

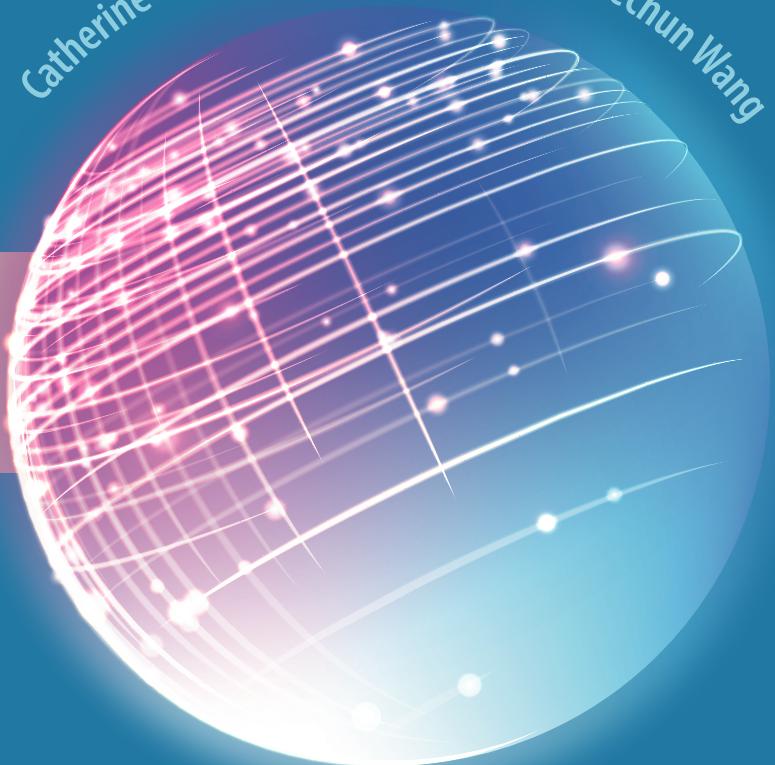
REPORT  
2025

# Global Higher Education Knowledge Production

## Indicators, Dynamics, and Implications

*Catherine Yuan Gao, Xiu Liu, Kexin Yu, Xuechun Wang*

Executive  
Summary



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# Global Higher Education Knowledge Production: Indicators, Dynamics, and Implications

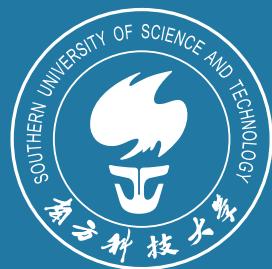
REPORT 2025

Executive Summary





The International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI) is a category 2 centre jointly established by UNESCO and the Shenzhen Municipal People's Government of the People's Republic of China. Leveraging the advantages of Shenzhen's digital technology industry, UNESCO-ICHEI addresses the digital transformation needs of developing countries by fostering innovation in higher education institutions through digital and AI competency of the higher education workforce. UNESCO-ICHEI works closely around the UN's Sustainable Development Goal 4 (Education 2030).



Southern University of Science and Technology (SUSTech) is an innovation-oriented public university founded by Shenzhen government in the background of China's higher education reform. It aspires to be a model and pioneer for promoting higher education reform. It is committed to serving the mission of promoting Shenzhen as a modern, international, and innovative city and China as a creative country. SUSTech is widely regarded as a trailblazer and innovator in advancing China's higher education. It was officially approved by the Ministry of Education in April 2012.



The Center for Higher Education Research (CHER) of Southern University of Science and Technology is a teaching and research institute founded in June 2015. Since May 2018, CHER has been affiliated to the newly established School of Humanities and Social Sciences. The research areas of academics at CHER include higher education policies and governance, the modern university system and university reform, the internationalisation of higher education, the development of higher education and regional development, ICT-supported learning and teaching in higher education.



The X&Y Research Team is jointly led by Principal Investigators Catherine Yuan Gao and Xu Liu. The team comprises two visiting professors, one postdoctoral researcher, one senior data consultant, two data technicians, and seven visiting doctoral researchers from leading global institutions, including the University of Oxford, the University of Hong Kong, the Chinese University of Hong Kong, the University of Illinois, the University of Maryland, and Xiamen University. The team's research agenda spans natural language processing and knowledge production in higher education, higher education and social transformation, innovative talent development, and the advancement of higher education in the GBA area.

# Executive Summary

This report maps the evolution of global higher education research from 1991 to 2024, examining how knowledge about higher education is produced, circulated and governed across global, regional and national scales. It traces who contributes to the field, where research is generated, the venues through which it is disseminated, the thematic directions it prioritises, and how collaboration networks have shifted during a period of profound transformation in the global higher education landscape. These patterns are situated within wider developments, including the massification of higher education, technological and demographic change, intensifying global interdependence, and shifts in national policy frameworks.

Higher education systems worldwide have moved from elite to high-participation models, shaped by intersecting global and local forces. Globalisation, regional integration, competition, and performance measurement have altered the governance of universities and academic work, while nation-states continue to exert decisive influence through funding systems, regulation, migration policy, and research priorities. Understanding these dynamics requires a global perspective that views the global, national and local as interconnected rather than hierarchical. Within this context, higher education research has rapidly expanded and become more institutionalised, supported by an increasing

number of journals, conferences, research centres and postgraduate training pathways. Yet this field remains embedded in an uneven global science system dominated by English-language publishing, which shapes the visibility of scholarship from the Global South and from non-English national contexts.

Existing attempts to map the field have provided valuable insights but are often limited in scope, scale or methodological breadth. This Global Higher Education Knowledge Production Report 2025 addresses these limitations through large-scale, multi-scalar datasets and systematic data-driven analysis. The report offers an integrated empirical account of how higher education knowledge is produced and organised globally, how regional and national systems differ, and what these patterns imply for the future development of the field.

The analysis is grounded in purpose-built datasets drawn from major indexing platforms. The global dataset comprises 213,492 English-language higher education articles indexed in Web of Science (WoS) between 1991 and 2024. At the regional level, this corpus is divided into a Global South dataset of 21,616 publications (8,546 from Africa; 5,819 from South America; 7,510 from Southeast Asia) and a Global North dataset of 147,808 publications, allocated by author affiliation. At the national level, the report

examines the United States (82,473 publications), the United Kingdom (22,336) and Mainland China<sup>1</sup> (7,653 English-language WoS articles). To address the Anglophone bias of international indexing, the report incorporates a further 99,975 Chinese-language higher education articles from CNKI core journals (1992–2024), constructed using aligned conceptual criteria and strict quality filters.

Analytically, the report integrates bibliometrics with Structural Topic Modelling (STM) to capture structural patterns and semantic evolution within the field. Bibliometric methods trace publication trends; identify active scholars; map collaboration through co-authorship networks; and locate centres of knowledge production and dissemination using institutional affiliation data and Named Entity Recognition. STM is applied to WoS abstracts to generate a 55-topic global model, selected through rigorous diagnostics and qualitative assessment, and a 41-topic model for the CNKI corpus. The resulting thematic structures are linked to regional and national metadata to compare topic prevalence, cluster related themes and track long-term trajectories. Python is used for large-scale data processing, while R supports STM, clustering and temporal analyses, ensuring both computational efficiency and methodological rigour.

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<sup>1</sup>For statistical purposes, this report uses "Mainland China" to refer to the mainland of the People's Republic of China, excluding the Hong Kong Special Administrative Region (Hong Kong SAR), the Macao Special Administrative Region (Macao SAR), and the Taiwan region of China.

# Global Landscape of Higher Education Knowledge Production

## Finding 1. Global higher education research has expanded rapidly but remains highly uneven in volume and participation

Over the past three decades, higher education research has expanded from a relatively small, specialist domain into a sizeable and increasingly coherent global field. Between 1991 and 2024, 213,492 higher education articles were published in WoS, rising from 297 papers in 1991 to 21,597 in 2024. This growth is concentrated in three phases: a modest build-up to 2004, rapid globalisation from 2005–2014, and large-scale consolidation after 2015. Over time, the number of participating countries increased from 96 (Phase I) to 159 (Phase II) and 192 by 2024, indicating the emergence of a genuinely global research space. Yet production remains highly skewed. The United States alone accounts for more than one third of all publications, and among the top ten producing countries only Mainland China, Taiwan, China and South Africa are from the Global South. The expansion of participating systems has therefore diversified the map of contributors without eliminating the dominance of a small group of Global North countries.

## Finding 2. A small “critical mass” of scholars underpins global output, while a large, interdisciplinary “hidden mass” sustains breadth

The 213,492 papers were authored by 407,716 individuals. Only 8,319 of them (2%) meet the report’s definition of “active agents” (at least five papers within any rolling five-year window), yet they co-produce over one third of all publications. This group of scholars form the critical mass of the field. Most of these scholars are clustered in anglophone and established research systems, with the number of active agents rising from 158 in 22 countries in Phase I to 7,813 in 112 countries in Phase III. By contrast, the “hidden mass” of 399,397 authors (97.96%) contributes two-thirds of total output, but usually only once or twice and often from other disciplinary strands (notably medicine, science, engineering and broad education). This structure supports both disciplinary consolidation and high interdisciplinarity: a small, coherent core sets agendas and methods, while a much larger, dispersed group channels perspectives and techniques from multiple fields into higher education research. It also reflects that higher education research is moving towards Mode 2 knowledge production.

### **Finding 3. Institutional centres of higher education research have multiplied and diversified**

At the institutional level, the number of universities contributing to global higher education research has grown markedly, from just over 1,200 in the early phase to more than 5,000 in Phase III. Within this expanding universe, a relatively small group of universities functions as major knowledge production centres. The top 50 institutions, initially dominated by universities in the United States and the United Kingdom, now include growing numbers of universities in Australia and, more recently, entrants from Mainland China and South Africa. Nineteen universities appear in the top-50 list across all three phases, indicating that once a strong research infrastructure and tradition are established, institutional influence in the field tends to be durable.

### **Finding 4. Knowledge dissemination is concentrated in a limited set of English-language, often interdisciplinary journals**

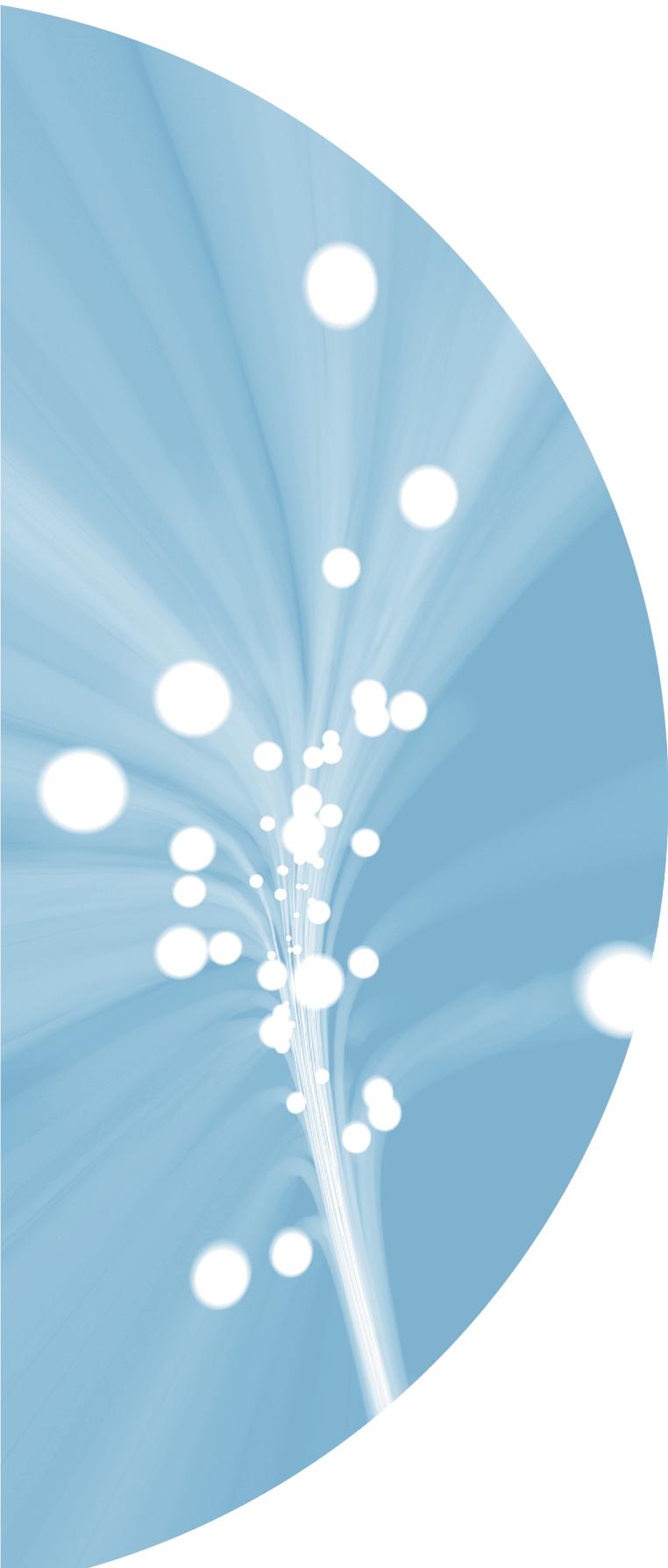
Higher education research is disseminated through more than 1,000 journals worldwide, yet publication is heavily concentrated in a smaller group of “key venues”. Just over 250 journals publish more than 100 papers in any five-year period and together account for nearly 70 per cent of all indexed outputs. These venues are overwhelmingly English-language and include substantial numbers of journals in medical, health, science and engineering education, reinforcing the field’s interdisciplinary character. Their publishers are concentrated in a few dozen countries, with the United Kingdom now surpassing the United States as the leading base for key journals. At the same time, there is a growing but still under-recognised layer of national and regional journals publishing in local languages, whose contributions remain only partially visible in global databases.

## Finding 5. Collaboration has intensified, but is still dominated by domestic and regional ties and structured by Global North hubs

Co-authorship is now the norm in higher education research, but team sizes remain relatively small (typically one to three authors, with papers above six authors rare). Single-authored papers have declined from over one third of output in the late 1990s to roughly half that share by 2024, indicating a shift toward collaborative inquiry while retaining space for individual scholarship. Domestic co-authorship remains the dominant mode of collaboration, accounting for the majority of jointly authored papers, while international and cross-regional partnerships have grown but still constitute a minority. Regional analysis shows that North America and Western/Northern/Southern Europe (WNSE) function as principal global hubs, with Oceania acting as a bridge between Asia and the Anglophone world. The most frequent partnerships occur among English-speaking countries, and some regions—such as South America, parts of Sub-Saharan Africa and the EECA region—remain weakly connected to the wider network. These patterns highlight the continued importance of geography, language, historical ties and regional frameworks in structuring collaboration opportunities.

## Finding 6. Thematic agendas are broad, interdisciplinary and shaped by powerful national traditions

Using STM, the report identifies 55 distinct research topics at the global scale, spanning student experience, teaching and learning, economics and policy, governance, equity and inclusion, professional and clinical education, language and literacy, and research methods. The largest topics focus on bridging learning, practice and research, and on theories and discourse, indicating that the field remains anchored in both practice-oriented inquiry and conceptually rich debate. A strong presence of topics in medical, health, science and engineering education reflects the contribution of scholars based in these disciplines and the historical influence of the U.S. research traditions, given that the United States accounts for a substantial share of global publications. Overall, the thematic structure confirms higher education's status as a highly interdisciplinary field whose agendas are unevenly shaped by dominant national and sectoral priorities.



## Finding 7. Research priorities are shifting towards digitalisation, wellbeing and practice-oriented, data-driven inquiry

The evolution of topic prevalence since the mid-2000s reveals a clear reorientation of the field. Topics related to digital and online learning, student mental health and wellbeing, identity and belonging, sustainability, internationalisation and entrepreneurial education show sustained growth, while more traditional policy, assessment and structural themes have declined. Methodologically, quantitative and experimental approaches—especially statistical analysis and simulation-based medical skills training—are expanding, alongside stable use of scale development and bibliometric methods. Qualitative and interpretive approaches remain widely used but are less often the central focus of publications. Taken together, these trends point to a field that is increasingly empirical and data-driven, more attentive to student experience and global challenges, and oriented towards applied knowledge that can inform educational practice and reform.

# The Global South Higher Education Research Space

## Finding 8. Global South participation remains limited but increasingly shapes its own agendas

Across three decades, countries in the Global South have produced only about one-tenth of all WoS-indexed higher education articles, and less than 3 per cent of Southern authors (608 in total) form a sustained “critical mass” of active scholars, underscoring the persistence of structural under-representation. Collaboration patterns are strongly asymmetric: a sizeable share of Southern outputs involve Northern partners, while only a small fraction of Northern publications include Southern collaborators. Yet almost all key global journals publish work from the Global South, and topic analysis shows both convergence with Global North priorities and distinct emphases on quality assurance, entrepreneurial education and quantitative methods. These patterns suggest that, while embedded in unequal structures, Global South scholars are gradually reshaping what counts as relevant and legitimate knowledge and moving towards greater epistemic autonomy.

## Finding 9. Southeast Asian higher education research is rapidly expanding and strongly developmentalist

Southeast Asia has moved from producing only a handful of papers per year in the 1990s to more than 1,200 annually by the mid-2020s, accounting for around 3.5 per cent of global higher education output. This growth is driven by policy agendas centred on modernisation, “world-class” universities and research capacity building, with Malaysia, Indonesia and Singapore leading regional contributions. A relatively small but significant critical mass of active scholars (297) is heavily concentrated in a few flagship universities and combines strong roots in education with above-average representation from engineering and economics backgrounds. The region’s agenda is distinctly applied and developmentalist, prioritising entrepreneurial education, quality assurance, EFL education, quantitative methods and digital transformation, and aligning higher education closely with economic development and employability goals.

### **Finding 10. Latin America couples regional publishing infrastructures with a critically reflexive research agenda**

Latin America contributes less than 3 per cent of WoS-indexed higher education publications, but this significantly underestimates its real output because much of its scholarship circulates through Spanish- and Portuguese-language journals in platforms such as SciELO and Redalyc. Within WoS, a small critical mass of active scholars (102) is concentrated in a limited number of universities, yet regional and multilingual journals managed from Brazil, Cuba and Colombia occupy a prominent position as key dissemination venues. The region's research agenda is the most sociologically and theoretically oriented among the Global South cases, marked by strong engagement with historical and bibliometric reflection, socially grounded professional formation, regionally rooted theorisation and robust disciplinary traditions in STEM education. This combination of regional infrastructures, dual publication strategies and epistemically self-conscious themes expresses a deliberate project of epistemic autonomy rather than simple incorporation into Northern paradigms.

### **Finding 11. African higher education research centres decolonisation amid highly uneven internal capacities**

Africa accounts for the largest WoS-indexed higher education output among the three Global South regions, but this production is heavily concentrated in South Africa, which dominates publication volume, institutional contributions and the pool of active scholars (215). African authors publish in a wide range of international journals, yet the leading WoS-indexed venues are overwhelmingly South African, and scholarship from Francophone and Lusophone systems remains largely invisible in global indexes. The region's research agenda is distinguished by the centrality of decolonisation, alongside strong engagement with theory, bridging learning and practice, system-building topics such as quality assurance and academic integrity, and a substantial combined focus on health professions education. Together these emphases reflect an agenda that links epistemological critique with efforts to align universities more closely to societal needs under conditions of historical marginalisation and resource constraint.

## Finding 12. Diverse regional trajectories in the Global South challenge simple centre–periphery models

A comparative view of Southeast Asia, Latin America and Africa shows that the Global South cannot be understood as a single, homogeneous periphery. The regions differ in publication volume and internal concentration, disciplinary profiles, venue strategies and thematic priorities: Southeast Asia pursues applied, quantitatively oriented and entrepreneurship-focused agendas; Latin America foregrounds reflexive, theoretically rich and regionally grounded scholarship; and Africa combines decolonial critique with strategic engagement in health and system-development topics. All three confront similar structural constraints—limited resources, linguistic hierarchies and under-representation in major indexes—but respond in distinct ways that reflect their histories and policy environments. These differentiated trajectories point towards a glonacal ecology of knowledge in which multiple regional knowledge spaces negotiate with, rather than simply mirror, Northern-dominated global science.



# National Higher Education Research Spaces

## Finding 13. The United States leads global higher education research through scale and public research universities, but remains strongly domestically oriented

The United States is the largest producer of higher education research, contributing 82,473 WoS-indexed publications between 1991 and 2024 and close to two-fifths of global output across the period. This position is underpinned by a dense ecosystem of large public research universities (R1 “very high research activity” institutions) that supply the bulk of scholarly labour, research infrastructure and doctoral training. Although co-authorship has risen sharply—with more than four-fifths of recent papers jointly authored—collaboration patterns remain predominantly domestic, and international co-authorship, while growing, still forms a minority of activity. The thematic agenda centres on pedagogy and student experience, with rising attention to psychology, digital learning and diversity, equity and inclusion, and a gradual shift from purely quantitative, measurement-driven approaches towards more qualitative and interpretive methodologies.

## Finding 14. The United Kingdom converts a smaller research base into outsized discursive power via editorial gatekeeping and international collaboration

The United Kingdom produces roughly a quarter of U.S. higher education publication volume (22,336 WoS-indexed papers over 1991–2024), yet it consistently ranks as the second-largest national contributor and, more importantly, the leading global hub of knowledge dissemination. Hosting just over 40 per cent of key higher education journals, the U.K. wields substantial editorial and discursive influence that far exceeds its size. Its research system is shaped by a centralised, evaluation-driven funding regime (dual-support and the REF), which reinforces alignment with international journal conventions and encourages extensive cross-border collaboration. By 2024, international co-authorship in U.K. higher education research had grown to nearly half of all outputs, with strong links to the U.S., Europe and Commonwealth partners. The thematic profile mirrors the U.S. focus on pedagogy and student experience but gives comparatively greater prominence to academic integrity and policy/economics of higher education, underpinned by strong behavioural and social science funding.

### **Finding 15. Mainland China's participation in global higher education research space is rapidly expanding, highly collaborative and strongly practice- and technology-oriented**

In the global (WoS) arena, Mainland China has moved from a marginal presence to a significant producer of higher education research, with its world share rising from about 0.3 per cent in the early 1990s to nearly 5 per cent in 2015–2024. Publication output has grown especially quickly since the mid-2000s, supported by substantial R&D investment and expanding university research capacity. Chinese higher education researchers display a propensity for collaboration, with around 84 per cent of outputs co-authored and domestic and international partnerships both playing major roles, though domestic collaboration has become increasingly prominent in recent years. Internationally, Mainland China is tightly connected to established Anglophone producers (the United States, United Kingdom, Australia) and to neighbouring systems such as Malaysia and Singapore. The thematic agenda in this global space centres on micro-level, practice-oriented topics. These include classroom instruction, entrepreneurial education, student professional preparation, English-language learning, and internationalisation. Work on digital and online learning is also growing rapidly. Together, these patterns show strong national priorities in technology and talent development. Theoretical and discourse-focused topics are comparatively less visible, pointing to a strong problem-solving ethos even when operating within international publication circuits.

### **Finding 16. Mainland China's national research space sustains a much larger, macro-oriented and policy-driven higher education knowledge system**

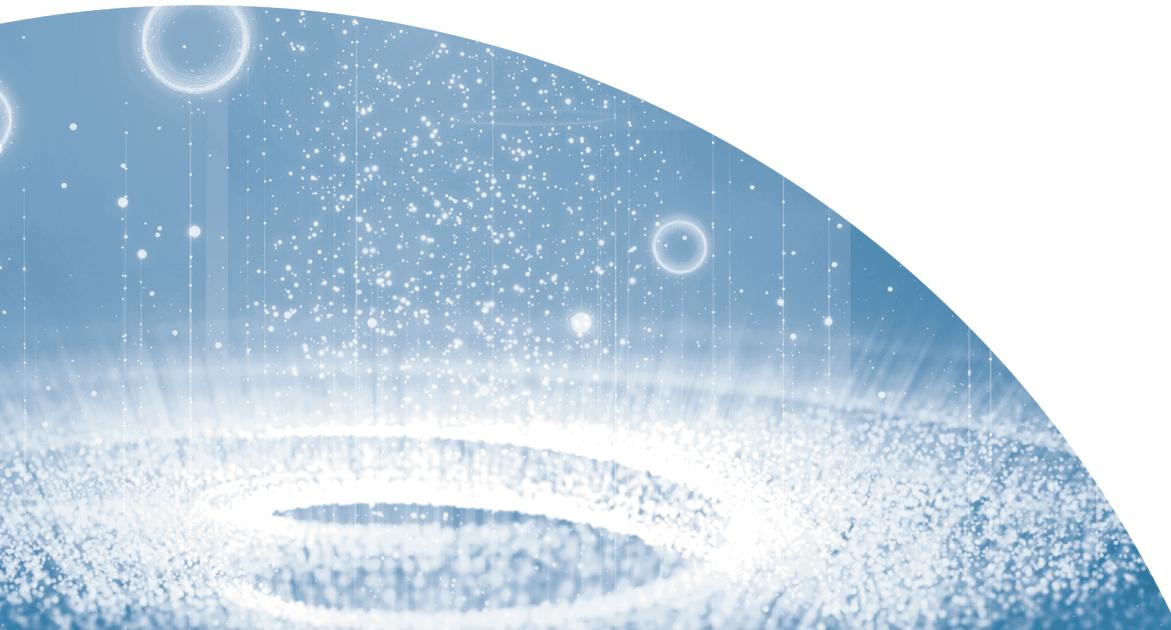
Within the national Chinese-language system captured by CNKI, higher education research is both larger in scale and differently configured than in WoS. Output expanded rapidly from the early 2000s before stabilising and declining slightly after the mid-2010s as core-journal criteria tightened, and the community of active researchers likewise grew quickly and then consolidated. Collaboration is overwhelmingly domestic and has increased to well over two-thirds of publications. The thematic profile focuses on macro-level issues such as nation-building, the history and ideas of universities, regional development, governance, legal frameworks and economic considerations. It also includes strong attention to problem-solving approaches. Together, these priorities show that higher education research is used mainly to support national development and institutional reform rather than to primarily pursue theoretical innovation.

This report presents the most comprehensive empirical mapping to date of global higher education knowledge production, tracing how the field has expanded over three decades from a marginal, nationally bounded activity into a substantial, institutionalised and internationally networked domain. By combining bibliometrics, STM and comparative case studies, it establishes a baseline infrastructure and conceptual lens for understanding how knowledge about higher education is generated, circulated and mobilised.

The report emphasises that higher education research is not neutral. It shapes how universities define their missions, how policymakers design reforms and how societies imagine the purposes of higher education. In doing so, it contributes to the formation of social order, influencing whether systems promote mobility or reinforce inequality, support democratic capacities or technocratic managerialism, and prioritise public goods or market competition.

Clear limitations remain. The reliance on the WoS database, dominated by Western and English-language publications, captures only part of global scholarship. Analysis of CNKI highlights the scale and richness of national-language research that remains invisible internationally, with similar gaps likely across many countries. The focus on journal articles also omits influential books, policy reports and practice-oriented outputs. Future work must draw on more diverse data sources, languages, platforms and document types to provide a fuller picture.

Looking ahead, the report calls for a more inclusive and interconnected global knowledge commons, supported by open science, multilingual dissemination, fairer collaboration regimes and stronger investment in local journals and data infrastructures. It identifies several emerging frontiers. These include AI-driven learning, digital ecosystems, geopolitics, demographic change and new credential systems. Each area will require new methods and new forms of collaboration. To monitor these developments, our team proposes a rolling five-year cycle of global reports complemented by thematic special studies, aiming to sustain a cumulative, comparative and reflexive knowledge base for navigating the complex transformations ahead.





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