Advances in Educational Technology and Psychology (2026)
Clausius Scientific Press, Canada
DOI: 10.23977/aetp.2026.100308
ISSN 2371-9400 Vol. 10 Num. 3

Learning Motivation in Generative AI-Supported Comprehensive English Teaching: A Self-Determination Theory Perspective on Teacher-Student-AI Interaction

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Keywords: Generative artificial intelligence; Learning motivation; Self-determination theory

Abstract: The entry of generative artificial intelligence into college English classrooms has changed the way students obtain resources, revise their language output, and participate in classroom interaction. While existing studies have mainly emphasized tool functions and teaching efficiency, less attention has been paid to how learning motivation is supported and weakened in this new instructional structure. Drawing on Self-Determination Theory, this paper examines learning motivation in generative AI-supported college English classrooms from the perspective of three-way interaction among the teacher, the student, and the intelligent system. It argues that AI can support motivation when system suggestions create opportunities for autonomous judgment, feedback and revision help students confirm their competence, and human-machine practice returns to authentic classroom communication. At the same time, algorithmic dependence, instant answers, and technological mediation may weaken autonomy, reduce the experience of competence, and undermine relatedness. The paper further proposes practical adjustments from both teacher support and student autonomy, emphasizing that system output should become learning material only after pedagogical judgment, critical processing, and interpersonal verification. This analysis clarifies the motivational conditions and risk boundaries of AI-supported college English teaching.

1. Introduction

The wide use of large language models has changed how routine language problems are handled in college English classrooms. In the past, vocabulary explanation, text comprehension, and revision of expression depended chiefly on textbooks, classroom lectures, and teacher feedback. Students can now obtain relatively complete linguistic explanations and revision suggestions before they enter the classroom. The classroom is therefore no longer simply a place for supplying foundational knowledge. It is increasingly oriented toward textual analysis, viewpoint expression, and critical thinking training, and teachers need to recalibrate the relation between out-of-class autonomous work and in-class discussion of more demanding problems, adjust the focus of classroom activity, and guide students to scrutinize the quality and limits of generated content [7].

Artificial intelligence has brought automatic assessment, intelligent feedback, and interactive practice into language teaching, but these new conditions have also raised problems such as learning dependence, misuse of technology, and changes in the teacher's role [2]. The teacher is no longer the sole source of information and feedback. Large language models have begun to take on the functional roles of language consultant, language partner, and language testing specialist [15]. This redistribution of roles makes the teacher's classroom judgment more important. ChatGPT and similar tools reduce the workload of knowledge delivery and repetitive grading, but they make the teacher's guidance of students' critical thinking, emotional state, and learning process all the more central [1].

Technological advances have made the collection of materials and the generation of feedback more efficient, yet they have not fully explained where students' motivation to learn comes from. Existing research by Xu and Zhao [15] and Li [8] has examined how AI supplies learning resources, generates linguistic feedback, expands classroom interaction, and supports personalized learning. This body of work has provided important theoretical and practical grounding for understanding how AI can raise teaching efficiency, enrich learning materials, and refine teaching procedures. Its explanatory emphasis has largely fallen on the match between technical functions and instructional steps, while less concentrated attention has been given to why students, after receiving systematic feedback, would continue to verify, revise, and transfer what they have learned, how they confirm gains in their own ability, and how teacher-student, peer, and human-machine interaction together sustain the learning process. Self-Determination Theory treats autonomy, competence, and relatedness as conditions under which learners form autonomous motivation [20,21], and Wu et al. [13] have further developed this framework in Chinese-language scholarship. The theory offers a useful angle for explaining how students obtain a basis for choice, confirmation of competence, and relational support within the three-way interaction among teacher, student, and the intelligent system.

The present article takes the college English classroom as its primary context and examines how motivation is generated and where its risk boundaries appear in this three-way interaction under generative AI. The classroom shifts noted above suggest that intelligent support has moved from the retrieval of out-of-class resources into textual understanding, expression organization, and feedback-based revision, and that classroom interaction has expanded from a two-way exchange between teacher and student into a multi-party process among teacher, student, and the intelligent system. Drawing on Self-Determination Theory, the article analyses the conditions for motivation generation along three lines, namely autonomous judgment, confirmation of competence, and relational support, and then examines how technological intervention may weaken motivation and how the classroom can be adjusted in response.

2. Relational Shifts After Generative AI Enters the Classroom

2.1 From External Resources to Process Support

In traditional foreign language learning, students working on a task often have to move among textbooks, dictionaries, search engines, and corpora. Generative AI tools such as ChatGPT bring information retrieval, machine translation, dialogue generation, and text revision together within one interface, allowing students to obtain background information, explanations of difficult points, comparisons of example sentences, and refined expressions around a single text [8]. The way students draw on external resources thus shifts from looking up ready-made answers toward expression that emerges through negotiation with the system. With its capacity for contextual association and continuous generation, the system allows students to work through language problems step by step within a single conversation thread, and its involvement no longer belongs to

one particular stage of the activity but reaches across comprehension, expression, and revision [6]. Before class, the system can explain the cultural background of a text, untangle long and difficult sentences, and lay out possible angles for discussion. In class, it can produce different versions of a paraphrase and offer alternative expressions for side-by-side comparison. After class, students can submit a draft essay or an oral recording to the system and receive prompts on argumentation, cohesion, and word choice.

2.2 From Teacher-Student Interaction to Three-Way Coordination

The products of learning have therefore become composite products that are visible but difficult to interpret with certainty. The paragraph paraphrases, viewpoint statements, and essay drafts students bring into the classroom are no longer purely original texts. They contain the system's cultural background explanations, example-sentence suggestions, and word-choice substitutions, alongside the student's own filtering or rewriting of those suggestions. The texts the teacher works with carry the composite traces of human-machine collaboration, and the traditional two-way relationship between teacher and student around a piece of work has been reconfigured. This reconfiguration also reshapes the structure of classroom interaction. Within particular learning tasks, the system's involvement turns interaction into a three-way coordination [11] in which the student first runs through one or several rounds of dialogue with the system and then brings the resulting suggestions into class discussion, while the teacher distinguishes the traces of collaboration in the submitted text, judges how well those suggestions fit the current teaching task, and adjusts the corresponding follow-up questions and feedback strategy. What the teacher has to interpret pedagogically has expanded from the student's first-hand understanding to the student's understanding as negotiated with the system, and the chain of classroom feedback has lengthened to include the human-machine exchange.

This structural change does more than alter the organization of learning activity. It touches the motivational mechanism of learning at a deeper level. When the system is involved in comprehension, expression, and revision at every stage, the question of how students reach autonomous decisions in the face of machine suggestions, how they confirm their own ability through iterative correction, and how they obtain genuine human connection in real classroom exchange all bear on whether their willingness to keep learning can be sustained. Self-Determination Theory treats the maintenance of intrinsic motivation as resting on the satisfaction of three basic psychological needs, namely autonomy, competence, and relatedness [20,21], an account that Wu et al. [13] have examined in detail. In a classroom shaped by three-way interaction, these needs follow a new generative logic. The multiple suggestions the system supplies call for the student's autonomous judgment, the cycle of immediate feedback and successive revision involves the confirmation of competence, and authentic exchange with teacher and peers forms the basis of learning connection. The analysis that follows examines the generation of learning motivation along these three dimensions.

3. Motivation Generation Under Self-Determination Theory in Three-Way Interaction

3.1 Autonomous Judgment Within Intelligent Suggestions

The satisfaction of the need for autonomy comes not from having more sources of answers but from the learner's ability to form and articulate the reasons for action within the work itself. Self-Determination Theory stresses that autonomy is not equivalent to an increase in the number of choices. Ryan and Deci [21] and Wu et al. [13] further show that it is reflected in the learner's capacity to take part in learning on the basis of personal will and value identification and to develop

reasons of his or her own within the activity. In an interactive learning environment shaped by technology, a tool can support the satisfaction of the autonomy need only when it is organized as a condition that helps the student judge, choose, and articulate reasons. Generative AI, with its continuous and integrative capacity for generation, can supply different interpretive paths, angles for discussion, and routes of expression around the same text, turning part of the comprehension task from checking against a single answer into comparing multiple interpretive schemes. An increase in opportunities for choice is not in itself a form of autonomy support. Choice converts into intrinsic motivation only when the alternative options genuinely connect with the student's learning goals and the student can compare, evaluate, and account for the chosen option within the task [21].

In a classroom structured by three-way interaction, the teacher reorganizes the system's suggestions through task design and creates learning activity that requires students to compare, weigh, and decide, so that the educational meaning of the activity emerges within the space of choice. In a task of English text comprehension, for instance, the teacher can ask students first to obtain sentence explanations and background commentary from the system, then to return to the original text, judge how far each interpretive option preserves the author's position, compare the system's simplified renderings with the semantics of the source, and set out in class the specific reasons for adopting one expression and rejecting another. The system's suggestions thus shift from answers to materials from which students form reasons. The teacher's task design supplies the comparative framework and the criteria for judgment that make this shift possible, and through active selection and the articulation of reasons students internalize external suggestions as actions they themselves can endorse. The educational value of generative AI lies not simply in supplying information but in whether learners can take part in the work of the task through follow-up questioning, regulation, and re-creation [12]. Within a three-way structure, this kind of agentive processing takes shape through the continuous interaction of system support, teacher facilitation, and student judgment.

3.2 Confirmation of Competence Through Feedback and Revision

What lies at the core of the need for competence is whether the learner can perceive step-by-step growth in his or her own ability during the work of learning. As Ryan and Deci [21] and Wu et al. [13] explain, competence is felt when the learner experiences a gain in efficacy and a sense of control over the task within an important activity, and its satisfaction depends on a learning environment with clear structure, appropriate challenge, and effective feedback. In the feedback loop of three-way interaction, this perceptible progress takes shape through the continuous connection of diagnosis, follow-up questioning, and iteration. Formative feedback is more likely to drive learning when it is directed at the task itself, supplies appropriate detail, and leads the learner into subsequent revision [22]. If feedback completes the revision on the student's behalf, the student may accept the result without grasping the grounds for the change.

The immediate feedback of generative AI lets students quickly spot lexical, syntactic, and logical problems in their own expression, providing an initial point of entry for the confirmation of competence. Pointing out a problem is only the first step. The teacher still needs to use targeted follow-up questioning grounded in course objectives and the student's actual level, asking the student to specify what particular problem a given revision has solved, why the revised expression fits the context better, and how a similar situation might be handled in a transfer task. Through this kind of questioning, feedback shifts from information to understanding. The student gradually builds a coherent cognitive chain, handles the same kind of problem independently in a new task, and feels the growth of his or her ability in a substantive way. The value of system feedback is not that it replaces the teacher's marking but that it gives teacher-student dialogue richer points of entry,

from which the teacher selects the key nodes and helps the student integrate fragmentary revision suggestions into an understandable and transferable learning experience. Generative AI also shapes the emotional experience of learners as they revise their writing [10], and teacher feedback and generative AI feedback elicit different forms of learner engagement. Zhang and Meng [16] have shown that teacher feedback, with its stronger targeting and emotional support, is more likely to draw learners into active engagement, while AI feedback, despite the advantages of immediacy and broad coverage, finds it hard to fully grasp the textual context or offer interpersonal care. Only when the two are woven together through the teacher's professional filtering and follow-up questioning can students confirm their own competence within an appropriate degree of cognitive challenge.

3.3 Learning Connection in Authentic Communication

The satisfaction of the need for relatedness depends on whether the learner feels understood and attended to in the learning environment and forms a real connection with others around a shared task. Relatedness is not merely a matter of how much interpersonal contact there is. Ryan and Deci [21] and Wu et al. [13] explain that it rests on whether the learner experiences care, respect, and a sense of belonging in the community. The Community of Inquiry model holds that effective educational experience depends on the interaction of social presence, cognitive presence, and teaching presence [18], and social presence appears in the learner's capacity to project his or her personality into the community and be perceived by others as a real person. In a digitally mediated learning environment, this authentic interpersonal projection cannot be completed through technical mediation alone. Generative AI can simulate dialogue and provide immediate responses, and students with weaker oral skills or anxiety about speaking in class can use these tools for pre-class preparation and repeated practice [14]. The system's interaction is, in essence, a functional response, lacking the genuine understanding, appraisal, and shared responsibility that come with a classroom community. The responses of teacher and peers therefore become the decisive site at which the need for relatedness is satisfied.

The teacher can infer a student's learning difficulties from prior performance and present classroom behavior, and through targeted follow-up questioning can bring the student's expression into deeper discussion. Genuine exchange with peers brings cognitive pressure and social negotiation, allowing students to feel that their expression is being heard, understood, and questioned by other people. Within this structure, the system mainly plays the role of providing practice support, helping students rehearse linguistic material in a safe setting, while the teacher and peers serve as social responders, confirming in classroom interaction the meaning and worth of the student's expression. As the student moves from practice with the system to exchange in the classroom, the experience of having one's expression enter a shared task and meet a real audience is gradually consolidated. This transition from preparation to classroom response is the core of how relatedness is generated in three-way interaction.

Once AI has entered language teaching, the value of the technology cannot be understood only in terms of functional replacement. It should be judged by whether the teacher's judgment, the student's processing, and classroom exchange can be strengthened [2]. Ke et al. [6] make a parallel argument from the angle of educational practice. The learning motivation supported by generative AI ultimately receives social confirmation through interpersonal response in the classroom, completing the move from individual practice to shared participation. The mechanism just sketched describes an ideal form of coordination. Its effective operation depends on the three parties being properly positioned, with the system serving as a supporting resource, the teacher carrying responsibility for course-level judgment, and the student keeping a critical eye on the system's

suggestions. Once these boundaries shift, the mechanism of motivation generation may break down. The discussion now turns to the risk boundaries in this process, examined along the three dimensions of undermined autonomy, hollowed competence, and weakened relatedness.

4. Risk Boundaries in the Generation of Motivation

4.1 Algorithmic Dependence and the Erosion of Autonomy

The explanations and expression options the system produces are usually well structured and linguistically coherent, but the integration of generative AI into higher education can bring risks such as the distortion of knowledge content and the erosion of the agency of teacher and student [5]. When students treat system output directly as a reliable answer, they tend to skip over the work of checking real semantic differences and interpreting expressive intent. The activity then shifts away from understanding the material and forming a judgment toward retrieving and polishing an output. The student finishes the task at the behavioral level but, at the level of psychological experience, loses the process of forming the grounds for choice.

Self-Determination Theory locates autonomy in the learner's self-endorsement of the reasons for action, and the dependence just described undermines the core of the autonomy need. If a student habitually accepts the interpretive frame offered by the system and applies generated content to personal expression without comparison, follow-up questioning, or selection, the learning activity tends to slide from autonomous regulation toward an externally regulated stance. Once generative AI is embedded in educational applications, risks such as learning dependence, the weakening of agentive judgment, and the superficialization of cognitive processing are magnified by the convenience of the tool [5], and Liu and Qiu [9] raise similar concerns from the angle of educational regulation. In the English classroom, this means that students can produce a complete piece of language yet have trouble accounting for the reasons or grounds of their expressive choices. The autonomy need is frustrated when judgment has been handed over, and learning motivation shifts from intrinsic drive toward passive dependence on system output.

4.2 Instant Answers and the Hollowing Out of Competence Formation

Generative AI can quickly identify problems in a written piece or a spoken passage and supply a fluent revised version. This convenience can also cause students to bypass the full corrective process of problem identification, attempted expression, error analysis, and strategic transfer. The second draft looks more accurate on the surface, while the revision itself may remain at the level of copying and substitution. The student has not really understood what was wrong with the original sentence and does not know how to handle a similar situation independently, and the sense of completion at the level of outcomes does not turn into stable linguistic ability.

From the perspective of Self-Determination Theory, instructional feedback is more likely to convert into sustained learning motivation when it helps the learner experience growth in ability during the task [23]. If feedback skips the key nodes at which competence is built, the student receives the immediate correction but loses the psychological experience of confirming self-efficacy through the work of overcoming a challenge. Zhang and Meng [16], in comparing teacher feedback with generative AI feedback, find differences in how learners engage with the two. System feedback can provide a point of entry for revision, but it cannot replace the teacher's judgment of task standards and the student's comprehension process. It can serve as a useful support for working on a first draft, but it should not replace the student's active grasp of the grounds of the problem, the standards of the task, and the work of revision. Ryan and Deci [21] and Wu et al. [13] argue that the satisfaction of the competence need depends on whether the learner experiences a

gain in efficacy in an important activity. Instant feedback can compress the middle stages of trial, error, and reflection. As a result, the student cannot accumulate transferable experience in handling problems, and competence is hollowed out by the absence of process. Motivation, deprived of evidence of incremental mastery, struggles to hold up.

4.3 Technological Mediation and the Weakening of Relatedness

Generative AI can simulate dialogue and offer pre-class practice conditions for students with weaker oral ability [14]. The system's response is, in essence, a functional exchange and lacks the relational dimensions of authentic interpersonal interaction, such as emotional understanding, value judgment, and shared responsibility. Effective educational experience rests on the interaction of social presence, cognitive presence, and teaching presence, and research on online learning has shown that social presence is not determined automatically by the frequency of interaction. Garrison et al. [18] and Tu and McIsaac [24] show that it is bound up with the social context, the mode of exchange, and the quality of interaction, and appears as the learner's subjective experience of being connected to and attended to by others.

When a student grows used to handing expressive work over to the system for checking and then selectively carrying parts of the answer back into class, the subjective sense of connection in interaction is weakened. The student receives practice opportunities and immediate affirmation in human-machine dialogue but does not experience real face-to-face social response. Ryan and Deci [21] and Wu et al. [13] note that relatedness is not just about how much interpersonal contact occurs but about whether the learner experiences care and respect in the community. If technological mediation replaces authentic response, learning motivation declines as the sense of belonging and connection breaks down, and classroom engagement degrades from social participation into a one-way exchange between the individual and the system.

5. Practical Adjustments in Three-Way Coordinated Teaching

5.1 Teacher Support, Repairing Motivational Risks from the Supply Side

As the designer of the classroom environment, the teacher's pedagogical judgment is the coordinating mechanism for repairing motivational risks. Generative AI empowers learning design chiefly through the overall structuring of goals, scenarios, experience, and assessment, and the value of any technical tool depends on whether it can be placed under pedagogical judgment within a complete learning activity [3]. The teacher has to use task structuring, feedback filtering, and interactional organization to convert system output into conditions that can support the three basic psychological needs.

Algorithmic dependence is often less a matter of insufficient student effort than a sign that the task structure leaves the student no room to judge. A one-off submission of a finished assignment naturally allows system output to slide into the position of the final answer. The task structure ought instead to require students, after working with the system, to continue asking for justifications, comparing answers, and accounting for their choices. Only then can autonomous regulation occur. Zhu et al. [17] argue that what makes generative AI a support for self-directed learning is the active processing of goal setting, follow-up questioning, and self-regulation. The teacher can embed the space for judgment into the task through questioning. In a text comprehension task, students can be asked to obtain an explanation from the system first, then to ask whether the explanation preserves the author's position and whether it has smoothed over semantic distinctions, to return to the text for verification, and to report in class on the differences they observe. In a writing task, students can be asked to submit the first draft, the system's feedback, the revised draft, and a note on the revisions.

What matters is not the volume of material but whether the student can identify which revisions came from the system, which came from personal judgment, and which revised passages have been retained after comparison. The system's explanations then become material with which students return to the text and reorganize their understanding rather than substitutes for judgment.

System feedback covers a broad range of problems, which is at once a strength and a reason students may lose sight of where to focus. Guan et al. [4] note that the effectiveness of AI feedback depends on its quality, timing, mode, and the psychological reception of the recipient, and the teacher's judgment of its usability remains the decisive point of evaluation. The teacher has to pick out the key nodes that match the student's current level and that can be further worked on, and then convert system suggestions into material for classroom discussion. Hattie and Timperley [19], in their classic analysis of feedback effects, observe that the power of feedback rests on whether it can answer three questions about where learners are going, how they are progressing, and what they should do next. A teacher therefore need not ask the student to accept every revision but can build revision work around two or three typical problems, such as argumentative cohesion, register inconsistency, or syntactic redundancy, organizing comparison of what was wrong with the original sentence, why the system's suggestion fits the context better, and how a similar situation might be handled independently. A second round of writing or a variant task then tests the transfer, so that students accumulate the kind of mastery-based evidence that supports the felt sense of being able to handle this kind of problem through incremental revision.

Students come to feel understood not because they receive an immediate response but because their expression has entered another person's attention and drawn a real reaction. The value of technological mediation should be limited to providing material for response and should not extend to replacing the response itself, and real reaction in class still has to be activated through the teacher's design of interaction. The teacher can turn the products of student human-machine collaboration into objects of discussion in the classroom community, organizing peer review so that system-revised drafts come under the scrutiny of a real audience, or designing classroom follow-up questions that ask students to set out the reasons for accepting or rejecting a particular system suggestion, bringing specific expressions into public negotiation. When students' system-supported expression re-enters the classroom process of shared response among teacher and peers, the relatedness need finds genuine support.

5.2 Student Autonomy, Repairing Motivational Risks from the Demand Side

The repair of motivational risk must ultimately pass through the student's own cognitive processing. Self-Determination Theory distinguishes external regulation from autonomous regulation, holding that intrinsic motivation lasts only when the learner converts external support into self-endorsed reasons for action [20,21]. In the three-way structure of coordination, if the student treats system output simply as a tool that produces content ready for submission, then, however well the task is designed, the repair of the student's own motivational risk remains formal rather than substantive. The student needs to turn actively toward internalization and take on agentive responsibility for autonomous scrutiny, deeper processing, and social participation within the work of interacting with the system.

Algorithmic dependence often grows out of equating the system's fluent output with a reliable answer, and changing this habit means cultivating a critical stance toward system explanations. Faced with an interpretation of a text or a plan for expression, the student needs to ask whether it fits the original context, whether it preserves the author's position, and whether other possible renderings exist, turning the system's suggestion from a direct answer into a hypothesis to be tested. Huang et al. [5] and Liu and Qiu [9] show that as generative AI becomes embedded in education,

risks such as learning dependence and the weakening of agentive judgment are magnified by the convenience of the tool. The student therefore needs to develop the habit of contextual comparison and grounded checking of system output before external suggestions can enter the work of autonomous judgment.

Deeper processing shows up in converting immediate feedback into transferable experience of competence. The student needs to build a personal cognitive chain that runs from identifying a problem, to understanding the reason for revision, to transferring that understanding to new use. In revising writing, after adopting a system suggestion, the student can note the category of the original problem, whether lexical, syntactic, argumentative, or related to cohesion, why the system suggestion is more appropriate, and how a similar problem would be handled independently next time. This kind of metacognitive note helps integrate fragmentary feedback, and in later tasks self-questioning tests the transfer, turning a sense of having completed the work into a stable confirmation of ability.

The risk of technological mediation is that students settle for the system's response and avoid interpersonal interaction, which makes it important for students to bring the products of human-machine collaboration back into the classroom for the teacher's follow-up questioning and peer feedback. In class discussion, students need to account for why they chose to adopt a particular expression from the system and why they rejected another, bringing personal judgment into the open. In task work, students can actively share the difficulties and discoveries that have emerged from system-supported revision and confirm through direct interpersonal negotiation whether their expression can be understood. When students take the initiative to turn system practice into material for classroom exchange, technological mediation moves past its possible blocking effect and becomes a medium for deeper social participation.

6. Conclusion

The entry of large language models into college English classrooms has brought richer material, more immediate feedback, and more convenient practice conditions for language learning. The expansion of technological affordances does not automatically translate into growth in learning motivation. The analysis here, framed by Self-Determination Theory, suggests that whether generative AI can sustain students' continued engagement depends on whether three-way interaction among teacher, student, and the intelligent system genuinely supports the satisfaction of the three basic psychological needs of autonomy, competence, and relatedness. The strength of the system's own functions is not in itself decisive.

This analysis has sought to shift the discussion from tool function and teaching efficiency to learning motivation and the structure of classroom interaction. Self-Determination Theory has traditionally been used to explain the dyadic relation between teacher support and student motivation. The framework is extended here to the triadic situation of teacher, student, and intelligent system, bringing out the double logic by which the three psychological needs may either be strengthened or distorted once the system enters the scene. The educational value of generative AI ultimately turns on whether it can pass through the teacher's pedagogical judgment and the student's autonomous processing into the work of real classroom exchange. Generative capacity alone does not constitute a sufficient condition.

In practical terms, what college English teachers now have to design is the mediating link through which system output is converted into learning material. Any content the system produces, once it enters the teaching situation, must be attached to a cognitive requirement. Students need to judge its contextual fit and personal applicability, leave a traceable account of the selection process, and bring the result into classroom interpersonal interaction for verification. Technological

provision turns into learning outcomes only after passing through the student's autonomous regulation, deeper processing, and social negotiation. The system then steps back from being a potential source of risk into being a supportive condition, and motivation finds a structural basis for being sustained.

The present account rests mainly on theoretical reasoning and analysis of the literature, and it has yet to track three-way interaction in fine-grained ways. Further research can draw on learning analytics to collect real student-system dialogue logs, draft-by-draft traces of writing revision, and process data from classroom interaction, examining how the satisfaction of the three psychological needs differs across course types such as text comprehension, writing instruction, and oral interaction, and on that basis developing more targeted coordinated instructional designs. Continued investigation of how motivation is generated will give foreign language teaching in the age of generative AI a firmer scholarly foundation.

Acknowledgements

This research is supported by the 2025 Guangxi Higher Education Undergraduate Teaching Reform Project (2025JGA229).

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