

A Comparative Study on Entrepreneurial Competence of Chinese and Mongolian University Students: A Mixed-Methods Analysis Based on Two Universities

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Abstract: Entrepreneurial competence, as a key factor influencing the success or failure of university students in entrepreneurship, has increasingly become a major focus for higher education institutions in the context of internationalization. Taking Guilin University of Technology in China and Mongolian National University as examples, this study employs a mixed-methods approach, conducting surveys and in-depth interviews with 612 students and 32 faculty members and students from both universities to compare differences and similarities in entrepreneurial competence across four dimensions: entrepreneurial knowledge, skills, attitudes, and personality between Chinese and Mongolian students. The findings indicate that students at Guilin University of Technology possess relatively comprehensive and systematic entrepreneurial knowledge and skills, along with strong team spirit, while students at Mongolian National University demonstrate heightened risk awareness and greater sensitivity to opportunity recognition. These differences are primarily attributed to cultural traditions, educational systems, and economic environments. This research enhances our understanding of the factors shaping entrepreneurial competence among university students in different countries and offers insights for improving cross-cultural entrepreneurial education.

Keywords: Entrepreneurial competence; China-Mongolia comparison; College students; Mixed methods; Entrepreneurship education

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1. Introduction

Research on entrepreneurial competence among university students has increasingly attracted attention in the field of entrepreneurship education since McClelland introduced the concept of competence. With the development of economic globalization and regional integration, international comparisons of students' entrepreneurial capabilities contribute to a deeper understanding of the principles underlying entrepreneurship

education and provide valuable models for cultivating entrepreneurial talent. China and Mongolia are neighboring countries, and under the impetus of the Belt and Road Initiative and the China-Mongolia-Russia Economic Corridor, their economic and trade cooperation has become frequent, with growing innovation and entrepreneurship activities ^[1]. However, significant differences exist between the two countries in terms of economic systems, culture, and higher education, yet there remains a lack of systematic comparative studies on how these differences influence the structure of entrepreneurial competence among university graduates ^[2]. Guilin University of Technology, a science and engineering-focused institution located in western China, has accumulated considerable experience and achieved notable success in cultivating innovative and entrepreneurial talents. Meanwhile, Mongolian National University, as Mongolia's highest academic institution, has also made substantial progress in entrepreneurship education. An empirical comparative analysis between these two universities can offer deeper insights into the characteristics of entrepreneurial competence across different socio-cultural contexts, thereby providing theoretical support for joint programs in entrepreneurial talent development.

2. Literature review and theoretical foundation

2.1. Definition and dimensional framework of entrepreneurial competence

Entrepreneurial competence refers to the integrated system of knowledge, skills, attitudes, and personality traits necessary for successfully identifying, evaluating, and developing a business opportunity. Six dimensions of entrepreneurial competence—opportunity ability, relationship ability, conceptual ability, organizational ability, strategic ability, and commitment ability—have a significant influence. Further research has consolidated entrepreneurial competence into four dimensions: entrepreneurial knowledge, including market knowledge, financial knowledge, and legal knowledge; entrepreneurial skills, such as opportunity recognition, resource management, and risk handling; entrepreneurial attitudes, including achievement motivation, self-efficacy, and risk propensity; and entrepreneurial personality, encompassing proactiveness, resilience, and innovativeness. This study adopts the four-dimensional framework of entrepreneurial competence as the foundational structure for comparative analysis.

2.2. Research progress on cross-cultural entrepreneurial competence

A substantial body of empirical research has demonstrated the influence of culture on entrepreneurial competence. According to Hofstede's cultural dimensions theory, individualism-collectivism values are associated with entrepreneurs' risk-taking propensity and achievement motivation, while uncertainty avoidance is negatively correlated with innovation ^[3]. In the East Asian Confucian cultural sphere, relational networking ability plays a particularly significant role in successful entrepreneurship. In Mongolia, a country deeply rooted in nomadic pastoral traditions, people's risk adaptability and opportunity alertness may exhibit characteristics distinct from those in other cultures ^[4]. However, current cross-cultural studies have primarily focused on developed Western countries and emerging Asian markets, leaving a gap in comparative research on university students' entrepreneurial competence between neighboring China and Mongolia, which possess different cultural backgrounds.

3. Research design

3.1. Mixed methods strategy

Explain the design of a sequential mixed-methods approach, which involves collecting quantitative data followed by interpreting that data through qualitative methods. The quantitative data are used to measure the score differences between two university students across four dimensions of entrepreneurial competence; the qualitative data aim to elucidate the cultural, educational, and institutional reasons underlying these differences.

3.2. Sample and data collection

The study surveyed 306 undergraduate students from Guangxi University of Technology and Mongolian National University. The sample was designed to be balanced in terms of academic majors, grade levels, and gender: a 1:1 ratio between business-related and non-business-related majors; primarily targeting second- and third-year students; and a male-to-female ratio of approximately 4:6. Data collection took place from September to November 2024, with 612 questionnaires distributed and a valid response rate of 96.8%. For the qualitative interviews, 16 participants were randomly selected from each university, along with two faculty members who teach entrepreneurship courses, for face-to-face semi-structured interviews, each lasting between 45 and 60 minutes.

3.3. Measuring instruments

The quantitative questionnaire adopted a five-point Likert scale format and consisted of four subscales: entrepreneurial knowledge (12 items, $\alpha = 0.87$), entrepreneurial skills (10 items, $\alpha = 0.84$), entrepreneurial attitude (8 items, $\alpha = 0.81$), and entrepreneurial personality (10 items, $\alpha = 0.79$). All scales underwent cross-cultural adaptation during the pilot study in China and Mongolia, ensuring semantic equivalence. The qualitative interviews were guided by an interview guide focusing on entrepreneurial experiences, entrepreneurial education, cultural factors, and related topics.

4. Research findings

4.1. Quantitative comparison of entrepreneurial competence between the two universities

The results of the independent samples *t*-test indicate a significant difference in total entrepreneurial competence scores among students from different universities ($t = 4.32$, $P < 0.001$), with the mean score of Guilin University of Technology students (3.56) being significantly higher than that of Mongolian National University students (3.23). See **Table 1**.

Table 1. Comparison of total scores and subscales of entrepreneurial competence between university students from two institutions (mean $\pm$ SD)

Dimension	Guilin University of Technology ($n = 306$)	Mongolian National University ($n = 306$)	<i>t</i> -value	<i>P</i> -value
Entrepreneurial competency total score	3.56 $\pm$ 0.47	3.23 $\pm$ 0.51	4.32	<0.001
Entrepreneurship knowledge	3.78 $\pm$ 0.52	3.02 $\pm$ 0.48	7.45	<0.001
Entrepreneurial skills	3.61 $\pm$ 0.49	3.18 $\pm$ 0.53	4.87	<0.001
Entrepreneurial mindset	3.42 $\pm$ 0.55	3.31 $\pm$ 0.58	1.23	0.22

Dimension	Guilin University of Technology (<i>n</i> = 306)	Mongolian National University (<i>n</i> = 306)	<i>t</i> -value	<i>P</i> -value
Entrepreneurial personality	3.32 ± 0.54	3.40 ± 0.56	-0.98	0.33

In the entrepreneurial knowledge subscale, Guilin University of Technology students scored higher in financial knowledge (3.92) compared to Mongolian students (2.86), and also outperformed them in market analysis knowledge (3.85 vs. 2.94). However, the difference between the two groups was smaller in policy and regulation knowledge, with scores of 3.56 and 3.27, respectively. In the entrepreneurial skills subscale, Guilin students demonstrated stronger resource integration ability (3.78) than their Mongolian counterparts (3.05), and also scored higher in teamwork spirit (3.69 vs. 3.12). Regarding opportunity recognition, Mongolian students scored slightly higher at 3.35, while Guilin students scored 3.28. In the entrepreneurial personality subscale, Mongolian students showed a significantly higher risk-taking tendency (3.52) compared to Guilin students (3.28), and also performed better in coping with adversity (3.47 vs. 3.30). However, Guilin students scored higher in proactiveness (3.42 vs. 3.28).

4.2. In-depth interpretation of qualitative interviews

The coding analysis of interview transcripts revealed the reasons behind these differences. Regarding gaps in entrepreneurial knowledge, students from Guilin University of Technology primarily mentioned their school's required courses such as Entrepreneurship Fundamentals, Business Plan Writing, Internet+, and the motivational role of the Challenge Cup competition. One business administration student said, "Practical entrepreneurship courses are offered as early as the second semester of freshman year. In class, teachers guide us through research projects and even provide fixed templates for writing financial forecasts." In contrast, Mongolian National University students acquired most of their entrepreneurial knowledge through self-study and family business inheritance. "We hardly learned specific knowledge about company registration or financial statement preparation in class. Most of what I know comes from learning on my own while helping my father manage our small shop," said one Mongolian student.

Mongolian students generally demonstrate a stronger capacity to adapt to risk, closely tied to the traditional nomadic culture that has long dealt with mobility and uncertainty. One Mongolian respondent said, "We've been told since childhood that pastures die, livestock get sick—nothing is fixed. A business failure is like a blizzard; you just change your path and keep moving forward." Many Mongolian students view part-time jobs or small-scale entrepreneurial activities as routine rather than exceptional. This normalized, survival-oriented approach to entrepreneurship fosters a higher tolerance for risk. In contrast, students at Guilin University of Technology tend to be more cautious about risk. This reflects both the institutional orientation of China's higher education system, which encourages students to pursue stable careers through degree attainment, and the preference among one-child families for stability. One Chinese student remarked, "My parents worked hard to send me to university. Without a guarantee of earning more from starting a business than from a regular job, they wouldn't support my entrepreneurial venture."

Structural differences in resource availability also serve as an important explanatory factor. Guilin University of Technology has established a dedicated College of Innovation and Entrepreneurship, with full-time faculty and incubation facilities. Entrepreneurship credits are integrated into the curriculum, supported by a comprehensive process that spans courses, competitions, and incubation. In contrast, entrepreneurship education at Mongolian National University is fragmented, primarily consisting of elective courses offered by

a few faculty members in the Faculty of Economics, lacking a systematic practical component. Surprisingly, however, no significant deficit among Mongolian students was observed in the dimension of opportunity sensitivity. This suggests that formal education may not be the sole pathway for developing entrepreneurial competence; factors such as family business traditions and a more relaxed extracurricular environment conducive to business practice may play irreplaceable roles that schools cannot replicate.

5. Discussion

5.1. Analysis of the causes behind differences in entrepreneurial competence

This indicates that the differences in entrepreneurial competence between Chinese and Mongolian university students result from the combined effects of educational systems, cultural traditions, and economic environments. In terms of education systems, China's systematic integration of entrepreneurship into university curricula and institutionalized entrepreneurial competitions has enhanced students' declarative knowledge and procedural skills in entrepreneurship, whereas Mongolia's fragmented entrepreneurial education system requires students to possess strong exploratory abilities ^[5]. Culturally, the differing attitudes toward risk shaped by Confucianism and nomadic traditions have formed distinct entrepreneurial personality traits among students in the two countries ^[6]. Regarding economic environments, Chinese students face a highly competitive job market and a relatively well-developed policy environment for entrepreneurship, while Mongolian students, confronted with a labor market with limited absorption capacity and influenced by a strong family tradition of business, tend to exhibit more proactive opportunity recognition behaviors ^[7].

5.2. Implications for entrepreneurship education

The findings of this study offer the following insights for cross-cultural entrepreneurship education: First, developing entrepreneurial competence is not a one-size-fits-all approach. The teaching methods employed by Guilin University of Technology—focused on knowledge transmission and skill training—can serve as a reference for universities in Mongolia, while Mongolian students' psychological resilience regarding risk and opportunity is worthy of emulation by Chinese entrepreneurs. Second, entrepreneurship curriculum design should follow local logic. Overemphasizing standardization may suppress students' natural endowments in certain entrepreneurial personality traits, whereas unstructured spaces hold value in fostering entrepreneurs' ability to cope with uncertainty ^[8]. For both China and Mongolia, jointly creating entrepreneurship education modules adapted to dual-market environments through increasingly close cross-border entrepreneurial collaboration and sharing resources via student exchanges and co-hosted competitions holds significant practical implications.

5.3. Research gaps and future directions

This study has certain limitations. First, although the two universities represent typical higher education institutions in their respective countries, they may not fully reflect the overall entrepreneurial competence of university students in both nations. Second, the cross-sectional research design does not allow for tracking changes in entrepreneurial competence over time. Third, the actual implementation of entrepreneurial behaviors was not analyzed. Future research could expand to include more universities in China and Mongolia, employ a longitudinal design to examine the impact of entrepreneurship education on entrepreneurial competence, and further investigate moderating variables such as family background and

social networks on these relationships.

6. Conclusion

This study, using Guilin University of Technology and Mongolian National University as case studies and employing a mixed-methods research approach, finds that structural differences in entrepreneurial competence between the two universities' students lie in the following: Chinese students demonstrate clear advantages in entrepreneurial knowledge and systematic entrepreneurial skills, while Mongolian students excel in risk-taking capacity and resilience under adversity within their entrepreneurial personality traits. The gap in entrepreneurial knowledge and skills stems from the degree of curriculum formalization in educational systems; nomadic traditions and family-based business practices have fostered higher thresholds for risk-taking and greater opportunity awareness among Mongolian students. Thus, entrepreneurial competence emerges as a co-constructed outcome of formal education and informal life-world experiences. Comparing entrepreneurial education across cultures helps identify relative strengths in different models. Entrepreneurial education should seek a balance between structured training and adaptability. Against the backdrop of deepening regional economic cooperation, both institutions should establish regular exchange mechanisms for entrepreneurial education, enabling each to benefit from the other's strengths in talent development and cultivate truly cross-cultural global citizen entrepreneurs.

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Disclosure statement

The authors declare no conflict of interest.

References

- [1] Sun YY, 2026, Research on Measurement Evaluation and Improvement Paths of College Students' Innovation and Entrepreneurship Competence. *Standard Life*, (04): 113–115.
- [2] Wang X, 2026, Research on Cultivating College Students' Innovation and Entrepreneurship Education to Enhance "Common Prosperity Entrepreneurship Competence" from the Perspective of "Three-Full Education." *Shanxi*

Youth, (07): 1–5.

- [3] Chen XZ, 2026, Research on Countermeasures for Cultivating College Students' Entrepreneurial Competence Based on Grounded Theory. Chongqing Science and Technology News, January 27, 2026, (008).
- [4] Wang JJ, Dou ZJ, Ouyang CJ, 2026, Evaluation and Improvement of Digital Entrepreneurship Competence of College Students in Local Undergraduate Universities. Science-Technology Entrepreneurship Monthly, 39(01): 85–90.
- [5] Wang SQ, Chen SB, Liu MY, 2025, Research on the Influence of Entrepreneurship Education on College Students' Entrepreneurial Intention: The Intervention Effect of Entrepreneurial Competence and Social Support. Higher Education of Sciences, (06): 13–21.
- [6] Liu KH, Zhang JX, Bian X, 2025, Current Situation, Problems and Tasks of Innovation and Entrepreneurship Education in Local Colleges and Universities—Based on the Survey and Research of College Students' Entrepreneurial Competence in Shandong Province in 2024. Journal of Qilu Normal University, 40(03): 64–70.
- [7] Liao P, Chen YN, Tu YH, et al., 2025, Construction and Application of College Students' Returning Home Entrepreneurship Competence Model. Science Technology and Industry, 25(02): 356–360.
- [8] Wang Y, Wu Y, 2024, Research on Cultivation of College Students' Innovation and Entrepreneurship Competence Based on Hope Theory. Research and Practice on Innovation and Entrepreneurship Theory, 7(22): 188–190.

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