

Comparative analysis of Chinese and American higher education: differences, causes, and reform implications

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Abstract. Although the differences between American and Chinese higher education have attracted wide attention, there remain shortcomings in addressing key dimensions such as philosophy of learning, pedagogy, academic pressure, and career focus. This paper analyzes the contrasting approaches by comparing China's emphasis on standardized tests, theoretical learning, and collective performance with America's focus on individual autonomy, critical thinking, and hands-on learning. Based on this, the paper proposes that China enhance its higher education by incorporating interactive learning, curriculum flexibility, and expanded internship opportunities to balance its robust academic foundation with creative, practice-based methods, thereby boosting global competitiveness.

1 Introduction

Higher education constitutes a key element for innovation and, by implication, growth and development that address global competition. International student enrollment has expanded significantly in recent decades, with over 6.3 million students studying abroad by 2022, reflecting the global growth of higher education [1]. Yet, globalization has recently deemed higher education as vital for many nations to develop talent and enhance national competitiveness. While historically distinct models and characteristics have developed over time, China and the United States are among the most well-reputed higher education systems. Due to their fairly varying historical traditions, societal cultures, and institutional frameworks, their educational philosophies diverged considerably, and thus competencies in graduates produced tend to differ sharply between the two systems depending on their needs in society [2]. In recent years, China has embarked on the constructive "Double First-Class" program to boost quality in its higher education sector.

The U.S. system of higher education, with a long history and a mixed structure of public and private systems, has quite a distinct and diverse nature from that of most other countries, including China. A comparative study of these two systems may yield significant insights for educational reforms taking place in China at present. On the one hand, some insightful strategies for instilling innovation and increasing the quality of teaching can be modeled after the

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United States' strategies. On the other hand, China is to its advantage blessed with good foundational education in its learners as well as the national mobilization of resources for far more extensive reforms.

This paper analyses the education system in China and the United States based on four perspectives: educational philosophy, teaching methods, academic pressure, and employment orientation. From the similarities and differences, a valuation of their intended effects on student development and other educational outcomes would be evaluated.

2 Differences between Chinese and American Higher Education and Their Impact on Students

2.1 Educational philosophy

China's system is predominantly examination-oriented, emphasizing the mastery of fundamental knowledge and skills, as well as collective honor and standardized benchmarks. Examinations--particularly the National College Entrance Examination (Gaokao)--are viewed as crucial turning points in a student's life. From elementary school onward, students are trained to memorize large volumes of information and repeatedly practice standardized answers to achieve high scores [3]. This model fosters strong discipline and solid subject foundations, which is why Chinese students often excel in international assessments. For instance, Chinese students ranked first in math and science in the PISA test. At the same time, influenced by Confucian ideas that emphasize respect for teachers, classroom dynamics typically grant teachers a high level of authority, and students are less inclined to question authoritative viewpoints [2].

In contrast, U.S. higher education prioritizes ability development, focusing on creativity, critical thinking, and personalized growth. The philosophy is more attentive to individual differences and autonomy, opposing overly uniform standards [2]. In American classrooms, instructors emphasize sparking students' thinking and encourage them to ask questions and voice opinions; rarely is there a single "correct answer" [2]. Creativity is regarded as one of the most valuable traits, nurtured from the earliest stages of schooling [2]. Overall, U.S. higher education champions diverse values, motivating students to realize their potential and to cultivate social responsibility, an innovative spirit, and well-rounded development.

Educational philosophy shapes how students learn. Chinese students typically excel in foundational knowledge and standardized problem-solving, but their reliance on authoritative guidance may limit creative inquiry, while American students are encouraged to think critically and express independent ideas--though they might not develop as deep a knowledge base [2]. A balanced approach that combines strong fundamentals with creative thinking would benefit all learners.

Recent research also shows that cultural factors influence self-expression. In individualistic societies (e.g., the United States), students often use social media to highlight personal achievements, whereas in collectivist cultures (e.g., China), group harmony and emotional bonds are prioritized [4].

2.2 Teaching methods

Teaching methods in China are characterized by lecture-based instruction in large classes with a fixed curriculum, where teachers primarily serve as knowledge transmitters. This approach ensures a consistent and rigorous theoretical foundation for a vast number of students,

which is particularly advantageous given China's large population and the urgent need for rapid educational development. By leveraging centralized planning and efficient resource allocation, this model effectively meets national development goals while providing broad access to quality education [2].

American teaching emphasizes interaction and practical application. Classes often involve small-group seminars, case studies, and hands-on projects where instructors act as facilitators. This method encourages questions and active discussion, and many courses include project-based assignments and group work to develop teamwork and independent learning [2,3].

Chinese students tend to excel in written exams and theoretical analysis but may develop independent thinking and presentation skills more slowly. In contrast, American students gain strong communication, teamwork, and problem-solving abilities through interactive and practical learning. Both systems have strengths, and a balanced approach that combines structure with interactive elements could benefit all learners.

2.3 Academic pressure

Chinese undergraduates face considerable academic pressure, stemming primarily from frequent exams and a competitive environment for further education or employment. On one hand, many undergraduate programs feature tightly packed course schedules with frequent assignments and exams, requiring students to invest a great deal of time in mastering course material to maintain a high GPA. On the other hand, many students also prepare for graduate entrance exams or civil service examinations, meaning that the culture of exam-driven study continues well into university. This intense exam pressure leads a sizeable proportion of students to experience tension and anxiety. Research has shown that frequent exams and a performance-oriented academic environment in Chinese universities significantly contribute to increased psychological stress and anxiety among undergraduates [5]. Although entering university generally alleviates some of the pressures associated with high school, students still compete for higher class rankings and scholarships to gain an advantage in future employment, thereby increasing academic stress.

In the United States, academic pressure arises from sustained study demands and self-imposed standards rather than from a single all-important test. Undergraduate students typically have to complete extensive reading, essays, quizzes, and group projects throughout the term; grades often factor in both continuous assessment and final exams, lessening the burden of "one exam deciding everything." However, this continuous evaluation model requires strong self-discipline and consistent effort, which can become another source of stress. Students aiming for graduate studies often need to engage in research, publish papers, or maintain a high GPA during their undergraduate years to gain admission into competitive programs. At the graduate level--particularly in doctoral programs--American students face significant research pressure, as they are required to conduct independent research and publish high-quality papers to graduate and secure an academic position. The "Publish or Perish" culture creates an ongoing sense of competition for both graduate students and early-career scholars.

Excessive academic pressure can affect students' mental health and their satisfaction with learning. In China, the high-stakes exam environment often leads to anxiety, and some students may experience burnout or psychological burdens during their college years [6]. At the same time, this high-pressure setting also fosters resilience and adeptness at taking exams, with successful outcomes frequently offering a significant sense of accomplishment. In the United States, because stress is spread out over the semester, students can gradually adapt to the academic rhythm and tend to develop stronger self-management skills; however, those

who lack self-discipline may feel overwhelmed by ongoing deadlines. For doctoral candidates and those at advanced levels, research demands can lead to setbacks and psychological strain, yet also drive creativity and the pursuit of new knowledge. Overall, moderate academic pressure can unlock students' potential, but excessive stress warrants attention. In response, many universities now prioritize mental health support for students.

2.4 Employment orientation

Chinese higher education is closely tied to employment but is marked by intense competition. In recent years, the number of college graduates has repeatedly hit record highs: in 2023, approximately 10.75 million students graduated nationwide, and this figure is projected to reach 11.79 million in 2024 [7]. An oversupply in the job market makes educational credentials a crucial screening criterion for employers, and graduates from elite universities enjoy a distinct advantage. Meanwhile, the government exerts a strong influence on recruitment and employment policies, such as promoting grassroots employment for new graduates and introducing targeted hiring in state-owned enterprises and public institutions. Consequently, many students view civil service or state-owned company positions as ideal career paths. On the whole, Chinese students tend to place strong emphasis on academic qualifications and job security, often seeking to improve their employability by pursuing further education or acquiring additional certifications.

By contrast, U.S. higher education places greater emphasis on practical workplace skills, with personal abilities and experience playing a central role in employability. From their undergraduate years, students focus on internships and community engagement--over 60% of American college graduates complete at least one internship during their studies [8]. Companies value candidates' tangible skills, project experience, and soft skills, and university career services and recruitment fairs are common. Compared with China, the U.S. government takes a more hands-off approach, allowing the market to guide job placement. Students choose career paths based on individual interests and market prospects. U.S. culture also encourages individuals to chart their career trajectories, including entrepreneurship or switching fields, resulting in more diverse options for graduates.

Against the backdrop of globalization, the labor supply is undergoing profound changes. Technological advances and deeper cross-border collaboration have led companies to adopt outsourcing and offshore production to reduce costs, causing job opportunities to shift across national borders. Meanwhile, trends like increased immigration and remote work are making the global labor force more diverse than ever. This development influences employers' talent requirements and selection criteria, while also requiring students to acquire cross-cultural communication skills, digital competencies, and an international perspective to meet the varied demands of a globalized job market. Moreover, wage gaps and labor rights issues arising from changes in global labor supply encourage education systems to focus on preparing students to adapt to an evolving employment landscape and to compete internationally [9].

Divergent employment orientations lead to distinct career development paths for students in each country. In China, new graduates often face greater pressure in the job market, with phenomena such as "slow employment" and "relying on parents" becoming more common, and an advanced degree no longer guaranteeing ideal job prospects. Many students opt to pursue a master's degree as a way to delay entering the job market or to gain a competitive edge [7]. In the United States, undergraduates tend to clarify their career goals early, acquiring connections and experience through internships. By the time they graduate, many already have job offers or a clear plan for future development [3]. Once employed, U.S. graduates

generally prioritize personal capabilities and career interests, whereas their Chinese counterparts often focus on job security and public recognition. In an increasingly global job market, Chinese students are recognizing the importance of practical experience and are increasingly using summer or winter breaks to secure internships or engage in entrepreneurial projects, thereby strengthening their résumés and expanding their career options.

3 Analysis of the Causes behind the Differences in Chinese and American Higher Education

3.1 Policy and institutional factors

Differences in government administrative models and education systems represent a major reason for the divergent paths of Chinese and American higher education. In China, a centralized system places the Ministry of Education in charge of unified admission exams (such as the National College Entrance Examination), program offerings, and curricular standards; as a result, universities across the country generally move in step with one another at the macro level. The government invests heavily in higher education, implementing projects such as the "211 Project," the "985 Project," and the "Double First-Class" initiative to upgrade institutional infrastructure and research capacities. This centralized system has enabled China to rapidly expand the scale of higher education and increase enrollment rates, albeit with some degree of top-down administrative influence.

By contrast, the U.S. higher education system is highly decentralized. While the federal and state governments primarily exert influence by providing funding (e.g., research grants and student loans) and broader policy guidance, individual institutions largely manage their affairs. The United States boasts a diverse range of higher education institutions, including community colleges, liberal arts colleges, and research universities, offering highly flexible curricula and training programs. Whereas China can more easily implement nationwide education policies in a uniform manner, the U.S. approach promotes inter-institutional competition and diverse experimentation. Both systems exhibit their strengths and weaknesses.

3.2 Socio-cultural factors

Chinese education, shaped by centuries of Confucian influence, emphasizes collectivism and respect for order, often treating the class as a single unit and prioritizing group over individual needs. Traditional sayings like "All pursuits are lowly; only studying is exalted" highlight the premium placed on academic success, fostering diligence and discipline. In contrast, American education, influenced by immigration and rooted in individualism and pluralism, encourages personal initiative, creativity, and open self-expression. While this flexibility may appear lacking in discipline from a Chinese perspective, the two countries' differing views on "success"--collective achievement vs. personal fulfillment--significantly shape their educational goals [2].

3.3 Economic factors

Economic development levels and structures also shape priorities in higher education. First, household financial circumstances affect educational opportunities and associated pressures. China moved toward the massification of higher education while still at a lower per capita income stage. Many families invested significant resources to support a child's university

education, anticipating substantial returns from earning a degree. With public university tuition relatively low (thanks to government subsidies), Chinese students' main financial pressure tends to be the competitive job market after graduation rather than high tuition fees. However, as graduate programs and overseas study have become increasingly common, family finances now more substantially influence access to higher-level educational opportunities.

In the United States, a high-income nation, the burden of higher education costs generally falls on individuals and families. With expensive tuition and prevalent student loans, undergraduates are highly attuned to the professional outlook and salary prospects of a given major [10]. American universities also raise funds through market-driven channels, such as alumni donations and private foundations, which can lead to resource disparities among institutions. Overall, in China's case, economic factors prompt students to focus on the competitive "input" side of earning academic credentials, whereas in the U.S., economic considerations emphasize balancing the "output" of education--employment and earnings potential--with the personal investment required.

3.4 Technological development and market demand

Industrial structures and advancements at the technological frontier directly influence the talent cultivation strategies of higher education. China's rapid industrialization and technological progress in recent decades have prompted the government to guide universities in establishing relevant disciplines that support national development priorities. For example, policies call for the nurturing of "emerging engineering" talent to advance fields like artificial intelligence and robotics [7]. The "Double First-Class" initiative represents a landmark reform in China's higher education system, directly linking national economic priorities with discipline construction, especially in areas like artificial intelligence and new engineering disciplines [11].

However, as the economy develops so rapidly, traditional majors create an oversupply of graduates while emerging industries experience shortages, which poses challenges to institutions to keep academic offerings in alignment with new market demands. As a technological leader, the United States is market-driven towards education. Silicon Valley high-tech clusters mingle with leading institutions and shape curricula in computer science and engineering, affecting both capacities for enrollment and the kinds of courses offered, adhering to the needs of industry. The rapid response of the American institutions highlights labor market trends. Fields such as data science and cybersecurity just came into being after the government strategy propelled others. Countries differ in their philosophy on economic development. From the observations, China, to a great extent, relies on government strategy to direct the development of academia; whereas, in the case of the United States, the development of the education system depends more on the market response. These two systems eventually lead to different alignments between major and career options: In China, students highly prefer fields dictated by national initiatives, while major selection in the United States is dominated by job expectations.

4 Implications for and Recommendations on China's Higher Education

4.1 Drawing on international experience for multi-path innovative development

In the first place, fostering independent learning and critical thinking represents a central tenet of many world-class universities, including those in the United States, the United Kingdom, and other advanced educational systems. Research indicates that heuristic and discussion-based methods--such as seminar-style courses and open-ended projects--can effectively enhance student initiative and creativity [2]. China can adapt these approaches in a manner aligned with its context, encouraging deeper inquiry, reflective thinking, and a spirit of innovation.

In the second place, strengthening practical instruction and developing robust university-industry collaborations is a widely observed global trend. Many institutions abroad emphasize internship opportunities and project-based courses, which help students gain real-world experience and improve their employability [8]. In the USA and Western Europe, curriculum redesign increasingly incorporates internships and project-based learning to ensure students graduate with skills aligned to industrial innovation and employment readiness [12]. By expanding practice-oriented curricula, establishing partnerships with industry, and allowing students to earn academic credits through internships, Chinese universities can open multiple pathways for innovation and professional development.

In the third place, adopting diverse evaluation methods is broadly recognized as a key aspect of modern educational reform. A comprehensive assessment system--in which assignments, presentations, and project performance hold considerable weight--can complement written examinations [3]. China, in line with global best practices, can enhance its evaluation model by valuing class participation, research innovation, and community service. Such a balanced approach promotes holistic student development and aligns with the overarching goal of fostering multifaceted skills for future challenges.

4.2 Leveraging the advantages of Chinese higher education

In the first place, Chinese students often excel in foundational subjects, particularly mathematics and science, as evidenced by consistently high performance in international assessments [10]. This strong grounding in core theories and skills provides a vital basis for advanced learning, enabling students to build resilience and pursue more complex academic pathways. By preserving these rigorous standards, universities can nurture students' capacity for deeper inquiry and foster innovative research across diverse fields.

At the same time, the country's robust education system benefits from comprehensive national planning and sustained government investment, creating a far-reaching institutional framework. This steady support not only improves infrastructure and broadens access but also allows universities to develop cutting-edge research programs. Such an environment empowers individuals to refine their talents, explore specialized interests, and engage with front-line academic endeavors, thus promoting self-development alongside institutional advancement.

Finally, China's cultural emphasis on cooperation underlines the potential for large-scale research and interdisciplinary synergy. Chinese students' approach to collaborative learning is deeply influenced by collectivist cultural values, which foster cohesion, interdependence, and group accountability within academic teams [13]. By encouraging joint mentoring, cross-departmental partnerships, and collaborative projects, universities can amplify the strengths of teamwork while still prioritizing each student's personal growth. In doing so, higher education institutions help students cultivate critical thinking, leadership, and problem-solving

skills--attributes that position them to excel in both global and local contexts.

4.3 Integrating Chinese and American strengths to refine China's educational model

In the era of globalization, Chinese universities should prioritize international cooperation by expanding exchange programs and establishing collaborative projects with renowned global institutions. This approach not only fosters cross-cultural academic partnerships but also enables the sharing of best practices in teaching and research. By engaging in joint research initiatives, faculty exchanges, and collaborative curriculum development, China's higher education can integrate global innovations while reinforcing its unique educational strengths.

5 Conclusion

There are clear differences between how China and the United States approach higher education. These differences include their teaching styles, academic expectations, and job preparation. The Chinese educational system achieves uniform cognition and a well-disciplined foundation, while the United States advocates for creativity, innovation, leadership, and concrete skill-setting. The positive aspects of both systems are that the Chinese system concentrates on profound knowledge and hard work, while the American system emphasizes that students should think independently and be creative. As competition emerges on a global scale amongst talents, the need for human capital that is in the upper tier becomes more important. While China remains competitive, it should further its educational development by incorporating both traditional strengths and modern ideas. Having an equilibrium of these practices would lay a proper foundation for China's higher education system to move forward and continue prospering.

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