

Research on the Construction of an Intelligent Curriculum System for the Articulation and Progression of Tiered College English Proficiency Empowered by AI

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ABSTRACT

This study addresses three core challenges commonly observed in tiered College English instruction at local application-oriented universities: "ambiguous proficiency standards leading to progression gaps", "disconnect between course content, disciplinary needs, and student foundations", and "homogeneous assessment methods". Taking a local university as a case study, it constructs an intelligent curriculum framework integrating four components "standards-guided, platform-supported, AI-empowered, and assessment-driven." The framework first establishes clear, measurable, phased proficiency standards for students across Levels A, B, and C, spanning four semesters. Subsequently, leveraging intelligent teaching platforms like Chaoxing, it restructures course content around three interconnected modules: "Foundation, Extension, and Discipline-specific". AI technologies facilitate personalized learning diagnostics, pathway planning, and real-time feedback. Practice demonstrates that this system effectively bridges students' English proficiency progression pathways, enhances teaching outcomes, and offers a reference for similar institutions reforming College English instruction.

KEYWORDS

AI empowerment; College English; Tiered instruction; Proficiency articulation; Intelligent curriculum

1 Current challenges in tiered college English instruction at local universities

The "College English Teaching Guide (2020 Edition)" emphasizes that instruction should align with institutional objectives, departmental professional requirements, and students' individual development needs^[1]. For local application-oriented undergraduate universities, significant variation in students' English proficiency makes tiered instruction essential. However, traditional tiered models encounter the following three major dilemmas in practice.

The first problem is "Tiering without Stratification" which leads to progression gaps. Although Levels A (Advanced), B (Intermediate), and C (Basic) are established, instructional objectives often differ merely in pacing, lacking scientific, clear, and actionable phased proficiency standards. Consequently, Level C students struggle and disengage, while Level A students remain under-challenged, resulting in fragmented development and insufficient momentum from freshman to sophomore years—a progression gap^[2].

The second problem is "Teaching without Facilitating" which causes content-need misalignment. Course content frequently relies on standardized textbooks, inadequately addressing the cognitive levels of different tiers or the future needs of various majors. Instruction remains predominantly teacher-centered, with technology use often limited to basic tools like slide presentations and assignment collection, failing to provide personalized learning support or achieve true tailored instruction.

The third problem is "Summative over Formative" which results in delayed feedback: assessment primarily relies on final summative written exams, which cannot promptly or comprehensively reflect student progress or difficulties during the learning process. This singular, delayed approach neither effectively motivates students nor provides teachers with precise data for adjusting instructional strategies^[3].

To address these issues and align with trends in higher education digitalization and "New Liberal Arts" development, this study explores a novel College English teaching model centered on proficiency articulation, powered by AI technology and intelligent teaching platforms.

2 Construction of the four-in-one intelligent curriculum system

The constructed framework centers on "student proficiency development", integrating four key elements. Guided by clear standards, delivered through restructured content, enabled by AI and intelligent platforms, and supported by a multifaceted assessment system, these components work synergistically to foster proficiency articulation and progression.

2.1 Standard system: charting the "road map" for proficiency progression

Inspired by the tiered concepts of the "Common European Framework of Reference for Languages (CEFR)"^[4], we developed phased proficiency standards for listening, speaking, reading, writing, and translation for Levels A, B, and C

across four semesters. These standards are characterized as “measurable, attainable, and interconnected.”

Standards should be measurable, incorporating specific quantitative indicators. For instance, listening standards specify speech rates (from 100 wpm for Level C to 150 wpm for Level A), reading standards define text length and type (from 200-word everyday passages for Level C to 800-word academic articles for Level A), and writing standards set word counts and error tolerance.

Standards should be attainable, considering the baseline of local university students. Progression from foundation consolidation to proficiency bridging, then to proficiency enhancement and proficiency advancement, ensures each stage’s goals are challenging yet achievable, building student confidence.

Standards should be interconnected, where the endpoint of one semester serves as the starting point for the next. For example, Level B Semester 1 requires using “compound sentences for daily communication”, advancing in Semester 2 to “using connectives for group discussions,” ensuring coherent development.

2.2 Curriculum system: restructuring a modular, dynamic “content repository”

Guided by proficiency standards and utilizing the Chaoxing platform, course content was modularly restructured into a dynamic system comprising “Foundation Module” to “Extension Module” to “Discipline-specific Module”^[5].

The Foundation Module targets all students, reinforcing core linguistic knowledge (e.g., vocabulary, grammar, basic listening/writing). Content varies by level: Level A focuses on academic vocabulary and complex structures; Level B centers on basic communicative application; Level C concentrates on reviewing high school core vocabulary. The Extension Module emphasizes cross-cultural communication and comprehensive application skills (e.g., thematic discussions, short text reading, translation practice), integrating topics relevant to students’ lives and current events to enhance engagement. The Discipline-specific Module connects with the university’s strengths, incorporating major-related English materials (e.g., product manuals, teaching cases) to demonstrate practical application and increase course relevance^[6].

The platform’s learning path functionality ensures vertical articulation and horizontal integration between modules, enabling “content adapting to proficiency, learning occurring on demand.”

2.3 Technological empowerment: building the “engine” for personalized learning

Deep integration of AI is pivotal to this reform, applied throughout the “pre-class, in-class, post-class” continuum^[7].

Pre-class involves intelligent diagnostics and planning. AI assessment tools conduct initial diagnostics, generating a “personal proficiency profile.” The Chaoxing platform then creates individualized learning paths—for instance, automatically recommending vocabulary drills for those weak in lexicon or timed reading exercises for those needing reading improvement. In-class, real-time interaction and feedback are facilitated. In smart classrooms or live sessions, AI oral assistants and AI writing evaluation tools are introduced. During speaking practice, AI provides immediate pronunciation and grammar correction; after writing exercises, it offers instant structured feedback on grammar, word choice, and logic, significantly boosting classroom efficiency and personalized guidance. Post-class focuses on targeted consolidation and extension. The AI practice system generates customized exercises (e.g., listening, translation) based on in-class performance, enabling focused practice on weak areas and effectively reinforcing learning.

2.4 Assessment system: establishing the “dashboard” for developmental promotion

Informed by Brown’s emphasis on balancing process and outcome in language assessment^[8], a multifaceted evaluation system was constructed: “Process Assessment (60%) plus Summative Assessment (40%)” (Table 1), designed to comprehensively and dynamically reflect student learning.

Table 1 Composition of the multifaceted assessment system

Type	Weight	Core Dimension	Specific Content/Methods	Data Source/Evaluator
Process	60%	Learning Engagement (15%)	Video viewing progress, frequency/quality of forum posts, assignment submission timeliness.	Automated tracking via Chaoxing platform.
		Skill Mastery (25%)	AI speaking fluency scores, AI writing evaluation scores, online unit quiz results.	Automated scoring by AI tools, platform quiz system.
		Task Completion (15%)	Quality of group project outcomes, assignments related to discipline-specific modules.	Teacher evaluation, supplemented by peer assessment and AI tools.
		Improvement (5%)	Comparison of proficiency data at start, mid-term, and end of semester; incentives for significant progress.	Tracking and analysis by AI learning analytics system.
Summative	40%	Comprehensive Application Ability	Final exams with differentiated difficulty (Level A: Advanced / B: Intermediate / C: Basic), focusing on integrated skills like listening, reading, translation, writing.	Final assessment combines “AI evaluation + Teacher evaluation,” using level-appropriate tests focusing on application, not rote memorization.

3 Practical outcomes and reflections

Preliminary results from pilot classes are promising. Data from one semester indicate: Level A students exhibited increased willingness and capability in delivering academic oral presentations. Level B students demonstrated notable improvement in writing logic and conventions. Level C students showed significant average vocabulary growth (about 30%). Crucially, platform analytics revealed enhanced student engagement and self-directed learning capacity. Reflections from the practice highlight areas for ongoing development.

Several critical insights are yielded in implementing this integrated framework. Foremost is the fundamental evolution required in the teacher's role. Success in this model depends on educators transitioning from being primary knowledge deliverers to taking on the multifaceted roles of curriculum designers, learning facilitators, and insightful data analysts. This significant shift underscores an urgent need for sustained, practical professional development focused on enhancing digital fluency and innovative pedagogical design. Furthermore, the heavy reliance on technology makes operational stability paramount. A robust institutional infrastructure—comprising reliable network services and responsive technical support—is the essential bedrock for smooth daily implementation. Lastly, our current use of learning analytics, while effective for diagnostics and notification, merely scratches the surface. The future lies in harnessing educational data mining to transition from reactive support to proactive intervention, predicting student learning risks and providing a scientific basis for continuous curriculum refinement.

4 Conclusion

This study constructed and piloted a standards-driven, technology-enhanced curriculum system to tackle the persistent issue of fragmented proficiency development in tiered College English instruction. The preliminary findings affirm that a strategically integrated approach, which leverages AI for personalized support and a smart platform for cohesive structure, can effectively bridge students' learning pathways from foundational language skills to applied, discipline-specific competencies. The model presents a viable and practical blueprint for moving closer to the goals of genuine personalized instruction and competency-based education. Future initiatives should therefore prioritize three key areas: comprehensive faculty development to enable new teaching paradigms, advanced learning analytics to deepen personalization, and stronger industry-academia collaboration to ensure the curriculum's continued practical relevance.

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