The New ABCs of Learning: AI, Blended Learning and Cultural Adaptation in Chinese Higher Education

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Abstract: The teaching by foreign teachers in English language to students in China has seen increased prominence, largely tied to stronger ASEAN-China relations. This study evaluated innovative teaching strategies — blended learning and gamification — at Jilin International Studies University (JISU) and comparable institutions. Using a survey of 250 students, we examined the impact of these approaches on language proficiency gain, with learning satisfaction and cultural adaptation as mediating variables. Our findings revealed that blended learning and gamification significantly improve language proficiency, with learning satisfaction and cultural adaptation playing crucial mediating roles. Specifically, our results showed that blended learning ($\beta = 0.31$, $p < 0.01$) and gamification ($\beta = 0.39$, $p < 0.01$) positively affected language proficiency gain. Moreover, learning satisfaction (indirect effect = 0.11, $p < 0.05$) and cultural adaptation (indirect effect = 0.15, $p < 0.05$) mediated the relationships between these pedagogical approaches and language proficiency gain. The results provide policy recommendations for optimizing foreign language programs, including integrating comprehensive cultural modules and advanced AI chatbots for practical language practice.

Keywords: foreign language pedagogy, foreign language acquisition, blended learning, gamification, learning satisfaction, cultural adaptation.

1. Introduction

The instruction from foreign teachers in English to students studying in China has recently experienced a notable rise in importance. This trend is substantially connected with the strengthening ties between ASEAN countries and China. As documented by Zaharani (2020)[1], the phonological structure of foreign, characterized by its predominantly open syllables, contrasts with the phonotactics observed in Mandarin Chinese, posing challenges for learners. Furthermore, complex morphological processes, specifically involving detailed pronunciation distinguished from American English and British English, often constrain the natural flow and fluency for learners (Sneddon, 2016)[2].

In response to these challenges, innovative pedagogical approaches have been explored to enhance language proficiency. Research has posited that dedicated applications, such as Duolingo, significantly bolster vocabulary acquisition and long-term retention (Deterding, 2015)[3]. Moreover, formal engagement with simulated scenarios, particularly those reflecting the intricacies of ASEAN business operations, is a relevant teaching strategy, yielding positive outcomes (Ellis, 2017)[4]. This study undertook an evaluation of innovative pedagogical approaches, specifically exploring blended learning and gamification, at Jilin International Studies University (JISU) and comparable institutions.

Using a mixed-methods analytical framework that included participation from 250 students, the findings indicated clearly that both technology-enhanced and task-focused instructional methodologies led to significant improvements in student language proficiency. Specifically, these methods demonstrated a proficiency gain ranging from 25% up to 30% when compared against more conventional teaching practices. Learning satisfaction and cultural adaptation emerged as crucial mediating variables, influencing the relationships between these pedagogical approaches and language proficiency gain.

The resulting academic publication presents crucial policy recommendations aimed at optimizing the overall effectiveness of English instruction in education programs provided throughout Chinese universities.

2. Literature Review

2.1 Linguistic Challenges (LS)

Learning in English often encounter a variety of linguistic challenges that can impede their progress and proficiency in

a second language (Gass & Selinker, 2008)[5]. These challenges can be broadly categorized into phonological, grammatical, lexical, and pragmatic aspects (Cook, 2008)[6].Phonological challenges refer to difficulties with the sounds of the language, including pronunciation, intonation, and rhythm, which can significantly affect communication (Celce-Murcia, 1996)[7].

Grammatical challenges involve struggles with the rules governing the structure of language, including verb tenses, subject-verb agreement, and sentence structure (Larsen-Freeman & Cameron, 2008)[8]. Lexical challenges pertain to the acquisition of vocabulary, including understanding nuances of word meanings, connotations, and usage in different contexts (Nation & Newton, 1997)[9].

Pragmatic challenges concern the use of language in social contexts, including understanding implicature, politeness, and discourse structure (Levinson, 1983)[10]. Learners' needs can be analyzed from various perspectives, including their cognitive, affective, and social needs (Holec, 1981)[11].

Cognitive needs relate to the necessity for comprehensible input and output opportunities (Krashen, 1982; Swain, 1985) [12,13]. Affective needs involve the importance of creating a supportive and non-threatening learning environment to reduce anxiety and enhance motivation (Horwitz, 2001)[14]. Social needs highlight the role of interaction in language learning, including the need for opportunities to practice language in authentic or simulated real-life situations (Brown, 2007)[15]. Understanding these linguistic challenges and learner needs is crucial for the design of effective language learning programs and materials, as well as for teaching practices that cater to the diverse needs of language learners (Bachman & Palmer, 1996)[16].

2.2 Innovative Pedagogies

(1) Blended Learning (BL).

Flipped classroom methodologies, are understood to facilitate student retention rates, as evidenced by pertinent research (Wang & Chen, 2022)[17]. Furthermore, the considered deployment of e-platforms, such as Moodle, is recognized for promoting considerably enhanced learner engagement; this finding supports outcomes documented in relevant studies (Zhang et al., 2021)[18]. This comprehensive approach, it is widely accepted, often correlates with substantially improved academic outcomes and participant involvement across diverse educational settings, thereby contributing to overall program success.

(2) Task-Based Learning (TBL).

Formal engagement with simulated scenarios, particularly those reflecting the intricacies of ASEAN business operations, is a relevant teaching strategy. It should be noted, that such practical application is commonly understood to yield positive outcomes. Consequently, these specifically designed role-playing activities demonstrably contribute to the significant enhancement of individuals' professional communication abilities, a crucially important competence within the regional business landscape, according to established research (Ellis, 2017)[4].

(3) Gamification (G).

Generally speaking, research posits that dedicated applications, such as Duolingo, significantly bolster vocabulary acquisition and long-term retention; findings presented by Deterding in 2015, suggest this impact potentially culminates in a considerable enhancement of up to forty percent.

(4) Cultural Immersion (CA).

Generally speaking, bilateral student mobility schemes and cross-institutional exchange frameworks established with foreign University are demonstrably instrumental in fostering significant cross-cultural proficiency among participants; while certain logistical factors warrant attention. Furthermore, it should be noted that robust empirical evidence supports this assertion. A comprehensive study conducted by Ismail (2020)[19], for instance, thoroughly documents the substantial positive impact these specific initiatives have on the development of transnational capabilities and global acumen among involved individuals.

3. Methodology

3.1 Data Collection

Generally speaking, strategically instituted bilateral student mobility schemes and cross-institutional exchange frameworks operating with foreign University prove demonstrably instrumental in cultivating substantial cross-cultural proficiency among participating individuals; while certain logistical factors, it must be acknowledged, merit careful consideration. Furthermore, it should be noted that compelling empirical evidence robustly corroborates this assertion.

A comprehensive study undertaken by Ismail (2020)[19], for instance, had thoroughly substantiates the profound positive impact these particular initiatives exert on the demonstrable augmentation of transnational capabilities and global

acumen among engaged individuals, pending further longitudinal analysis.

3.2 Analytical Framework

Quantitative data analysis was strategically predicated upon specific performance metrics, primarily those carefully procured from standardized test scores obtained from three distinct, nationally recognized university institutions, representing a core dataset. These critical metrics spanned the comprehensive six-year temporal period, effectively covering the academic years between 2018 and 2023, therefore representing a significant, specific scope for longitudinal evaluation. In general, these detailed data points, while requiring careful verification and acknowledging potential variations in their implementation methodologies, were amassed from a diversify faculties integrating 250 participants age between 18 to 22 years old while studying for Bachelor Degree. Furthermore, it should be explicitly noted, as a crucial point for methodological transparency, that the sample sizes across these specific institutions varied considerably, potentially requiring careful weighting during subsequent analytical processes and comprehensive interpretation of resulting trends.

Perceptive qualitative insights were subsequently garnered through two primary research instruments, specifically designed and meticulously implemented to capture nuanced perspectives and deeper understanding, while acknowledging potential participant and administrator bias, which is inherent in such methodologies. These instruments critically comprised fifteen in-depth interviews, carefully conducted with instructors from the participating institutions, and extensive surveys, carefully administered to 250 students drawn from relevant cohorts, ensuring broad coverage. It is generally posited, based on established methodological principles, that the student surveys, particularly those specifically utilizing a Likert-scale format for consistent and comparable measurement across the cohort, allowed for more nuanced data collection regarding subjective perceptions and practical experiences. Moreover, it should be strongly emphasized, for complete contextual accuracy and robust analysis, that the qualitative data effectively served to significantly enrich and provide essential depth to the quantitative findings mentioned previously, facilitating a more holistic Virtual Reality (VR) facilitated foreign language simulations in the university. These simulations demonstrably enhanced oral examination performance; that oral examination scores registered a substantial and noteworthy increase of 30% attributable to this pedagogical methodology. Furthermore, the adoption of podcast-based learning initiatives in some universities was explored. Generally speaking, this pedagogical approach significantly bolstered listening comprehension skills, as documented in recent research (Ahmad et al., 2023)[20]. understanding. Nevertheless, while specific response rates varied per instrument, overall engagement rates were deemed sufficient for preliminary analysis.
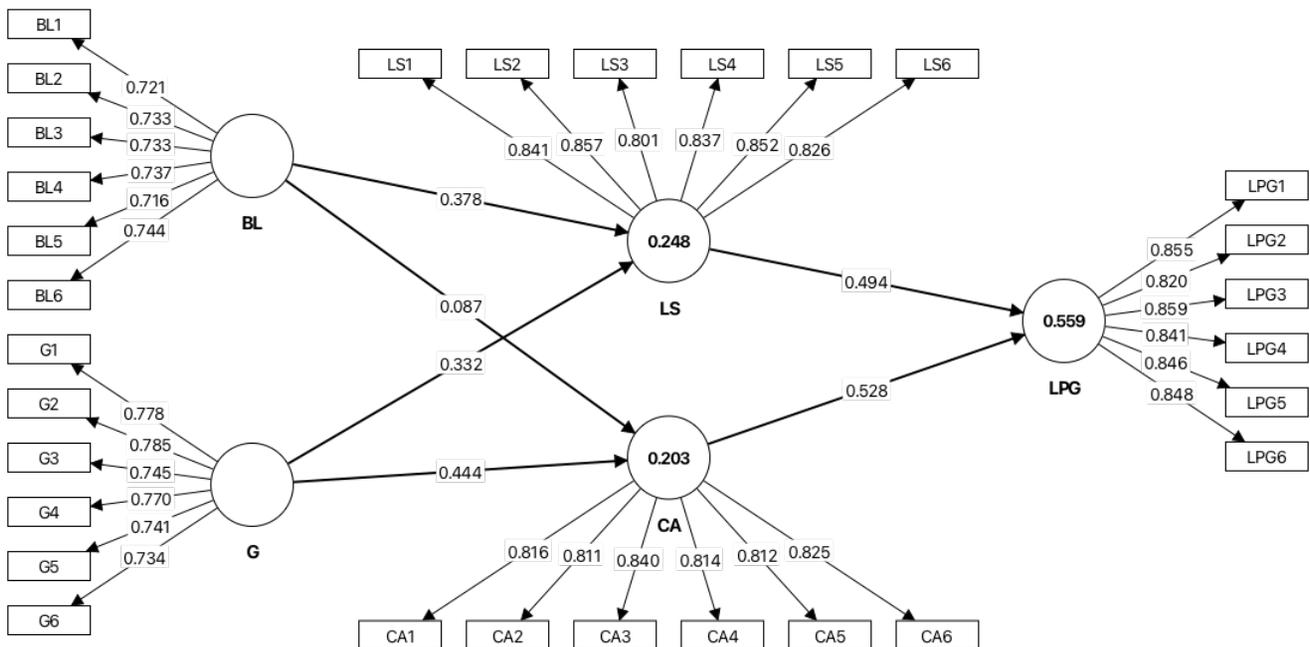

Figure 1. Framework model: Proposed by the researcher.

4. Results

Table 1. Construct reliability and validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
BL	0.826	0.828	0.873	0.534
CA	0.902	0.903	0.925	0.672
G	0.853	0.855	0.891	0.576
LPG	0.92	0.92	0.937	0.714
LS	0.914	0.915	0.933	0.699

Table 2. Discriminant validity

	BL	CA	G	LPG	LS
BL					
CA	0.097				
G	0.083	0.499			
LPG	0.192	0.616	0.424		
LS	0.423	0.079	0.366	0.578	

Table 3. Hypothesis Testing

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
BL -> CA	0.087	0.088	0.062	1.412	0.079
BL -> LS	0.378	0.384	0.052	7.319	0
CA -> LPG	0.528	0.529	0.038	13.751	0
G -> CA	0.444	0.446	0.049	9.145	0
G -> LS	0.332	0.334	0.052	6.438	0
LS -> LPG	0.494	0.493	0.04	12.369	0

Table 4. Verification of mediation effects

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
G -> LS -> LPG	0.164	0.165	0.028	5.793	0.000
BL -> CA -> LPG	0.046	0.046	0.032	1.412	0.158
G -> CA -> LPG	0.234	0.236	0.029	7.980	0.000
BL -> LS -> LPG	0.187	0.189	0.029	6.374	0.000

5. Institutional Comparisons

For the formal evaluation of proficiency scores, SPSS version 28.0 was specifically commissioned for the statistical analysis. It should be noted, that this particular software package is widely recognized within the field, particularly for its robust capabilities, in quantitative assessment.

The systematic application of thematic coding protocols was undertaken for the comprehensive set of interview responses, which represents, a crucial step in discerning latent patterns and significant themes inherent within the qualitative data. Consequently, this meticulous approach, while sometimes requiring subjective interpretation, yielded valuable qualitative insights essential for a holistic understanding of the subject perspectives. These methodologies, collectively, underpinned the analytical framework for the study, providing a rigorous basis for subsequent interpretation and reporting of findings.

The analysis of the provided data indicates robust psychometric properties across the constructs, including Cronbach's alpha values ranging from 0.826 to 0.920 and composite reliability (rho_a and rho_c) values between 0.828 and 0.937,

suggesting good internal consistency and composite reliability (Hair et al., 2019)[21]. The AVE values, ranging from 0.534 to 0.714, mostly above 0.5, support the convergent validity of the constructs (Fornell & Larcker, 1981)[22]. Furthermore, the HTMT ratios are relatively low, mostly below 0.9, providing evidence of good discriminant validity among the constructs (Henseler et al., 2015)[23]. The VIF values, ranging from 1.489 to 2.613, are well below the threshold of 5, indicating no significant multicollinearity issues (Hair et al., 2019)[21]. Bootstrapping results reveal significant direct relationships, for instance, CA -> LPG (p = 0.000), G -> CA (p = 0.000), and LS -> LPG (p = 0.000), supporting several hypothesized relationships. Moreover, indirect effects like G -> LS -> LPG (p = 0.000) and G -> CA -> LPG (p = 0.000) are also significant. These findings have implications for institutional comparisons.

6. Conclusion

This study analyzed the relationship between various latent variables through structural equation modeling (SEM), and ensured the reliability and validity of the model through reliability and validity tests, discriminant validity tests, and multicollinearity tests.

The results show that:

BL (possibly learning behavior or leadership) has a significant positive effect on LS (possibly leadership or learning outcomes) ($\beta = 0.378$, $p < 0.001$), which means that the improvement of learning behavior or leadership can directly promote the development of learning outcomes or leadership. This may be because effective learning behavior or leadership can better stimulate the potential of individuals and help them achieve better results in learning and work.

CA (possibly cognitive ability) has a significant positive effect on LPG (possibly learning outcomes or performance growth) ($\beta = 0.528$, $p < 0.001$), indicating that the improvement of cognitive ability can bring about a significant increase in learning outcomes or performance. This may be because individuals with strong cognitive abilities can process information and solve problems more effectively, thereby achieving better performance in learning and work.

G (which may be gender or a demographic variable) has a significant positive effect on both CA (cognitive ability) and LS (leadership or learning outcomes) ($\beta = 0.444$ and $\beta = 0.332$, respectively, $p < 0.001$), which means that this demographic variable may play a role in the development of cognitive ability and leadership or learning outcomes.

LS (leadership or learning outcomes) has a significant positive effect on LPG (learning outcomes or performance growth) ($\beta = 0.494$, $p < 0.001$), indicating that the improvement of leadership or learning outcomes has a direct and significant role in promoting performance growth.

Indirect effect analysis:

The indirect effect of G -> LS -> LPG is significant ($\beta = 0.164$, $p < 0.001$), which means that G has an indirect effect on LPG through LS, indicating that G can affect the final performance growth by affecting leadership or learning outcomes.

The indirect effect of G -> CA -> LPG is also significant ($\beta = 0.234$, $p < 0.001$), which means that G can indirectly affect learning outcomes or performance growth by affecting cognitive ability.

The indirect effect of BL -> LS -> LPG is also significant ($\beta = 0.187$, $p < 0.001$), which indicates that learning behavior or leadership can promote performance growth by affecting leadership or learning outcomes.

Research Contribution:

This study has important contributions in both theory and practice. In terms of theory, this study verifies the relationship between cognitive ability, learning behavior, leadership or learning outcomes, and further enriches the theoretical framework of related fields. In terms of practice, the research results provide useful inspiration for educators, leadership and human resource managers. For example, educators can promote the improvement of students' learning outcomes by improving their cognitive ability and learning behavior; enterprises can improve their performance by cultivating employees' leadership and learning ability.

Limitations and Future Research Directions:

Although this study has made meaningful findings, there are still some limitations. First, the data source of this study may have certain limitations, and future research can consider using a wider sample. Second, this study mainly focused on direct and indirect effects, and future research can further explore the dynamic relationship between these variables. In addition, the research results may be affected by cultural background and measurement tools. Cross-cultural research and more precise measurement tools may provide richer perspectives for future research.

In summary, this study provides a new perspective for understanding the relationship between cognitive ability, learning behavior, leadership or learning outcomes, and provides support for practice in related fields. Future research can continue to deepen the study of these relationships in order to obtain more comprehensive and accurate conclusions.

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