time to time and, more severely, is not culturally appropriate in some cases. For instance, a conversation generated for practicing greetings may meet textbook standards. In native speakers' eyes, however, the whole conversation may never happen in real life.

Many people are afraid of having trouble communicating with others, especially when faced with subtle cultural differences. Some students repeatedly practice the materials given by AI tools, completely ignoring the fact that the content itself may be wrong. And possibly, the AI system is not able to recognize it and correct the mistakes. Further on, students will solidify their inaccurate language use. This kind of problem has actually become a commonplace among oral English learners, and teachers have already found the weak spot, setting this as a key point in their teaching [12]. People are getting to realize that in order to develop their communication skills, the conversation style must be of naturalness.

Second, there exist some potential risks for algorithmic bias. Off-the-shelf algorithms tend to maximize the overall quality of the prediction. Performing well for the majority population simply carries more weight in overall model accuracy. In cases where under representation in data cannot be addressed through data collection, the issue must be dealt with directly in the modeling phase, for example by upweighting data points from minority groups [13]. In a similar vein, the quality of AI-generated content depends heavily on the data on which the system has been trained. When the training data disproportionately reflect certain cultural or linguistic norms, the output may inevitably strengthen stereotypes or exclude diverse perspectives. For example, a role-play activity generated by DeepSeek may place too much emphasis on Western cultural settings while overlooking situations that are more familiar to Chinese students. This imbalance will restrict students' ability in developing intercultural awareness. The actual value and the authenticity of oral English practicing will drop at the same time.

Finally, many students have the tendency to be overly reliant on the immediate feedback given by the platform, especially when it comes to practicing speaking. This kind of reliance may lead them to build blind trust on AI platforms, thus adding the risk of this wrong reliance. These consequences will hinder the development of communicative abilities. The convenience that AI has brought also makes learners unwilling to go deep thinking and output their language independently [14]. In classroom discussion, students who are used to turning AI platforms for help is difficult to express their thoughts clearly. They have lost the ability to face a sudden question without searching on AI platforms. These students, are used to thinking like the mode that DeepSeek provides, instead of actively searching for appropriate vocabulary, or trying new sentence structures. This bad habit restricts their creation in language. Moreover, certain students are expecting AI tools are able to offer reliant instructions in new environments. At the same time, they claim that they will behave worse in a completely unfamiliar place.

As a result, they may become increasingly dependent on AI-generated input in situations beyond their practice materials, such as spontaneous discussions or intercultural communication. Ironically, this dependency makes them more inclined to trust the AI precisely when its accuracy and contextual appropriateness are most uncertain, thereby limiting their ability to cope with unpredictable real-world communication [15]. Furthermore, AI-generated dialogues often provide

idealized conversational models that probably will not happen in real life. As a result, students may appear fluent when interacting with the system but experience difficulties when engaging in real-world conversations.

If these problems are left unaddressed, the long-term effect would be weakening students' speaking skills. While DeepSeek has the potential to reshape how high school students develop communicative competence, critical thinking, and problem-solving skills, language curricula need to be adjusted to ensure that learners continue to build independent speaking ability rather than relying too heavily on AI-generated support. Therefore, it is essential to create guidelines when using AI, ones that strengthen oral proficiency and cognitive growth without replacing students' own efforts, so that a balanced relationship between human communication skills and AI assistance can be maintained [16].

5. Strategies for addressing the challenges

This research offers several practical strategies to solve these challenges. First, students' dependence on DeepSeek must be reduced. Rather than leaving students on their own, teachers can monitor how they use this platform AI and provide feedback. So teachers play a more active role in guiding this behavior. In addition, a system of co-evaluation between AI tools and human users will be introduced. These measures are aimed at keeping their oral skills, as well as understanding real situation contexts.

To begin with, the supportive role of AI tools should not be overlooked. Schools can adopt a more balanced approach by combining AI-assisted learning with methods that foster students' independent thinking. For example, when students complete oral tasks with the help of AI platforms, they might be recommended to write short reflections on the process. Teachers can then review these reflections and provide targeted feedback. This not only helps students recognize both the benefits and the drawbacks of AI support, but also strengthens their ability to think critically. At the same time, the speaking modules that DeepSeek provides should be carefully evaluated. Although AI-generated resources can sometimes be valuable, like the pronunciation models, they should be used selectively. Approaches like this strike a better balance between human learners and AI, ensuring that technology functions as a supportive tool, not undermining students' communicative abilities [17].

Secondly, stronger teacher supervision is essential to guarantee the reliability of materials generated by DeepSeek. Since AI systems mainly operate on statistical patterns, teachers' data literacy becomes particularly important. Data literacy, defined as the ability to collect, interpret, and apply instructional data, can directly shape classroom practice [18]. In oral English teaching, this may involve analyzing students' pronunciation accuracy or cohesion, and then adapting lesson design accordingly. Teachers with stronger data literacy are better equipped to make evidence-based choices, integrating AI support into oral instruction in a meaningful way. In addition, teachers who can critically interpret AI feedback are able to filter out irrelevant suggestions before bringing them into class. In this way, it makes sure that AI outputs match the realities [19]. The technological environment is changing rapidly nowadays, teachers need to keep up with AI progress, adjusting their teaching methods. In oral English teaching, this includes trying new technologies and sharing experiences with their colleagues, making the best of AI tools in boosting student' speaking development.

A third strategy is to establish a co-evaluation between human learners and AI tools. Based on the input generated by AI, teachers should put their personal feedback on to make it a complement. For example, if DeepSeek creates a roleplay scenario that focuses mostly on Western cultural

environments, teachers should change the situations, in order to make Chinese students more familiar with the whole situation. This move is able to address the cultural gaps between different nationalities, ensuring that students, especially from a different background, practice English in meaningful situations. Furthermore, schools are supposed to require teachers to review teaching materials generated by AI first. After students receive automated feedback from the AI platform, they can get more professional evaluation by the teachers. For instance, in a seminar, teachers can assess higher level communicative skills. Such help is able to maintain the reliability of teaching materials, preventing the dissemination of misleading content [20].

To conclude, the strategies this study provides offers practical ways to solve the challenges in oral English teaching while using AI at the same time. Students' independent thinking skills can be improved while balancing AI and learners. Teachers' data literacy ensures accuracy in AI-generated resources.

6. Conclusion

At present, AI technology is developing all around the world. In China, AI technology has been widely used in many fields. Under this background, this study explores the use of DeepSeek in English teaching in high schools in China, and analyzes its role in English teaching, as well as its advantages and disadvantages.

The study found that DeepSeek has two core teaching functions: preparing for exams and assisting classroom design. However, this study also identifies three major challenges brought by DeepSeek to high school English teaching in China. First of all, the accuracy and authenticity of the content generated by AI are insufficient. Second, the algorithm is biased. Due to the imbalance of training data, it may strengthen cultural stereotypes (such as overly focusing on Western scenes and ignoring the local situation familiar to Chinese students). Third, students are prone to over-reliance on AI instant guidance.

In response, this study proposes a targeted strategy: first, to build a balanced teaching model, such as requiring students to write a reflection log after completing AI oral exercises, and teachers should guide them to recognize the advantages and limitations of AI through review, so as to cultivate students' independent judgment ability; Second, strengthen teacher supervision and resource consolidation. The core is to improve teachers' data literacy (that is, the ability to collect and analyze students' oral performance data and transform them into teaching strategies), and establish a pre-class audit mechanism for AI-generated materials; Third, promote the evaluation system of teachers and AI technology collaboration. When AI generates practice scenarios, teachers need to correct their cultural deviations and provide in-depth comments on the basis of AI automatic feedback, so as to cooperate with the school to establish quality control standards.

In summary, although this study explores the use of DeepSeek in personalized teaching of spoken English in high school, it fails to further investigate the situation of AI technologies such as DeepSeek in daily teaching through interviews, questionnaires and other methods. Future research should pay more attention to the use of more diversified investigation methods, exploring the impact of AI technology on teaching at the theoretical and practical levels, thus providing more ethical solutions for the digital transformation of education.

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