

Psychological Dilemmas, Causes and Teaching Optimization Strategies of College Students' English Learning Under AI Empowerment

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Abstract: In recent years, artificial intelligence has played an increasingly prominent empowering role in higher education. For college-level English teaching, it brings both opportunities and challenges. Although technological intervention can greatly improve the efficiency of college English teaching, it also exposes college students to numerous psychological dilemmas in English learning. Therefore, considering the current situation of college students' English learning, this paper first conducts an in-depth analysis of the psychological dilemmas and their causes in college students' English learning under AI empowerment. Secondly, it summarizes and puts forward four specific teaching optimization strategies: reshaping teachers-students role cognition, building an emotional support system, strengthening metacognitive-strategy cultivation, and optimizing the process-oriented value-added evaluation system. It is hoped that through the integration of human-machine collaboration and humanistic care, the alienation risks brought by technology can be effectively eliminated, students can shift from passive dependence to active mastery, and their language competence can be improved while ensuring the sound development of their psychological quality.

Keywords: AI; College students; English learning; Psychological dilemma; Causes; Teaching strategies

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1. Introduction

With the wide application of generative artificial intelligence, intelligent speech recognition and adaptive learning systems, the structure of the college-English-learning ecosystem has changed accordingly. Artificial-intelligence technology boasts powerful data-processing capability and instant-feedback capacity. It can effectively lower the threshold of language input and provide strong technical support for personalized learning. Nevertheless, technological empowerment is not a once-and-for-all panacea. While reshaping teaching forms, artificial intelligence also brings some unexpected psychological impacts on students. Nowadays, while enjoying the convenience brought by technology, a growing number of college students

gradually fall into the mental inertia of “cognitive outsourcing” and suffer deeper communicative apprehension triggered by algorithm-driven evaluation. Due to over-reliance on algorithm-recommended paths, college students are gradually losing their subjectivity in English learning. Without timely intervention, students’ language competence may be severely impaired. Against such a background, taking AI empowerment as the context, this paper systematically studies psychological dilemmas and their causes in college students’ English learning, and puts forward feasible teaching optimization strategies, hoping to offer certain inspirations and references for the intelligent transformation of foreign-language education.

2. Core psychological dilemmas and their causes in college students’ English learning under AI empowerment

2.1. Cognitive outsourcing and mental inertia: Implicit erosion of self-efficacy

The most direct impact of AI technology on college students lies in its strong instant-gratification feature, which easily traps students in the dilemma of cognitive outsourcing. In the past, lexical retrieval and syntactic construction demanded strenuous mental processing. Only by going through such processes could students acquire language and develop skills. However, when AI translation and writing assistants can generate nearly perfect translations and texts in an instant, students will subconsciously give up independent thinking and directly assign language-output tasks to algorithms ^[1]. Excessive reliance on technology, though convenient for assignment completion, may deprive students of opportunities to test hypotheses and revise linguistic assumptions through trial and error. Consequently, students may develop a false sense of competence. Once they work on independent expression without AI assistance, they will instantly get “stuck” for failing to mobilize linguistic resources ^[2,3]. Such a sharp contrast will greatly shake students’ self-confidence, arouse self-doubt like “I cannot do English without tools”, and further trigger a sharp drop in self-efficacy.

2.2. Algorithm indifference and precise frustration: Digital upgrade of communicative apprehension

The essence of language learning is emotional communication between human beings, yet AI-dominated learning environments may suffer from emotional deficiency and algorithm indifference. Although AI speech-evaluation systems can deliver millisecond-level accurate feedback for teachers and students, such feedback is mostly based on cold data criteria, lacking eye-contact encouragement and emotional support from real-life teachers ^[4]. Some students are already afflicted with foreign-language anxiety and extremely sensitive to negative evaluations. If the AI system keeps pointing out mistakes or communicates with students in mechanical tones, English learning is likely to turn into a game of avoiding red correction marks. Students dare not try complex expressions, thus falling into a vicious circle: fear of mistakes leads to silence, and silence aggravates anxiety. The resulting sense of frustration may intensify students’ apprehension in real-life communication and make them afraid of face-to-face interaction.

2.3. Passive feeding and path dependence: Gradual erosion of learning subjectivity

Although AI recommendation algorithms can realize personalized content push, they also tend to create information cocoons and make students gradually lose their learning initiative. Intelligent learning platforms will plan learning paths and push learning materials of moderate difficulty for students according to historical data. Such “nanny-style” services may reduce students’ cognitive burden, yet meanwhile make them gradually

lose metacognitive capabilities for making plans, monitoring processes and assessing outcomes ^[5]. Students turn into passive recipients of data instead of active constructors of knowledge. When learning is reduced to mechanical clicking and following instructions, students can hardly experience the profound sense of achievement brought by overcoming difficulties. With subjectivity fading away, the learning process may become tedious. In the long run, learning behaviors cannot be sustained, resulting in an overall decline in learning motivation.

3. Teaching optimization strategies for psychological dilemmas in college students' English learning under AI empowerment

3.1. Reshape teachers-students role cognition: Shift From “technology dependence” to “human-machine collaboration”

Teachers should transform from mere knowledge imparters into designers and guides for human-machine collaboration. Instead of deliberately avoiding AI tools in teaching design, teachers should take them as part of teaching procedures while clarifying the auxiliary scope of AI. Take the writing teaching of *Unit 21 Customs and Charms of Old Beijing* as an example. Teachers can design the teaching procedure of “AI-generated first draft — human polishing — comparison and reflection”. Teachers should focus not merely on students' final compositions, but also on how students raise questions to AI, how they evaluate AI-generated content, and how they make personalized revisions to AI-produced texts ^[6,7]. In this way, students will understand that AI is not an all-powerful ghostwriter, but a “co-pilot” to be manipulated by humans. Teachers shall guide students to deeply comprehend the scaffolding role of AI and help them realize that language-competence acquisition must go through in-depth mental processing. No technological convenience can replace the cognitive efforts individuals devote to lexical retrieval and syntactic construction.

Students need to transform from passive knowledge receivers into active intelligent critics. To help students achieve this goal, teachers should set up special sessions in practical teaching to train students' ability to critically use AI. For instance, teachers can intentionally show mistranslations produced by AI when handling culture-loaded words or complex contexts, and require students to correct and discriminate such errors ^[8]. This can not only improve students' language-identification competence, but also enhance their sense of control as learning subjects, help them form awareness of rationally utilizing AI tools and gradually get rid of technological dependence on AI. Over time, students will psychologically regain self-confidence in English learning and firmly hold the initiative in their own hands.

3.2. Build an emotional-support system: Alleviate loneliness and anxiety caused by “algorithm indifference”

Teachers should act as supplements to affective computing, and subtly integrate humanistic care into the whole process of human-machine interaction. AI is mainly responsible for correcting pronunciation accuracy, while teachers shall proactively listen to the content and emotions expressed by students. Take the oral-English teaching of *Unit 19, A Variety of Splendid Folk Arts*, as an example. Teachers can adopt a dual-track feedback mode: AI provides objective data reports concerning pronunciation, intonation and fluency, while teachers mainly assess students' logical thinking in viewpoints, emotional expression and communicative strategies ^[9,10]. When students feel frustrated due to low scores given by AI, teachers should offer timely intervention and provide emotional support beyond AI simulation through face-to-face encouragement, eye contact, and body

language. Teachers can also organize offline English corners and group discussions around unit themes. For example, students can conduct real-world communication on the topic “My favorite folk art” with electronic devices prohibited, so that they can experience the joy of language learning via face-to-face interaction and counteract loneliness arising from online learning.

Teachers shall also guide students to carry out targeted emotional desensitization training with the help of AI. Many students are reluctant to speak for fear of losing face in front of peers or teachers. Therefore, in practical teaching, teachers can guide students to regard AI voice assistants as confidants or practice partners for low-pressure trial-and-error exercises. Teachers can also instruct students to reconstruct cognition with AI. For example, when students get anxious after making mistakes, teachers can guide them to raise questions to AI: “Is it normal to make such mistakes in English learning? How would native speakers view this?” Objective data offered by AI helps students treat mistakes rationally and build a psychological barrier against anxiety^[11].

3.3. Strengthen metacognitive-strategy cultivation: Break “information cocoons” and passive learning

In AI-assisted teaching, teachers shall integrate metacognitive strategies. Specifically, before formal teaching, teachers should not directly push AI-generated learning lists to students. Instead, they shall instruct students to make learning plans according to their actual conditions. Teachers can demonstrate how to utilize AI tools to analyze personal problems in comprehending complex long sentences, and then guide students to formulate personalized reading plans based on their real proficiency. Teachers should specifically set up the link of “reflection journals”, requiring students to record their inner thoughts when using AI tools in detail, such as “Why do I choose this tool? Does AI feedback solve my problem? Do I blindly accept suggestions from AI?” Reflective writing of this kind helps students actively break away from algorithmic logics of systems and re-examine their own learning behaviors^[12,13]. Besides, teachers should encourage students to engage in exploratory learning rather than rigidly following paths prescribed by AI. Teachers can assign anti-algorithm assignments, requiring students to proactively look for reading materials of different styles and slightly greater difficulty compared with AI-recommended resources and make comparisons between the two sets of materials. Through such deliberate practice, students can gradually develop metacognitive capabilities for stepping out of comfort zones, regulating learning difficulty and evaluating learning resources, grow into “masters” of data, and shift learning from passiveness to activeness.

3.4. Optimize the evaluation system: Shift from “result-oriented” to “process-oriented value-added evaluation”

Teachers need to draw on AI big-data analysis to create all-round learning portraits for each student. Instead of merely focusing on scores of a single oral-English test, teachers shall check long-term data recorded in the AI back-end and pay attention to indicators such as improvement curves of pronunciation accuracy, variation tendency of vocabulary richness, and input of practice hours^[14]. The focus of evaluation shall shift from the traditional question “What is your current proficiency?” to “How much progress have you made compared with the past?”. Teachers shall give affirmation and praise to students with weak foundations yet abundant practice hours, so as to ignite their enthusiasm for English learning. Research shows that data-driven value-added evaluation enables every student to witness their minor progress and obtain a lasting psychological sense of efficacy.

In addition, teachers can take “human-machine-collaboration performance” as one key assessment

indicator of English-learning outcomes. Take oral or writing examinations as examples. Students are allowed to use AI tools, yet assessment focuses on how students leverage AI to optimize their expressions. For this purpose, teachers can design the link of “iterative demonstration”, encouraging students to display their first drafts, AI-revised versions and final self-polished drafts, and state reasons for revisions^[15]. Teachers shall assess students according to criteria including whether revised texts are logical and critical, and whether final outputs embody students’ independent thinking. Such evaluation methods can not only prevent AI-aided cheating, but also guide students to continuously improve themselves and enhance comprehensive competence with AI tools, giving full play to the guiding role of evaluation in teaching and learning.

4. Conclusion

Against the background of AI empowerment, college students are confronted with diverse psychological dilemmas in English learning. To help students get out of such dilemmas, this paper puts forward effective teaching optimization strategies. Their core lies in returning to the original aspiration of education: reshape human-machine-collaboration-oriented roles for teachers and students, provide humanistic-care-based emotional support, strengthen explicit cultivation of metacognitive strategies, and implement growth-track-focused value-added evaluation, so as to give full play to the scaffolding function of technology in college English teaching. Future college English teaching shall foster a harmonious coexistence of humans and AI. Only when teachers and students make rational use of AI tools can students get rid of psychological dilemmas and achieve simultaneous improvement in linguistic competence and comprehensive qualities.

Disclosure statement

The author declares no conflict of interest.

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