



The Application of AIGC in Empowering Talent Cultivation for Cross-border E-commerce Live-streaming in the Business English Major: A Case Study of Huainan Normal University

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ABSTRACT

The integration of artificial intelligence (AI) into education has fostered innovative pedagogical models and propelled sectoral reform. Concurrently, cross-border e-commerce, as a rapidly expanding industry within economic globalization, has intensified the demand for specialized talent. Consequently, Business English education must evolve to cultivate professionals better aligned with the competencies required by the cross-border e-commerce sector. Based on artificial intelligence, business English students need to cultivate qualities and skills that are suitable for the new era. To provide high-quality business English talents and ensure the alignment of supply and demand, this project, under the background of artificial intelligence, interprets and analyzes the solutions for business English talent cultivation through methods such as literature research, case study, and questionnaire survey. It explores innovative strategies for the cultivation of business English professionals in combination with the needs of cross-border e-commerce live streaming, and integrates artificial intelligence technology into business English teaching to cultivate business English talents suitable for the new era of the digital economy. It promotes the development of cross-border e-commerce live streaming and the development of the new era of the digital economy.

Keywords: Artificial intelligence; Business English major; cross-border e-commerce live streaming; talent cultivation

I. INTRODUCTION

A. Research background

The global cross-border e-commerce live streaming market is projected to surpass \$450 million by 2025. However, traditional business English programs still focus on a singular training model, rendering them unable to meet the demands for cross-border e-commerce live streaming talents in today's era. Taking Huainan Normal University as an example, a very small percentage of its business English graduates from 2023 to 2025 entered the cross-border e-commerce live streaming field, indicating a disconnect between talent cultivation and market needs. At this juncture, the breakthrough progress in Artificial Intelligence Generated Content (AIGC) technology offers a potential solution to this contradiction. The cultivation of business English professionals for cross-border e-commerce live streaming faces new opportunities and challenges. Universities need to continuously upgrade educational content, strengthen practical components, enhance faculty capabilities, and intensify cooperation and interaction with the industry to cultivate more business English professionals with strong comprehensive abilities that meet industry demands.

B. Research significance

Based on this, this project, through the backdrop of AIGC technology, focuses on cultivating business English talents for cross-border e-commerce live streaming. It interprets the innovation of cultivation models for business English professionals in the AI era, aiming to supply high-quality talents for cross-border e-commerce live streaming, promote the high-quality development of cross-border e-commerce trade, drive



talent cultivation, and foster technological integration. It holds practical significance for cultivating cross-border e-commerce live streaming talents and the innovative reform of the business English discipline.

C. Research key points and difficulties

Based on background and research significance, this study addresses three core questions: What are the current deficiencies in the Business English major at Huainan Normal University regarding AIGC and cross-border e-commerce live-streaming talent cultivation? How can AIGC technology be integrated into curriculum and practical teaching to construct an effective talent cultivation model? What implementation strategies and evaluation mechanisms can ensure the sustainability of this AIGC-empowered system?

Therefore, this research first identifies the problems in cultivating cross-border e-commerce live-streaming talents for the Business English major at Huainan Normal University, then analyzes the mechanisms of AIGC empowerment. Based on this, it constructs an AIGC-driven talent cultivation system and proposes implementation strategies. Grounded in synergy theory, constructivist learning theory, and AI technology, the study systematically reconstructs an educational framework that integrates language, business, and technical literacy — rather than simply patching the existing curriculum. Aligned with the digital economy and the context of local application-oriented universities, this research offers both an innovative cultivation model and a practical test of AIGC integration in education, providing theoretical and practical references for curriculum reform and the development of application-oriented foreign language talents.

II. LITERATURE REVIEW

A. Concept definition

1) Artificial intelligence technology

Artificial Intelligence (AI) is an emerging interdisciplinary field dedicated to the research and development of theories, methodologies, technologies, and application systems that simulate, extend, and augment human intelligence. Generative Artificial Intelligence (Generative AI) represents a novel branch of artificial intelligence technology, distinguished by its autonomous capability to generate diverse content modalities, including, but not limited to text, images, video, audio, and software code. This technology operates through learning intricate patterns and relationships embedded within large-scale datasets, subsequently leveraging this acquired knowledge to synthesize novel, original content. Artificial intelligence and generative AI technologies are significantly transforming Business English teaching. AI-powered virtual tutors and chatbots simulate business scenarios such as negotiations and presentations, enabling students to practice oral skills and receive instant feedback. In writing, large language models assist in drafting business documents and provide stylistic and grammatical enhancements. For reading and translation, intelligent tools offer real-time multilingual translation and cultural adaptation of business content. Additionally, AIGC technologies generate authentic teaching materials and simulate cross-border e-commerce scenarios, enhancing students' practical competencies. These applications enable personalized learning, break classroom constraints, and foster interdisciplinary talents with integrated language proficiency, business knowledge, and technological literacy.

2) Cross-border e-commerce live streaming

Cross-border E-commerce Live Streaming (CBELS) refers to a real-time video broadcasting marketing modality conducted via online platforms for the exhibition and sale of cross-border commodities. Typically, streamers showcase product features and usage demonstrations through live programming, accompanied by real-time audience engagement, thereby enabling consumers to complete purchase transactions instantaneously during the streaming session. Cross-border e-commerce live streaming has witnessed exponential growth in recent years. Concurrently, Business English programs serve as a critical talent reservoir for this emerging sector, with the linguistic competencies-encompassing listening, speaking, reading, and writing-and cross-cultural communicative proficiency cultivated within these programs constituting pivotal capability indicators for navigating cross-border e-commerce operations.



B. Research status at home and abroad

1) The current research situation from an international perspective

In the international context, research on AI-empowered talent cultivation for cross-border e-commerce live-streaming within Business English programs has developed earlier compared to domestic studies. A representative example is the work of Helen Crompton (2024: paras. 2–3) in the report titled *Artificial Intelligence and English Language Teaching: Preparing for the Future*, published by the British Council. In this report, Dr. Helen Crompton, in collaboration with the British Council, systematically reviewed 43 research articles on the application of artificial intelligence in English language teaching. Her work enhances our understanding of how AI tools can be utilized to improve speaking, writing, and reading skills, while also exploring the challenges AI faces in educational contexts. International research in the field of AI-empowered e-commerce, particularly in enhancing user experience and marketing precision, has demonstrated substantial theoretical and technological depth. For instance, Mohamed Badouch and Mehdi Boutaounte (2025: 264), in their study *Smart E-commerce Recommendations with Semantic AI*, developed an intelligent page recommendation system based on user behavior characteristics by integrating semantic web mining and BP neural networks. The core of their system lies in leveraging data-driven approaches and machine learning to achieve personalized content matching. Their findings validate that AI can dynamically interpret and predict user needs through semantic understanding and real-time data analysis, thereby offering technical feasibility for cross-cultural audience analysis, personalized content generation, and interactive strategy optimization in live-streaming contexts. Moreover, the system's capacity for processing massive datasets and delivering real-time responses provides a methodological foundation for AIGC applications in live-streaming scenarios, such as multilingual real-time translation, intelligent speech recommendation, and audience emotion recognition.

Li and Zhang (2023: 396), in *Integrating Business English and Cross-border E-commerce: A Study on Talent Cultivation in the Digital Era*, explored pathways for integrating Business English competence with cross-border e-commerce skills in the context of the digital economy. The article analyzes the emerging demands for talent competencies in the cross-border e-commerce industry and proposes a three-dimensional cultivation model- "language competence + business practice + technology empowerment"-based on case studies. It particularly emphasizes the role of AI tools in simulating authentic business scenarios and enhancing students' practical abilities, while also offering concrete recommendations for curriculum design, university-enterprise collaboration, and faculty development.

Johnson, M. and Lee, S. (2023: 489), in their study *AI in Language Education: The Impact of Large Language Models on Second Language Acquisition and Teaching*, systematically demonstrate the empowering role of large language models (e.g. ChatGPT) in language instruction. The article points out that AIGC technologies can significantly enhance learners' language production abilities and communicative confidence by providing personalized spoken dialogues, real-time writing feedback, and contextual simulations. The research highlights that such technology-driven pedagogical approaches not only address the limitations of traditional classroom interaction but also enable highly authentic vocational scenario training for English for Specific Purposes (ESP), such as Business English. This study provides a foundation for the application of AIGC in empowering Business English skill development, particularly in fostering real-time bilingual communication and content generation capabilities essential for cross-border e-commerce live-streaming. Collectively, international research has yielded rich findings across the three subdomains of AI technology, Business English teaching, and cross-border e-commerce practice, thereby offering a theoretical foundation and research direction for this paper's investigation within the field.

2) The current research situation from a domestic perspective

Domestic research on the cultivation of Business English talents in the field of cross-border e-commerce live-streaming has established a certain foundation; however, the integration with artificial intelligence is still in its nascent stages. Several scholars have proposed the following viewpoints and recommendations.

Regarding the macro-level educational philosophy and curriculum design, Wen, Qiufang (2024: 11–18) propo-



sed a four-element new curriculum model for the era of artificial intelligence, redefining the role of teachers, students, content, and technology in English education. Similarly, Wen, Qiufang and Liang, Maocheng (2024: 286–289) introduced the concept of “human-computer interaction negotiation competence,” arguing that the ability to effectively collaborate with AI systems such as ChatGPT has become a core competence in foreign language education. Zhang, Daliang (2020: 1–3) emphasized the importance of the “three integrations”—integration of general education and professional education, integration of industry and education, and integration of information technology and teaching—providing a macro-level policy-oriented framework for talent cultivation. In the context of interdisciplinary integration, Fu, Heng (2021: 109–114) designed a “learning community”- based cross-border e-commerce language service project course, which offers an operable pedagogical model for Business English talent cultivation.

Regarding the application of AI technologies in specific teaching scenarios, Jiao, Jianli and Chen, Ting (2023: 12–17) explored four scenarios empowered by large language models in English teaching, including personalized tutoring, intelligent feedback, content generation, and language assessment. With a specific focus on AI marketing, Cao, Naijia (2025: 57–59) discussed the application strategies of AI technologies in the development of cross-border e-commerce, pointing out that while AI technologies such as personalized recommendations, intelligent customer service, and supply chain optimization have played significant roles, they also face challenges including insufficient technological maturity, cross-cultural differences, and data security concerns.

In the specific domain of cross-border e-commerce live-streaming talent cultivation, however, the integrated development of Business English education and AIGC technologies remains insufficient. Although the existing literature has explored talent cultivation models and technological applications respectively, systematic integration of the intrinsic relationship between AIGC technologies and the cultivation of Business English talents for cross-border e-commerce live-streaming is still lacking. In particular, there is a notable lack of empirical research focused on local application-oriented universities. Currently, domestic discussions on the cultivation of cross-border e-commerce live-streaming talents tend to focus on generalized competency frameworks and curriculum reforms, while research on how AIGC can specifically empower teaching content, practical platforms, faculty development, and evaluation systems remains insufficient.

Therefore, this paper aims to build upon existing achievements by conducting an in-depth analysis of the application mechanisms of AIGC in the cultivation of Business English talents for cross-border e-commerce live-streaming. Taking Huainan Normal University as a case study, it seeks to explore practical pathways that align with the characteristics of local universities, highlight technological empowerment, and integrate humanities, thereby addressing the gaps in micro-level operations and empirical case studies within current research.

International research has developed earlier, focusing on AIGC’s technical applications in language instruction and e-commerce personalization. Domestic research emphasizes curriculum reform, interdisciplinary integration, and the “foreign language + cross-border e-commerce” cultivation model. In terms of research gaps, international studies prioritize AIGC’s technological role in language teaching, while domestic research centers on structural curriculum reform, yet both lack systematic integration of “local application-oriented universities + Business English + cross-border e-commerce live-streaming + AIGC,” with a particular absence of empirical case studies focused on local institutions. Thus, this study addresses this gap by taking Huainan Normal University as a case to explore a context-specific, technology-empowered cultivation pathway.

III. THEORETICAL FOUNDATION AND FRAMEWORK

A. Synergy theory

Synergetics, also termed “cooperative theory” or “science of cooperation” constitutes a branch of systems science founded in 1971 by Hermann Haken, Professor of Physics at the University of Stuttgart, Federal Republic of Germany. This theoretical framework investigates self-organizing processes wherein subsystems within open systems generate macroscopic ordered structures through nonlinear interactions. The cornerstone



of synergetics lies in synergistic effects: multiple subsystems, operating harmoniously, coalesce into open, complex mega-systems, thereby constituting the primary driving force for systemic stability. Through mutual cooperation among constituent systems, multiplicative outcomes-where the collective effect exceeds the sum of individual contributions-are achieved.

Synergy theory provides a systematic perspective for cultivating Business English talents in cross-border e-commerce live-streaming. This theory emphasizes dynamic collaboration and resource sharing among internal elements of the educational system (curriculum design, practical teaching, faculty development) and external stakeholders (industry enterprises, technology platforms). In live-streaming talent cultivation, synergy mechanisms can promote the deep integration of language skills and business knowledge, facilitate university-enterprise cooperation in building training bases and developing practical courses, and achieve organic integration of AI technology with teaching processes. Ultimately, this fosters an ecosystem of collaborative education among multiple stakeholders, enhancing talent cultivation quality and industry adaptability.

B. Constructivist learning theory

Constructivism posits that while the world exists objectively, understanding of phenomena is subjectively determined by individual cognition. Owing to divergent prior experiences, individuals construct disparate interpretations of identical stimuli. Extending this epistemological stance to pedagogy, constructivist learning theory advances the proposition that learning constitutes a process of scaffolding novel experiences upon existing cognitive structures, thereby facilitating the accretion and reorganization of knowledge. Regarding Business English as an academic discipline, its cultivation objective centers on developing high-caliber, interdisciplinary professionals integrating linguistic competence, strategic capacity, and contextual knowledge, thereby equipping graduates to meet the exigencies of economic and social development in an era of globalization (Johnson & Lee, 2023).

C. Research framework

The present study is organized into five interconnected sections. Section I introduces the research background, significance, and content, delineating the exigency of talent cultivation for cross-border e-commerce live streaming, the educational empowerment potential of artificial intelligence technologies, and the practical value of this inquiry for Business English program development. Section II presents a comprehensive literature review and conceptual framework, systematically synthesizing extant scholarship on artificial intelligence, Business English pedagogy, cross-border e-commerce live streaming, and their integration within talent cultivation paradigms, alongside rigorous delineation of core constructs including “AIGC technologies”, “cross-border e-commerce live streaming” and “Business English talent cultivation”. Section III establishes the theoretical foundations, expounding the conceptual tenets of synergetics and constructivist learning theory and their heuristic value in guiding interdisciplinary, technology-enabled talent cultivation. Section IV comprises situational analysis and critical discussion, employing Huainan Normal University Business English program as an instrumental case to examine curriculum configuration, practical instruction, faculty composition, and student development, thereby identifying salient deficiencies and avenues for enhancement. Section V concludes with syntheses and prospective directions, summarizing principal findings and implications, proposing systematic strategies for AIGC-empowered talent cultivation in Business English for cross-border e-commerce live streaming, and acknowledging research limitations while charting future investigative trajectories.

IV. ANALYSIS AND DISCUSSION

A. Analysis of the current situation of the Business English major at Huainan Normal University

To gain an in-depth understanding of the current state and deficiencies of the Business English curriculum at Huainan Normal University in the context of integrating AIGC technologies with cross-border e-commerce live streaming, this study employs a questionnaire survey method targeting students enrolled in the Business English program at the university. The survey covers dimensions such as curriculum satisfaction, use of AIGC



tools, evaluation of practical components, and career intentions, with a total of 138 valid questionnaires retrieved. Through SPSS-based reliability and validity analyses and cross-tabulation statistics, the study systematically identifies the strengths and weaknesses in the current training process, providing empirical evidence for optimizing the “AIGC + Cross-border E-commerce Live Streaming” talent cultivation model.

1) Curriculum design of specialized courses

From the perspective of synergy theory, curriculum design functions as the core subsystem within the talent cultivation ecosystem, requiring nonlinear interactions with technology platforms and industry demands to generate macroscopic ordered structures. However, the current curriculum at Huainan Normal University exhibits severe decoupling among its constituent elements. Despite the program’s establishment in 2013 and subsequent enhancement through the Alibaba “Internet Plus” initiative, the subsystem fails to achieve synergistic effects with external technological and industrial subsystems. Survey data reveal a significant shortfall in AIGC content coverage: 48.55% of students rated it as “very insufficient” or “insufficient,” with senior students expressing the strongest dissatisfaction (65.71%). In cross-border e-commerce live streaming, over half of students rated content as insufficient, including 44.44% of first-year students selecting “very insufficient,” indicating that newcomers face inadequate scaffolding from the outset. Curriculum revision cycles spanning two to four years create inherent temporal lag, while the absence of “language + technology” interdisciplinary courses and modular design prevents multiplicative synergy where collective effects would exceed the sum of individual contributions.

TABLE 1 CURRICULUM OF THE BUSINESS ENGLISH MAJOR AT HUAINAN NORMAL UNIVERSITY (SELECTED CORE COURSES)

Course title	Course code	Hours	Lecture	Practice	Credits	Hours/wk	Assessment	Semester	College
Additional subtotal in source		944	674	270	57				
International Marketing	3E+07	32	32	—	2	2	Exam	2	12-Mar
International Trade Practice	3E+07	32	24	8	2	2	Exam	2	12-Mar
International Business Negotiation	3E+07	32	24	8	2	2	Assessment	2	12-Mar
English Speech and Debate	3E+07	32	16	16	1	2	Assessment	2	3
Academic English Writing and Presentation	3E+07	32	16	16	1	2	Assessment	2	3
Business Cross-Cultural Communication	3E+07	32	24	8	2	2	Assessment	2	3
Introduction to International Business	3E+07	32	32	—	2	2	Exam	2	3
Introduction to World Economy	1.2E+08	32	32	—	2	2	Assessment	2	12
Online Consumption Psychology	3E+07	32	32	—	2	4	Exam	4	12-Mar



Selected Readings from Business Newspapers	3E+07	32	20	12	2	2	Assessment	2	3
Business English Interpretation	3E+07	32	10	22	1	2	Assessment	2	3
Advanced English Listening, Reading and Writing	3E+07	32	20	12	2	4	Assessment	4	3
Basic Accounting	1.2E+08	32	24	8	2	2	Assessment	2	12
Advanced Business English	3E+07	48	32	16	3	3	Exam	3	3
Advanced Business Workplace Listening and Speaking	3E+07	64	48	16	4	4	Assessment	4	3
Subtotal		528	386	142	30				

Note: All listed courses are required. Hours comprise lectures and practical classes. The course-offering institution is identified by its college code. The additional subtotal is retained as reported in the source curriculum.

2) Current state of practical teaching

At the practical level of disciplinary competitions, Huainan Normal University has actively organized student participation in high-level contests, fostering cross-border e-commerce talent development through competition-based learning. In the 7th National Business English Practice Skills Competition, students from the Business English program demonstrated outstanding competitive proficiency by integrating professional knowledge with practical competencies around the theme of cross-border e-commerce live streaming. The participating teams selected local specialty products as their entry point to design cross-border live-streaming marketing proposals, employing English for product promotion and scenario simulation. Throughout the competition segments, they comprehensively showcased the practical achievements of the Business English program in the cross-border e-commerce domain through live-streaming script design and cross-cultural marketing strategy formulation.

Constructivist learning theory emphasizes that knowledge is actively constructed through experiential engagement with authentic contexts. At Huainan Normal University, students achieved notable success in the National Business English Practice Skills Competition, yet these experiences remain inaccessible to the majority: only 39.13% participated in training or competitions, indicating most students lack the authentic scenarios necessary for meaningful cognitive restructuring. The virtual simulation platform fails to serve as a zone of proximal development: merely 1.45% found it “very helpful,” and students with prior training reported greater dissatisfaction (33.33% “of little help”) than untrained peers (11.90%), suggesting the platform neither builds upon emerging competencies nor provides progressive challenges aligned with developing cognitive structures. The primary difficulty—lack of real-platform operational environments—reflects the absence of authentic contexts for situated knowledge construction through trial and reflection. Meanwhile, superficial AIGC tool application, confined to “simple copy generation” and “image/video production” rather than data analysis or full-process integration, indicates technology is used for low-level information processing rather than higher-order knowledge construction. Students are thus unable to transform tool outputs into personally

meaningful business understanding through active interpretation and strategic application.

3) Faculty development

The School of Foreign Languages currently employs 85 full-time faculty and staff members, comprising 72 teaching faculty and 13 full-time administrative personnel dedicated to academic affairs. Additionally, the School engages 3 foreign teachers and 19 adjunct instructors. Among the teaching faculty, the academic ranks include 3 professors, 24 associate professors, 36 lecturers, 9 teaching assistants, and 12 probationary faculty members. In terms of academic credentials, the faculty includes 6 doctorate holders and 60 master's degree holders. The School boasts 1 Anhui Province Ideological and Political Education Distinguished Teacher, 2 Anhui Province Distinguished Teachers, 1 reserve candidate for Anhui Province University Academic and Technical Leader, 2 Anhui Province University Disciplinary (Professional) Top-tier Talents, 5 Anhui Province University Outstanding Talents, 1 leading talent under Anhui Province "Jianghuai Cultural Masters" program, 5 Anhui Province "Teaching Novice" awardees, and 1 Huainan City Disciplinary Celebrity.

From the synergy perspective, faculty development constitutes a critical subsystem whose effective operation depends on nonlinear resource exchange with technology sectors and cross-border e-commerce enterprises. The School of Foreign Languages employs 72 teaching faculty, including 6 doctorate holders and 60 master's degree holders, with academic ranks ranging from professors to probationary faculty. The school has established research innovation teams including the "Cross-Linguistic and Cultural Research Team on Local Soft Power" and the "Business English Corpus and External Publicity Translation Research Innovation Team," achieving notable scholarly outputs (164 papers over three years, including 6 Category II articles). However, these internal intellectual resources fail to achieve synergistic coupling with external technological and industrial expertise. The survey reveals that 50% of students participating in practical training reported "insufficient teacher guidance," indicating that instructors' technical proficiency directly constrains the depth of student application. The faculty exhibits a structural pattern of being "strong in language but weak in technology," unable to generate multiplicative effects by combining linguistic expertise with AIGC competencies. Among 19 adjunct instructors, the notable absence of industry experts in artificial intelligence and cross-border e-commerce live streaming reveals a vacuum in external subsystem participation. Student demands for "joint courses taught by enterprise mentors" remained unmet, reflecting a breakdown in the cooperative mechanism among university faculty, corporate practitioners, and AI technology specialists. The underlying causes include disconnects in teacher training systems—predominantly focused on language teaching methodologies rather than AI technology or live-streaming operations—and insufficient substantive involvement by enterprise mentors in curriculum design and practical guidance. Without establishing dynamic resource sharing and collaborative evolution mechanisms among these three stakeholder groups, the faculty subsystem cannot drive the overall talent cultivation system toward higher-order ordered structures.

4) Graduate employment and career development

TABLE 2 EMPLOYMENT AND DEVELOPMENT OF BUSINESS ENGLISH STUDENTS AT HUAINAN NORMAL UNIVERSITY

Indicator	2023	2025
Employment rate	91.09%	It is not clear, but it remains at a relatively high level
Employment region	It is mainly concentrated in Hefei City, Anhui Province	It is mainly concentrated in the East China region (90.75%), among which Anhui Province accounts for 58.39%
Employer type	Private enterprises (41.46%) ; Other types of units (23.47%) ; State-owned and collective enterprises (14.03%)	It is not clear, but private enterprises remain the main choice
Monthly salary	The average monthly income ranges from 4,000 to 5,999 yuan	It is not specified, but it should be similar to 2023



Further education	The postgraduate entrance examination rate for undergraduate students is 9.90%	The domestic college admission rate is 11%
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From the perspective of graduate employment outcomes, a proportion of Business English alumni have entered cross-border e-commerce related sectors upon graduation, assuming positions such as cross-border e-commerce platform operation specialist, customer service representative, and foreign trade salesperson. Certain distinguished graduates have demonstrated commendable workplace performance. Notably, Tang Wenxuan, a 2017 Business English graduate, joined Anhui Shunxin Cable Co., Ltd. and subsequently ascended to the position of Business Manager through demonstrated competence, achieving remarkable accomplishments in the cross-border e-commerce domain.

From a constructivist standpoint, career development represents the ultimate expression of students' accumulated knowledge construction and identity formation through progressive experiential learning. The employment trajectories of Huainan Normal University Business English graduates, including successful entrants into cross-border e-commerce sectors and alumni like Tang Wenxuan achieving managerial positions, demonstrate that meaningful professional identity construction is possible within this program. However, the survey reveals systematic failures in supporting students' career-related knowledge construction. The sharp decline in senior students' willingness to enter live-streaming (only 2.86% "very willing," with 8.57% "completely unwilling") indicates that as students approach graduation and confront the realities of professional practice, their self-constructed understanding of competency adequacy collapses. This occurs because the curriculum has not provided sufficient authentic experiences for students to build robust, reality-tested professional self-efficacy. Students' self-assessed competencies remain at "basic mastery" levels, with cross-border e-commerce knowledge weakest, suggesting that their cognitive structures lack the depth and integration necessary for confident professional identity formation. The finding that AIGC proficiency serves as a decisive employability factor reveals a critical insight: students who have successfully constructed technological competencies through active engagement with AI tools develop stronger professional agency and career intentionality. Conversely, those lacking such construction opportunities experience what might be termed "competency anxiety"—a recognition that their existing knowledge structures are insufficiently elaborated to accommodate the demands of the live-streaming profession. The absence of grade-level-specific career scaffolding, with no progressive pathway from foundational exploration to advanced professional immersion, means students must attempt abrupt identity transitions without the gradual, supported knowledge reconstruction that constructivist theory identifies as essential for meaningful career commitment.

B. Innovation in the curriculum practice system

Contemporary artificial intelligence technologies are exhibiting robust developmental momentum with promising application prospects. Their impact upon the educational domain has catalyzed further deepening of educational transformation. In the specific context of Business English, the empowerment and support derived from artificial intelligence technologies have engendered increased pedagogical innovation initiatives, while Business English learners have consequently obtained diversified learning experiences. National commitment to cross-border e-commerce and artificial intelligence technologies has been progressively intensified, with the promulgation of a series of policy measures supporting cross-border e-commerce development and encouraging enterprises to strengthen artificial intelligence technology research, development, and application. The rapid advancement of Artificial Intelligence Generated Content (AIGC) technologies has generated novel opportunities for cultivating cross-border e-commerce live-streaming talent within Business English programs. Huainan Normal University must therefore establish itself upon industry exigencies, constructing a curriculum system predicated upon AIGC technology as infrastructural support and anchored in linguistic and business competencies as core pillars, thereby achieving interdisciplinary integration and innovative development in talent cultivation paradigms.

1) Intelligent reconstruction of curriculum practice

The curriculum system should be urgently restructured in response to the critical deficiencies identified in the survey data. With 48.55% of students rating AIGC content as "very insufficient" or "insufficient" and 54.35%



reporting inadequate cross-border e-commerce live-streaming coverage, the current curriculum manifestly fails to meet learner needs. Notably, 65.71% of senior students deemed AIGC content insufficient, while 44.44% of first-year students found live-streaming content “very insufficient” from the outset, revealing a systemic absence of progressive scaffolding. Furthermore, 70.29% of students rated the integration between language courses and AIGC technology as “general” or “less,” confirming that the “language + technology” interdisciplinary fusion remains superficial.

The curriculum system should be designed in close alignment with the cutting-edge developments in AIGC technology, with a clear objective of establishing a trinity of “language competence + technical literacy + business practice.” Leveraging big data analytics and intelligent computing, AIGC enables deep content mining and reorganization, effectively supporting Business English instructors in selecting and recommending more suitable teaching resources. Furthermore, data-driven cloud platforms assist educators in optimizing learning pathways and content, aligning instructional goals more closely with students' actual proficiency levels, thereby significantly enhancing teaching efficiency. At the same time, highly precise and personalized content design fosters students' innovative awareness and facilitates their individualized development, laying a foundation for cultivating versatile and innovative talents.

Guided by adaptive learning mechanisms, instructors are relieved from repetitive, low-level tasks, enabling them to devote more effort to pedagogical research and innovation. This, in turn, empowers them to provide more targeted guidance to students in leveraging AIGC tools for optimizing livestreaming marketing strategies and enhancing cross-border e-commerce operational efficiency. By encouraging students to develop a technology-driven business decision-making mindset, AIGC competencies are deeply embedded into the restructuring of core talent development frameworks. Ultimately, this facilitates the intelligent upgrading of the curriculum system and the reconceptualization of teaching objectives.

2) Hierarchical design of curriculum practice modules

To establish a progressive pathway for the acquisition of knowledge and skills, the curriculum can be systematically structured into three sequential modules: the Foundation Layer, the Technology Layer, and the Practice Layer.

Firstly we focus on Foundation Layer, Consolidating Language and Business Competence. This module retains the core courses of the traditional Business English program, such as Comprehensive Business English, International Trade Practice, and Business Negotiation, to solidify students' linguistic proficiency and theoretical understanding of business. Concurrently, cutting-edge courses like Introduction to AIGC Applications and Cross-cultural Digital Communication are introduced. These courses systematically elucidate the linguistic processing mechanisms of AIGC technology and its algorithmic applications in cross-cultural contexts, enabling students to grasp the fundamental operational logic of AIGC within multilingual business scenarios.

Next is Technology Layer Strengthening, AIGC Tools and Data Analysis Skills. This module focuses on the enhancement of applied technical skills. By offering courses such as AIGC Applications in Cross-border E-commerce, Intelligent Analysis of Live-streaming Data, and Digital Content Creation and Optimization, it cultivates students' hands-on abilities to leverage AIGC tools for content generation and data-driven insights.

The last one is Practice Layer, Comprehensive Training in Cross-border E-commerce Live-streaming. Leveraging the Virtual Simulation Platform of the School of Foreign Languages at Huainan Normal University, this module includes courses like AIGC-driven Cross-border Live-streaming Practice and Innovation and Entrepreneurship in Cross-border E-commerce. Through real-time data feedback from the simulated platform, students can validate the effectiveness of their marketing strategies, thereby achieving an integrated training model that combines “Learning, Practicing, and Innovating.”

3) Intelligent upgrade of practical teaching methods

The intelligent upgrade of practical teaching must directly confront the three core deficiencies identified in the

survey: insufficient teacher guidance (50% of trained students), AIGC tool unfamiliarity (56.52%), and inability to integrate tools with business knowledge.

(i) Human-machine collaborative teaching model

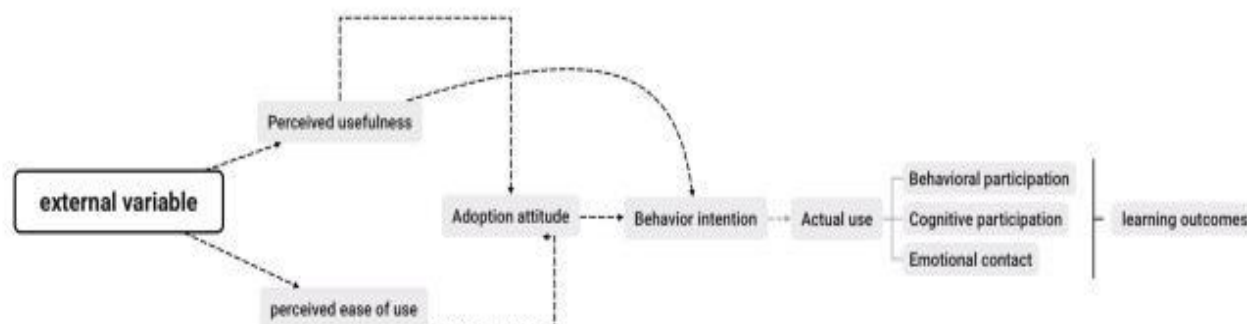


Fig. 1. Factors influencing technology adoption, participation, and learning outcomes.

A dual-agent educational model featuring “AI + Teacher” is established. Teachers assume the role of top-level designers, responsible for constructing the curriculum framework and delivering core theoretical content, while AIGC tools provide personalized learning support. By integrating intelligent writing platforms, students’ live-streaming scripts undergo grammar correction and content optimization, significantly enhancing their business writing quality, particularly in scenarios such as Business English writing and business correspondence. Meanwhile, speech recognition technology offers real-time feedback on students’ pronunciation issues, enabling teachers to conduct targeted training. This collaborative framework fosters a synergistic educational pattern characterized by “teacher guidance and AI assistance.”

(ii) Integration of project-based learning and case study methods

Leveraging local specialty industries, cross-border live-streaming projects driven by AIGC are designed around indigenous products such as Huainan tofu and beef soup. Students are required to utilize AIGC tools comprehensively to complete tasks throughout the entire process, including product promotional video production, multilingual marketing copy generation, and live-streaming data collection and analysis. Concurrently, typical industry cases from the cross-border e-commerce sector are introduced to guide students in analyzing the practical application logic of AIGC technology within authentic business contexts. This approach achieves an organic integration of project-driven learning and case study discussions, focusing on cultivating students’ comprehensive abilities to solve complex business problems.

(iii) Integration of virtual simulation and real-world practice

Relying on the Virtual Simulation Experiment Platform of the School of Foreign Languages, an AIGC-empowered cross-border e-commerce live-streaming virtual simulation laboratory is established to replicate the operational environments of mainstream platforms such as Amazon and AliExpress, providing students with a secure and controllable space for live-streaming practice. On this basis, industry-education integration is deepened by expanding university-enterprise cooperation channels, organizing students to participate in real enterprise projects, such as conducting AIGC content creation and live-streaming tests for partner companies’ overseas products. This forms a progressive practical teaching system that transitions from “virtual simulation training” to “real-world project practice,” comprehensively enhancing students’ professional adaptability and innovative practical competencies.



4) Construction of innovative talent cultivation model

(i) Constructing a diversified evaluation system to align talent cultivation with industry demands

Through curriculum integration, a diversified assessment mechanism encompassing process evaluation, outcome evaluation, and innovation evaluation is established. Process evaluation focuses on students' learning trajectories in utilizing AIGC technology, implementing dynamic assessment based on learning data automatically recorded by the teaching platform, group collaboration performance, and the completion of phased tasks. Outcome evaluation relies on tangible academic outputs generated by AIGC tools, such as live-streaming plans, product promotional content, short videos, and data analysis reports, with comprehensive scoring incorporating feedback from corporate mentors and industry experts. Innovation evaluation examines students' innovative performance in AIGC applications, including whether they transcend the templated output limitations of tools and whether they can propose novel solutions that deeply integrate technology with business practices. Furthermore, external evaluation indicators such as internship performance and competition awards are introduced to comprehensively measure students' overall competencies, ensuring that curriculum reform aligns precisely with the talent demands of the cross-border e-commerce industry, thereby enhancing the scientific rigor and effectiveness of the evaluation system.

(ii) Introducing intelligent assessment systems to promote the intelligent transformation of academic evaluation

In the era of artificial intelligence, universities can adopt advanced intelligent academic assessment systems that establish personalized evaluation criteria based on individual student differences. Leveraging technologies such as natural language processing, image and video analysis, and speech recognition, these systems can automatically evaluate student responses, grade assignments, and provide detailed personalized feedback, effectively reducing teachers' repetitive workload in grading. Simultaneously, based on intelligent diagnosis of students' assignment performance, the system can accurately recommend adaptive supplementary learning materials and targeted exercises, enabling the dynamic provision of learning resources. Ultimately, the system generates comprehensive academic reports encompassing analyses of subject performance, multi-dimensional competency assessments, and diagnoses of learning habits, assisting teachers in comprehensively understanding students' learning characteristics and developmental needs, thereby providing data support and a scientific basis for individualized instruction.

V. CONCLUSIONS

Research findings and implications

Amidst the wave of globalization, cross-border trade is becoming increasingly frequent, elevating the importance of Business English education. Serving as a bridge connecting the cultures and economies of different nations, the Business English major imposes higher demands on the cultivation of students' comprehensive competencies. Concurrently, the rapid advancement of artificial intelligence technology presents new possibilities for optimizing teaching effectiveness. In particular, the rise of AIGC (AI-Generated Content) technology has profoundly transformed the operational models of cross-border e-commerce livestreaming, thereby posing new challenges and expectations for the cultivation standards of Business English talents.

Grounded in the realities of Huainan Normal University, restructuring the knowledge framework, upgrading the competency system, and constructing a new talent cultivation model that adapts to the demands of the AIGC era have become inevitable choices for the Business English major to serve the development of the cross-border e-commerce industry. With the deepening integration of industry and education, the new era urgently requires a cohort of innovative Business English talents equipped with international perspectives, solid knowledge, agile thinking, and rich practical experience to meet the diverse needs of the cross-border e-commerce live-streaming sector. Intelligent teaching tools are already playing an increasingly significant role in Business English instruction. Looking ahead, with the continuous evolution and optimization of artificial



intelligence technology, students and educators in the Business English field must actively embrace both opportunities and challenges to collaboratively forge a promising future for the cultivation of Business English professionals.

This study, taking Huainan Normal University as a case, explores how AIGC technology empowers the cultivation of cross-border e-commerce live streaming talents in Business English programs. Findings reveal a notable disconnect between current curricula and industry demands, including insufficient AIGC content coverage, lack of real-platform practical environments, and faculty's weak technological literacy. Drawing on synergy theory and constructivist learning theory, the study proposes reform strategies such as progressive "Foundation-Technology-Practice" curriculum modules, a "Human-Machine Collaborative" teaching model, and a diversified intelligent evaluation system, aiming to integrate language proficiency with AIGC technical literacy and live streaming practical skills. These efforts not only offer a replicable transformation pathway for Business English programs at local application-oriented universities but also enhance graduates' employability in the cross-border e-commerce live streaming industry, ultimately contributing to regional digital economic development.

Limitations

The "Foundation-Technology-Practice" curriculum modules and the "human-machine collaborative" teaching model proposed in this study remain in an exploratory phase. Due to time constraints, full-semester validation has yet to be completed, and the rationality and effectiveness of the curriculum design require further verification through longitudinal studies.

The case study focuses solely on the Business English program at the School of Foreign Languages, Huainan Normal University. The absence of comparative data from institutions of different levels and types limits the generalizability of the findings to other educational contexts.

Constrained by existing technological platforms and experimental conditions, the application of AIGC tools in teaching remains primarily at a fundamental level, such as grammar correction in intelligent writing platforms and pronunciation feedback in speech recognition systems. Full-process intelligent integration from content generation and strategy optimization to performance prediction has yet to be achieved.

Although a diversified evaluation system integrating process, outcome, and innovation assessments has been constructed, along with the proposed inclusion of external indicators such as internship performance and competition awards, the system has not undergone large-scale empirical validation. Its scientific rigor and operability require continuous refinement through practice.

RECOMMENDATIONS

Subsequent research should conduct two-to-three-year longitudinal tracking studies at Huainan Normal University, documenting students' growth trajectories throughout the progressive "Foundation-Technology-Practice" training process to systematically assess the long-term impact of the AIGC-empowered model on students' comprehensive competencies.

Future research should extend the sample to include other universities in Anhui Province and nationwide that offer Business English programs. Cross-institutional comparative analyses can explore the applicability and optimization pathways of AIGC-empowered talent cultivation models across different institutional levels and regional contexts.

Enhanced cooperation with AI enterprises and cross-border e-commerce platforms is recommended to jointly develop or introduce more intelligent teaching tools. This would enable deep integration of AIGC technology in content generation, live-streaming strategy optimization, and real-time data analysis, creating an intelligent teaching environment that integrates "teaching, learning, practicing, and assessing."



Future research should incorporate big data analytics and learning behavior mining technologies into the existing evaluation system to construct dynamic student competency profiles and real-time feedback mechanisms. Simultaneously, closer alignment with industry enterprises should integrate recruitment standards and competency models into evaluation indicators, ensuring dynamic adaptation between talent cultivation and industry demands.

The widespread application of AIGC technology imposes higher demands on teachers' digital literacy. Future research should strengthen technical training for university faculty and explore faculty models featuring collaborative education among “professional teachers, corporate mentors, and AI teaching assistants,” providing solid talent support for AIGC-empowered teaching.

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