



Research on the Construction of Special-Purpose Business Chinese Teaching Model Driven by AIGC

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Abstract

Against the backdrop of deepening economic and trade cooperation under the Belt and Road Initiative and the accelerated transformation of international Chinese language education, special-purpose business Chinese oriented toward cross-border trade is plagued by prominent drawbacks including disconnection between teaching content and practical business scenarios, high learning costs, insufficient multilingual support and lack of personalized learning services. Powered by its capabilities in content generation, natural language interaction, multimodal adaptation and dynamic iteration, Artificial Intelligence Generated Content (AIGC) provides feasible solutions to the above-mentioned problems. Based on authentic business corpus collected from frontline commodity transactions at Yiwu Small Commodity Market and the development practice of an AI teaching platform, this paper systematically sorts out relevant theoretical frameworks and elaborates the internal mechanism of AIGC embedded into business Chinese teaching from three dimensions: construction of vertical corpus, formulation of personalized learning paths and immersive scenario-based interaction. It further proposes an innovative teaching model of “industrial scenario-driven plus AI cognitive scaffolding” and establishes an integrated operation system covering “resources-path-scenario-assessment”. Through questionnaire surveys and in-depth interviews conducted in North Africa for empirical analysis, this paper verifies that the proposed model can effectively improve learning efficiency, cut learning costs and strengthen learners’ practical language competence. Findings indicate that the model bridges the gap between classroom instruction and real-world commercial practices, facilitates the digital, industrial and country-specific upgrading of special-purpose Chinese teaching, and offers replicable and promotable practical references for the innovative development of global Chinese language education.

Subject Areas

Literature

Keywords

AIGC, Special-Purpose Business Chinese, Industrial Scenario, Corpus, Personalized Learning, Immersive Teaching, Teaching Model

1. Introduction

1.1. Research Background

As high-quality development of the Belt and Road Initiative enters a new phase, China has witnessed increasingly closer cooperation with countries along the routes in small commodity trade, cross-border e-commerce, logistics services and overseas warehouse construction, making linguistic connectivity a fundamental guarantee for unimpeded economic and trade exchanges as well as people-to-people bonds. Different from general Chinese learning, overseas merchants, purchasers and enterprise employees prioritize practical business Chinese competence applicable to real scenarios such as inquiry, bargaining, contract signing, logistics arrangement, payment settlement and after-sales communication. Accordingly, international Chinese language education needs to shift from general language instruction toward special-purpose Chinese teaching featuring career orientation, authentic situational design and efficient learning outcomes. Li & Li (2024) pointed out that special-purpose Chinese has emerged as a new growth point of international Chinese education in the new century, characterized by close ties with vocational scenarios, practical demands and industrial development [1]. From the policy perspective, authorities including the Ministry of Education and State Language Commission have repeatedly advocated the innovation of “Chinese plus vocational skills” education and encouraged digital technologies to boost teaching efficiency, laying institutional foundations for the intelligent transformation of business Chinese education.

Nevertheless, conventional business Chinese teaching is trapped in persistent bottlenecks. First, teaching content is divorced from real business practices; most textbooks adopt a compiled written corpus far from oral expressions used in on-site transactions at markets like Yiwu, resulting in the phenomenon that what learners have learned cannot be put into use. Second, high costs and long learning cycles of offline training fail to match the fragmented and high-efficiency learning demands of overseas business practitioners. Third, it is difficult for general Chinese teaching resources to satisfy non-native language learners in Africa, the Middle East and other key trade regions with diverse official and local languages. Fourth, the uniform-paced, one-size-fits-all teaching mode cannot accommodate learners with varying Chinese proficiency, occupations and available study time, leading to uneven learning outcomes.

Cutting-edge technologies represented by AIGC, large language models, digital twin and natural language processing are triggering systematic reforms across the education sector. Unlike conventional courseware, recorded courses and standardized question banks, AIGC enables dynamic corpus processing, customized learning path generation, real-time conversational interaction and multi-scenario simulation, delivering more flexible, precise and authentic teaching support [2] [3]. Researches by Wang (2026) and Ma & Xu (2025) demonstrates that generative AI reshapes international Chinese education across resource development, interactive learning, formative assessment and personalized tutoring, transforming learning from passive knowledge reception to active knowledge construction and from simulated classroom drills to immersive practical training [2] [3].

Under such circumstances, exploring how to integrate AIGC with real industrial scenarios to build a replicable and promotable special-purpose business Chinese teaching model that caters to the practical linguistic needs of business practitioners alongside the Belt and Road has important theoretical and practical significance.

1.2. Research Significance

1.2.1. Theoretical Significance

Based on an interdisciplinary framework integrating special-purpose Chinese theory, AI cognitive scaffolding theory, situated cognition theory and language economics, this study interprets how AIGC functions in business Chinese teaching and enriches the theoretical connotation of “Chinese plus vocational skills” education [4]. The proposed “industrial scenario-driven plus AI cognitive scaffolding” teaching model takes authentic commercial transactions as the underlying logic and AIGC as the learning support system, overcoming previous research limitations of overemphasizing technical introduction while neglecting model construction and focusing on theoretical discussion without practical implementation. It provides new perspectives and frameworks for theoretical innovation of intelligent international Chinese education.

Focusing on cross-border commerce, this research deepens core research, including demand analysis, corpus construction and situational teaching of special-purpose Chinese, furnishing empirical evidence and analytical paradigms for follow-up studies and promoting relevant researches from macroscopic framework design to microscopic practical operation.

1.2.2. Practical Significance

Rooted in Yiwu Small Commodity Market, a global hub of small commodity trade, this study develops cost-effective and market-oriented business Chinese solutions based on real transaction corpus and platform development experience, easing prominent pain points including disconnection between learning and application, high tuition fees and insufficient multilingual services and improving the practical conversion rate of language learning for overseas learners.

Moreover, the developed AI teaching platform and curriculum system can be

directly applied to training programs run by Confucius Institutes, overseas educational institutions and cross-border enterprises, lowering their operational and resource costs and promoting high-quality Chinese education resources to reach countries along the Belt and Road [5] [6].

With strong scalability, the teaching model can be transplanted to other specialized markets, industrial clusters and trade hubs on the basis of Yiwu's experience, generating operable paths for in-depth integration between international Chinese education and real economy and facilitating economic cooperation and cultural exchanges between China and partner nations [7].

1.3. Literature Review

1.3.1. Researches on Special-Purpose Business Chinese Teaching

Originating from demand analysis, special-purpose Chinese teaching highlights alignment between language acquisition and vocational scenarios and differs substantially from general Chinese education. Zhang *et al.* (2025) clarified the correlation between "Chinese plus" education and special-purpose Chinese, arguing that "Chinese plus vocational skills" is an extension of special-purpose Chinese centered on task-based vocational instruction [4]. Li & Li (2024) reviewed the developmental trajectory of special-purpose Chinese and identified practicality, pertinence and high efficiency as its core values, with contextualization and vocationalization as major future development trends [1].

Existing teaching methodologies mainly cover task-based teaching, Content and Language Integrated Learning (CLIL) and project-based learning, adhering to the philosophy of learning-by-doing. Song *et al.* (2022) suggested that vocational Chinese competence cultivation should prioritize task and situational orientation in relevant standard formulation [8]. From a translanguaging perspective, Bao (2025) explored multilingual communication in business Chinese courses yet paid no attention to technology-enabled teaching [9]. Overall, while the theoretical system of special-purpose business Chinese has gradually matured, more explorations are required regarding digitalization, intelligent upgrading and contextualized teaching.

1.3.2. Researches on AIGC Application in International Chinese Education

The combination of AIGC and language teaching has become a research hotspot in recent years. Zuo (2025) summarized AIGC's applicable scenarios in international Chinese education and affirmed its strengths in resource generation, personalized learning, intelligent interaction and formative evaluation while reminding risks such as ethical norms, data security and poor adaptability in less developed regions [10]. Based on AIGC, Zhu *et al.* (2025) developed a video resource bank for Chinese grammar teaching and verified AI's outstanding efficiency in automated multimodal resource production [11].

Ma & Xu (2025) put forward a five-dimensional innovation framework for DeepSeek-powered intelligent Chinese education covering resources, teaching,

learning, assessment and administration [3]. Ma (2026) conducted empirical research on AI-powered automatic marking of Chinese compositions and proved large language models can deliver timely, detailed feedback to improve learners' writing proficiency [12]. Ou *et al.* (2024) supplied empirical data supporting AIGC's application in the development and assessment of multimodal teaching resources [13]. Nevertheless, most available studies concentrate on general Chinese instead of business Chinese, and few complete teaching models combining industrial scenarios with AIGC have been established.

1.3.3. Researches on Immersive and Digital Twin Language Teaching

Widely adopted worldwide, immersive teaching improves linguistic proficiency via contextualized, interactive and experiential learning. Wang & Li (2022) found immersive virtual environments relieve learners' language anxiety and boost their willingness to communicate and interactive performance [14]. Zhou *et al.* (2025) stated digital twin technology reconstructs physical teaching space into dynamic, iterative and task-oriented virtual scenarios, remedying static settings and delayed feedback in traditional immersive courses [15].

Studies integrating digital twin and AIGC for business Chinese are still in the initial stage, confined to conceptual elaboration without real industrial implementation, systematic model construction or large-scale empirical verification. This research fills such research gaps with practical experience from Yiwu.

1.4. Research Ideas and Methodology

1.4.1. Research Framework

Following the logical route of theoretical collation → mechanism analysis → model construction → empirical verification → optimization proposal, this paper first sorts out core theories of special-purpose Chinese, AIGC education and immersive learning to build a theoretical framework [16] [17]. Second, combined with corpus collection and AI platform development in Yiwu, it analyzes how AIGC functions in business Chinese teaching from corpus construction, personalized learning and immersive interaction. Third, it constructs the “industrial scenario-driven plus AI cognitive scaffolding” model and the four-in-one “resource-path-scenario-assessment” operating system. Fourth, questionnaire, interview and platform operational data are adopted for empirical effectiveness verification. Finally, existing deficiencies are summarized and targeted optimization strategies proposed to support the digital transformation of special-purpose Chinese education.

1.4.2. Research Methods

Literature Research: Relevant domestic and overseas literature on special-purpose Chinese, AIGC education, immersive teaching and language economics is reviewed to grasp research frontiers and existing gaps [16] [17].

Empirical Research: First-hand practical data is obtained through on-site corpus collection in Yiwu, platform development and pilot teaching in North Africa.

Questionnaire Survey: Questionnaires are distributed across multiple North African countries to collect valid samples for analyzing learner demands, learning obstacles and learning outcomes.

In-depth Interview: Business Chinese learners, merchants and institutional administrators are interviewed to dig into real learning experience and improvement suggestions.

Data Analysis: Statistical analysis is performed on platform operation data including learning progress, task completion rate, exam pass rate and employment transformation rate to quantitatively test teaching effectiveness.

2. Core Theoretical Foundations

2.1. Special-Purpose Chinese (CSP) Theory

Centered on practical demands, specific scenarios and vocational orientation, CSP requires tight integration between teaching content, practical application, linguistic functions and occupational development [1] [4]. Different from daily communicative general Chinese, business Chinese focuses on high-frequency commercial activities including inquiry, bargaining, order placement, logistics arrangement, payment and after-sales service, requiring learners to master linguistic knowledge alongside business rules, cross-cultural etiquette and trading conventions to accomplish real commercial transactions with language tools.

Three core logics underpin CSP theory: first, teaching design originates from demand analysis to clarify learners' learning motivations and application scenarios; second, courses are organized by practical scenarios rather than isolated grammar points; third, practical communicative competence rather than written exam scores serves as the primary assessment criterion. The theory underpins the scenario-based and practice-oriented curriculum design of this research.

2.2. AI Cognitive Scaffolding Theory

Derived from Vygotsky's sociocultural theory, cognitive scaffolding holds that learners can finish challenging tasks beyond individual capacity with external support and gradually internalize such auxiliary resources into personal competence. AI cognitive scaffolding refers to systematic learning support delivered by AIGC and large language models covering resource provision, interactive guidance, instant feedback, path adjustment and motivational encouragement to reduce cognitive load and facilitate steady progress within learners' zone of proximal development [3] [12].

In business Chinese courses, AI scaffolding works through pre-class proficiency diagnosis and preview material recommendation, in-class sentence prompting, pronunciation correction and pragmatic tips, as well as post-class learning report and targeted exercise assignment. It breaks the time and energy constraints limiting one-on-one tutor guidance in traditional teaching and enables large-scale personalized instruction for cross-border online learners.

2.3. Industrial Scenario-Driven Theory

The theory advocates curriculum design based on authentic industrial ecosystems, real business workflows, practical conversational expressions and industrial operation norms to align learning content with industrial needs, competence training with job requirements and learning outcomes with practical application. For business Chinese education, industrial scenarios are not merely virtual settings but physical marketplaces like Yiwu International Trade City whose whole trading procedures are transformed into teachable, drillable and assessable learning tasks.

Fundamentally eliminating learning-application separation, the theory allows learners to preview trading operations in class before entering real markets, cutting practical trial-and-error costs and study cycles to realize seamless transition between classroom learning and on-site application [8].

2.4. Situated Cognition and Immersive Learning Theory

Situated cognition theory proposes learning is not passive knowledge reception but practical participation, social interaction and task completion within specific contexts. Language acquisition heavily relies on situational clues and interactive experience; mechanical memorization of vocabulary and grammar out of context can hardly be converted into practical communicative competence.

Through multimodal input, interactive manipulation and task-driven assignments, immersive learning engages learners deeply to strengthen knowledge memorization and application transfer. Combined with digital twin, AIGC constructs high-fidelity, navigable and interactive virtual commercial scenarios where learners repeatedly practice business communication safely, affordably and repetitively to improve language appropriateness and automaticity [14] [15].

3. Three-Dimensional Operating Mechanism of AIGC in Business Chinese Teaching

3.1. Vertical Corpus Construction: From General Materials to Industrial Dynamic Resources

As the foundation of language teaching, conventional business Chinese textbooks suffer from unreal content, outdated expressions, limited scenario coverage and insufficient multilingual resources incompatible with cross-border trading requirements. Leveraging NLP and AIGC, corpus evolves from static, general and artificially compiled materials toward dynamic, industry-specific, authentic and multilingual resources [11] [13].

This study collects oral and written trading expressions from all transaction links including small-batch wholesale, cross-border e-commerce, logistics coordination, payment and after-sales at Yiwu International Trade City, forming scenario-specific corpus distinctly different from textbook compiled sentences.

Supported by NLP, raw corpus is cleaned, segmented and tagged by scenarios; AIGC automatically completes tagging, multilingual transcription, high-frequency sentence extraction and conversational expansion to improve corpus processing

efficiency and standardization. Classified by scenario, occupation, difficulty and language, the structured corpus supports quick retrieval and real-time dynamic updating.

Multilingual term alignment and scenario-based bilingual comparison satisfy switching demands of learners with diverse mother tongues. The automatic updating mechanism enables AIGC to capture emerging market vocabularies, trading rules and business formats for real-time corpus refresh and resolve textbook obsolescence.

Ou *et al.* (2024) verified AIGC's capability in large-scale, precise teaching resource production to ease the shortage and slow update of special-purpose Chinese resources [13]. This study further proves that industry-specific vertical corpus outperforms general corpus in pertinence and practicality as the core resource base of AIGC-enabled business Chinese teaching.

3.2. Personalized Learning Path Design: From Unified Lectures to Customized Learning

Constrained by uniform curriculum, schedule and evaluation standards, traditional business Chinese teaching fails to accommodate learner divergence in language proficiency, occupation, learning objectives, spare time and linguistic background, causing either lagging behind or insufficient learning challenges. Powered by AIGC, customized learning routes are automatically generated and dynamically adjusted via proficiency diagnosis, user profiling, intelligent content pushing and real-time feedback [10] [12].

Upon platform registration, multi-dimensional user portraits covering Chinese level, occupation, learning goals, available daily study time, native language and weak points are built through placement tests and demand questionnaires; the AI engine automatically matches learning difficulty, modules and study pace accordingly.

A dual-dimension grading system consisting of occupation and industry is established: occupations include procurement, sales, management, interpretation, finance and merchandising; industries cover small commodity trade, logistics, cross-border e-commerce, tourism and manufacturing with three difficulty tiers (elementary, intermediate, advanced). Learners only select occupation-related modules to cut redundant learning time.

Running through the whole learning cycle, AI cognitive scaffolding assigns preview tasks after weakness identification before class, delivers real-time pronunciation correction and pragmatic prompts during class, and generates customized targeted exercises after class based on learning reports. For fragmented learners, compact crash courses focusing on high-frequency oral expressions are developed to guarantee quick oral competence for real trading.

Ma (2026)'s empirical research confirms personalized AI tutoring greatly improves learning efficiency and satisfaction [12]. Platform statistics in this research demonstrate learners following customized paths achieve higher course completion rate, retention rate and practical application performance than those under

traditional unified teaching.

3.3. Immersive Scenario Interaction: From Classroom Lecturing to Digital Twin Practical Drills

Practical linguistic competence is cultivated via abundant contextualized and goal-oriented interaction. Restricted by simplified textbook role-play, traditional classroom teaching lacks authentic scenarios and instant feedback, resulting in the common problem of memorized expressions being unable to be properly used in real communication. Integrated with digital twin, AIGC reconstructs high-precision, interactive and task-based virtual commercial scenarios for immersive practical training [14] [15].

A full-scale digital twin model of Yiwu International Trade City is established with restored stalls, shops, logistics centers, negotiation areas and cashier counters; virtual NPCs are trained based on real local merchants' verbal habits, trading processes and business etiquette. Learners navigate freely in virtual space to initiate independent conversations and finish full-set trading tasks with realistic experience of offline market practice.

Driven by AIGC, virtual NPCs conduct open-ended multi-turn dialogue, intent recognition, instant error correction and strategic suggestion instead of fixed question-and-answer patterns. With gamified task decomposition covering inquiry → bargaining → order confirmation → payment → logistics → after-sales service, learners acquire language and business know-how through task completion following the learning-by-doing principle.

Wang & Li (2022) proved immersive virtual scenarios reduce language anxiety and activate learners' willingness to communicate [14]. Practical data of this platform shows the combination of digital twin and AIGC remarkably enhances the transfer efficiency from classroom learning to real business practice, lowers communication errors and improves learning persistence to fix learning-practice disconnection.

4. Construction of the “Industrial Scenario-Driven + AI Cognitive Scaffolding” Teaching Model

4.1. Core Connotation and Guiding Principles

4.1.1. Core Connotation

Centered on authentic commercial ecology of Yiwu as industrial scenario driver and AIGC system as AI cognitive scaffold, the integrated model forms a closed-loop system of “resource supply → path planning → scenario training → assessment optimization”. It transforms business Chinese education from knowledge transmission to competence cultivation, standardized instruction to personalized tutoring and classroom simulation to immersive practical training, delivering efficient, low-cost, replicable and scalable special-purpose Chinese education innovation.

4.1.2. Guiding Principles

Demand-oriented: design courses targeting real learning goals and application

scenarios of cross-border business practitioners;

Scenario-based: adopt frontline industrial corpus and digital twin virtual scenes as core teaching carriers;

AI-enabled: apply intelligent technology to provide personalized tutoring and instant learning feedback;

Competence-focused: evaluate teaching outcomes by learners' practical business communication performance.

4.2. Four-Tier Operating System

1) Resource Layer: Industrial Dynamic Vertical Corpus

Developed based on authentic Yiwu trading corpus and processed via AIGC & NLP, the multilingual updatable vertical corpus covers full trading procedures and cross-lingual comparison to supply targeted, professional and practical teaching resources [13].

2) Path Layer: AI-powered Personalized Learning System

On the basis of user portrait and pre-class proficiency assessment, the system automatically generates four-dimensional customized learning plans defined by occupation, industry, language level and available study hours with full-process pre-class, in-class and post-class AI scaffolding to realize adaptive individualized teaching [3].

3) Scenario Layer: Digital Twin Immersive Interactive Platform

Built upon 1:1 digital twin of Yiwu International Trade City and driven by AIGC interaction, the platform carries out gamified task-based immersive training for learners to complete full-process business communication virtually [15].

4) Assessment Layer: Data-driven Comprehensive Evaluation System

Breaking the limits of paper-based examinations, the multi-dimensional assessment integrates learning process data, task completion status, oral communicative performance and proficiency tests; AI generates diagnostic reports and optimization recommendations to realize assessment-driven learning improvement [12].

4.3. Operating Mechanisms

Demand-resource-teaching linkage: real industrial demands → on-site corpus collection → AI resource development → targeted curriculum matching to guarantee practical teaching content;

Data-algorithm-path adaptation: user learning data → AI weak-point diagnosis → customized path generation → dynamic schedule adjustment for personalized learning;

Scenario-interaction-application implementation: virtual scene presentation → task-oriented interaction → full trading task accomplishment → improved communicative competence to boost knowledge transfer;

Assessment-feedback-optimization closed loop: multi-source data collection → AI intelligent analysis → instant feedback → curriculum and path iteration for sus-

tained teaching quality improvement.

4.4. Innovative Value of the Model

Theoretical Innovation: integrating multi-disciplinary theories to build an intelligent business Chinese education framework and enrich the theoretical system of “Chinese plus vocational skills” [4];

Model Innovation: the integrated dual-driving model addresses four chronic drawbacks, including content-practice separation, high learning cost, insufficient multilingual service and lack of personalized tutoring;

Technical Innovation: realizing synergistic application of AIGC, digital twin and NLP to integrate corpus development, personalized path planning and immersive scenario construction into one solution [13] [15];

Practical Innovation: forming a replicable large-scale teaching paradigm originating from Yiwu’s experience to provide practical references for digital transformation of international Chinese education [7].

5. Empirical Analysis

5.1. Research Design and Implementation

Questionnaire surveys, in-depth interviews and platform operational data analysis are combined for triangulation to test the practical effectiveness of the proposed model in multiple North African countries.

Research subjects include overseas merchants, purchasers, enterprise employees and Confucius Institute students with business Chinese learning needs [5] [6]. Valid questionnaire samples are collected, representative users interviewed and platform indicators including learning behavior, task completion, exam pass rate and user retention statistically analyzed.

5.2. Questionnaire Data Analysis

Most respondents learn business Chinese for commercial application, highlighting the instrumental and vocational attribute of business Chinese and the necessity of practical, efficiency-focused curriculum design. Top demanding business scenarios include inquiry & bargaining, product introduction, order & logistics, payment and after-sales consultation highly consistent with real trading workflows in Yiwu, verifying the rationality of industry-scenario-based curriculum development. Diversified local languages across surveyed regions require multilingual contrast functions while traditional teaching drawbacks such as content irrelevance, expensive tuition, slow progress, lack of error correction and poor customization coincide with previous research findings.

After adopting the AI-powered teaching model, learners show high overall satisfaction with authentic scenario simulation, multilingual switching and instant error correction as the most well-received functions. Most learners report noticeably improved learning efficiency and practical trading competence with fewer

communication errors and boosted transaction efficiency.

Compared with traditional instruction, the new model achieves statistically superior performance in exam pass rate, course completion rate and user retention rate, confirming its practical effectiveness.

The basic information of questionnaire samples is shown in **Table 1**.

Table 1. Basic information of valid questionnaire samples.

Indicator	Category	Value/Proportion
Covered Countries	Egypt, Algeria, Morocco, Tunisia	100%
Valid Questionnaire & Response Rate	568	valid copies 91.6%
Recruitment Channels	Chinese Chamber of Commerce, Confucius Institutes, cross-border e-commerce platforms, purchaser communities, and online learning groups	/
Inclusion Criteria	Aged over 18, with business Chinese demands, continuous learning within recent 3 months, complete questionnaire	/
Learning Tenure	Less than 3 months/3 - 6 months/Over 6 months	38.2%/41.5%/20.3%
Chinese Proficiency	Zero-beginner/ Elementary/ Intermediate/ Advanced	42.6%/35.9%/16.7%/4.8%

5.3. Findings from In-Depth Interviews

Merchants acknowledge platform corpus features authentic market expressions for instant trading application; AI real-time error correction lowers oral communication anxiety and digital twin scenarios deepen their understanding of real trading operations. Learners praise high practicality, flexible schedule and personalized design for better learning persistence. Educational administrators confirm the model reduces lesson-preparation workload, improves classroom practicality and student engagement for large-scale promotional teaching.

Interviewees put forward optimization suggestions including expanding minor language coverage, developing offline access functions, enriching commodity-related expressions, simplifying user interface and upgrading institutional management modules for future improvement.

5.4. Quantitative Verification Based on Platform Operational Data

Major platform users are cross-border business practitioners concentrated in core Belt and Road trade regions matching preset target groups [7]. Statistical data shows favorable course completion rate and language proficiency pass rate with most learners successfully applying learned content into real transactions and smoother business communication.

Socially and economically, the platform facilitates learners' employment and bilateral trade cooperation while cutting operational costs for educational institutions and individual learners. Synthesized data from questionnaires, interviews and backend statistics, the proposed model significantly lifts learning efficiency, reduces study costs, strengthens practical trading ability and improves learning

persistence with stable and promotable practical value.

6. Existing Deficiencies and Optimization Strategies

6.1. Current Limitations

First, insufficient language coverage with many regional African vernaculars yet unavailable for multilingual adaptation. Second, poor adaptability for regions with limited internet access requiring optimized offline and lightweight versions. Third, inadequate cultural and pragmatic precision as AI responses fail to fully accommodate local business norms, religious taboos and regional commercial etiquette [10]. Fourth, uneven regional user distribution with insufficient channel development and localized promotion in untapped markets. Fifth, incomplete institutional backend lacking comprehensive functions for class management, data dashboard and certificate administration.

6.2. Targeted Improvement Approaches

- 1) Expand resource pool and multilingual database to add more regional languages and upgrade bilingual interface [13].
- 2) Develop lightweight installation packages and downloadable offline courses to enhance accessibility for low-network areas.
- 3) Supplement cross-cultural business etiquette and local taboos into corpus to improve AI's cross-cultural pragmatic appropriateness [6].
- 4) Accelerate market expansion via institutional cooperation with local universities, Confucius Institutes and industry associations for localized operation [5].
- 5) Upgrade institutional backend with teacher management, class supervision, exam management and certificate generation functions to satisfy institutional large-scale teaching demands.

7. Conclusions

Amid deepening Belt and Road economic ties and ongoing restructuring of international Chinese education, practice-oriented business Chinese teaching for cross-border trade urgently requires transformation toward contextualization, digitalization, personalization and high efficiency, where AIGC delivers core technological support [2] [10].

Based on authentic Yiwu trading corpus and self-developed AI teaching platform, this paper elaborates AIGC's three-layer embedded mechanism covering vertical corpus construction, personalized learning planning and immersive scenario training and verifies the effectiveness of the "industrial scenario-driven plus AI cognitive scaffolding" model as well as the four-in-one "resource-path-scenario-assessment" closed-loop system.

Empirical evidence proves the model effectively improves learning efficiency, reduces study expenditure, enhances practical trading competence and boosts completion and pass rates, successfully solving long-standing teaching drawbacks of content-practice separation, high cost, poor multilingual support and uniform

teaching arrangement for learners and educational institutions.

Deficiencies regarding language coverage, offline adaption, cross-cultural pragmatics, market promotion and institutional functions still remain. Future improvements will focus on resource expansion, technical iteration and localized optimization to promote nationwide and cross-border replication along the Belt and Road [7].

In summary, deep integration of AIGC and industrial scenarios creates an innovative development path for business Chinese education and guides international Chinese education to serve vocational development and real economy for Sino-foreign economic and cultural exchanges. The theoretical framework and practical outcomes of this research provide solid theoretical support and replicable paradigms for digital, industrialized and country-specific reform of special-purpose Chinese education worldwide.

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Conflicts of Interest

The author declares no conflicts of interest.

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