

CIHE
Perspectives
No. 8

Liberal Arts & Sciences Innovation in China:

Six Recommendations to Shape the Future

Kara A. Godwin and Noah Pickus



The Boston College Center for
International Higher Education

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This series of studies focuses on aspects of research and analysis undertaken at or in partnership with the Boston College Center for International Higher Education.

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CIHE FOREWORD

It is my great pleasure to present this eighth issue of *CIHE Perspectives*, a series of studies focusing on aspects of research and analysis undertaken and coordinated by or in partnership with the Boston College Center for International Higher Education (CIHE). This issue is a cooperation between CIHE and Duke Kunshan University (DKU), a joint venture of Duke University and Wuhan University. It is written by Kara Godwin, CIHE Research Fellow, and Noah Pickus, Dean of Undergraduate Curricular Affairs and Faculty Development at Duke Kunshan University and Associate Provost at Duke University. This Perspective addresses the obstacles and oppor-

The purpose of *CIHE Perspectives* is to serve as a resource for policy and research, but also to stimulate debate and interaction on key issues in international and comparative higher education. The growing global interest in liberal education, particularly as it pertains to the world's largest higher education system in China, is one of those key issues. I want to thank Noah Pickus and Kara Godwin for their contribution, and Duke Kunshan University for the collaboration in this project.

Hans de Wit

*Director, Boston College Center for
International Higher Education*

November 2017

The purpose of *CIHE Perspectives* is to serve as a resource for policy and research, but also to stimulate debate and interaction on key issues in international and comparative higher education.

tunities for innovative liberal arts and sciences initiatives in China by providing six key recommendations for the future. It builds on a meeting from June 2017 when twenty-six university leaders and scholars met at DKU to assess the significant growth in new liberal arts and sciences practices that are emerging as key factors in China's educational landscape. An appendix also includes four framing papers from that meeting.

DUKE KUNSHAN UNIVERSITY FOREWORD

New technologies such as artificial intelligence and quantum computing are changing the economic landscape. Innovation is developing at an accelerated pace, and globalization continues to lower the hurdles to greater integration and collaboration. Yet, how much have our education models changed in response to these broader developments?

Duke Kunshan University is a joint venture of Duke University and Wuhan University in partnership with the city of Kunshan. It aims to prepare the next generation of global citizens who are willing and capable of taking on the most pressing challenges of the 21st century. It offers an interdisciplinary, integrated liberal arts and sciences curriculum that features problem-based and team-based learning and opportunities for students to craft individual pathways over time. It is a kind of education that confers a broad base of knowledge and fosters the ability to interrogate that knowledge. Most important, it enables students to apply that knowledge in order to create new kinds of jobs and shape new solutions to pressing social and economic problems.

Duke Kunshan University also seeks to serve as a platform for innovation in China, across Asia, and in the United States and Europe. We seek to inform the debates about and direction of higher education in China at a time of enormous change, opportunity, and risk. At the same time, we expect that the multiple experiments in liberal arts and sciences education in China will hold significant lessons for the design and delivery of education in the West and especially in the United States. In conjunction with a variety of Chinese and global education leaders, this report is the fruit of our larger aspiration and we invite your responses to it.

At Duke Kunshan University, we are especially grateful for the superb administrative support pro-

vided by Amy Shen, who managed a complicated set of logistics with grace and aplomb. Linda Zhang ably served as a rapporteur and provided important insights from a student's perspective. Sunny Zhang and Rebecca Liu provided excellent help in reviewing the Chinese version of this report. For financial support, we are indebted to the Henry Luce Foundation and especially to its president, Michael Gilligan, and vice-president, Sean Buffington, who helped conceive and shape this project. They have been unstinting in their support as the workshop took form. We appreciate as well the support given us by Richard Brodhead and Peter Lange, President and Provost of Duke University, respectively, at the time this project began. For joining us as a supporting partner to publish and distribute our report, we thank the Center for International Higher Education at Boston College. We also want to thank the paper writers and participants who helped to catalyze a series of vibrant discussions and exchanges throughout the gathering in Kunshan. Last, we are grateful to the leadership of Noah Pickus and Kara Godwin, who organized the workshop and produced this report, and to Carolyn Gerber, who edited it.

Denis Simon

Executive Vice Chancellor
Duke Kunshan University

EXECUTIVE SUMMARY

In the last decade, Mainland China and Hong Kong have witnessed significant growth in university programs and schools that emphasize the liberal arts and sciences. The liberal arts and sciences prepare lifelong learners with broad, integrated knowledge and a sense of social responsibility. These features draw on China's deep cultural and philosophical traditions and are crucial to achieving three important goals: fueling an innovation economy, shaping wise and caring citizens, and cultivating graduates with a sense of purpose and passion.

The growth in liberal arts and sciences programs has happened both within Chinese higher education and as part of new joint ventures between Chinese and Western universities. But the real opportunity for China in implementing these initiatives goes beyond reforming its own universities. If China can implement and expand these programs in innovative and culturally relevant ways, it will shape liberal arts and sciences education reform throughout the world.

There are, however, significant obstacles to reform within China. These obstacles include general confusion over the meaning of the liberal arts; doubts about its value and relevance; the low quality and limited reach of current offerings; a lack of qualified faculty; formal metrics and incentives that hamper educational innovation; bureaucratic resistance; difficulties in scaling programs; the need for new ways of teaching about Chinese, Western, and other cultures, traditions, and values; and the fact that Mainland Chinese institutions are still overseen by important political forces that are ambivalent about the virtues of liberal arts and sciences education for Chinese university students.

The liberal arts and sciences in China are thus at a pivotal moment. While we are not in a position to suggest political or ideological changes to the structures that govern Chinese universities, this re-

port makes six key recommendations to overcome obstacles and to realize the potential for the liberal arts and sciences in China:

- **Make General Education Matter:** In recent years, Chinese universities have reformed and expanded their general education offerings to enable students to study outside of their major. However, many of these courses are of low quality and are regarded by students as superfluous and by faculty as low status work. To develop broadly educated, creative thinkers, a relentless focus on improving the quality of these courses is necessary.
- **Invest in Interdisciplinary Integration:** Beyond general education, the future demands problem solving that can only be achieved through integrated, interdisciplinary habits of thinking. Several experimental colleges within Chinese universities as well as new joint ventures suggest the promise of this approach. At the present time, these programs are available only to a small number of students at elite institutions. To reach its potential as a global leader in liberal arts and sciences education, we recommend China nurture these ventures and develop more such experiments.
- **Focus on Faculty Incentives and Development:** In order to achieve liberal arts and sciences learning outcomes, a renewed approach to classroom teaching is required. We know from empirical research that learning by rote listening and memorization without interpretation or critical evaluation, still a common practice in Chinese universities, is inadequate for developing creative thinkers and critical problem-solvers. Mobilizing faculty to teach differently requires incentives for advancing teaching quality and training to help faculty improve.

- **Embrace Innovative Pedagogy:** A focus on pedagogy involves mobilizing faculty to decide together what they want graduates to be able to do and a shared commitment to achieving these outcomes. It further demands a broader, pedagogy-focused institutional culture that experiments with new approaches and that purposefully integrates co-curricular activities as a central site for learning about adaptability, problem-solving, and team work.
- **Scale Quality Programs:** LAS reform is only worth undertaking if it is developed with an intentional dedication to quality that is pervasive and incorporates continuous improvement. At the same time, China has a rare opportunity to scale crucial LAS innovations as it introduces those innovations, an opportunity not available in much of the West. Key factors in going to scale include leveraging new technology and developing new paradigms for quality teaching experiences, both of which require significant investment, extensive experimentation, and careful evaluation.
- **Study Multiple Traditions:** The liberal arts and sciences are not a one-size-fits-all prescription for educational reform. To succeed anywhere, reforms must be relevant both to localized and global conversations and conditions. This imperative offers important opportunities to advance a robust conversation between Chinese, Western, and other cultures, to acknowledge and explore their contributions, and to view them in the context of world-wide debates and dilemmas.

OVERVIEW

Introduction

In June, 2017, twenty-five university leaders and scholars met at Duke Kunshan University (DKU) in Jiangsu Province, China. Representing 20 different institutions, attendees came from leading universities in Mainland China as well as Singapore, Hong Kong, the US, and Canada. This group gathered in the city of Kunshan to assess the significant growth in new liberal arts and sciences (LAS) educational initiatives that are emerging as key factors in China's educational landscape. The focus of their discussion included programs at institutions like Peking, Tsinghua, and Fudan Universities, as well as Sino-foreign partnerships known as "joint ventures" (JVs) including DKU.

Participants sought to achieve three goals: to advance understanding about the progress in, obstacles to, and opportunities for the expansion of liberal arts and sciences education; to identify essential and innovative LAS practices; and to produce a collective statement to assist education leaders and policy makers with strategic LAS reforms going forward. Four background papers framed the discussion; this report draws on their contributions. As a reference for the reader, the papers are included in an appendix. The report is also available in Mandarin.

This Center for International Higher Education (CIHE) Perspectives report represents the collective voice of these Chinese and international education leaders involved in LAS reforms. Not every participant necessarily agrees with every detail in this report and participation does not signify endorsement. We do collectively affirm, however, that advancing the liberal arts and sciences is a crucial educational strategy that is uniquely suited to meet 21st century challenges in China.

In this report, *liberal arts and sciences* and *liberal arts education* are used interchangeably to mean a

broad, interdisciplinary curriculum and comprehensive higher education philosophy. A related but different element of the discussion, *general education*, refers to the set of courses required by many Chinese universities outside of a student's specialized focus of study. Indeed, in discussing education reform in China, different Mandarin terms—*tongshi*, *boya*, *suzhi*, and *quanren*—are often invoked. Since each term has a distinct meaning, we instead use the widely accepted English phrasing throughout this report.

Liberal arts educational reforms include the arts, humanities, and the sciences.

It is also important to note that what is commonly called "*liberal arts*" does not refer to humanities and the fine arts alone. It is a common misconception that the arts and humanities are an antithesis to STEM fields when in fact they are necessary compliments to achieve the economic and social goals of many national governments. Although the term liberal arts is broadly used in higher education practice, the essence of reforms in China and much of the world today conveys a comprehensive perspective that includes the humanities, arts, social sciences, and the sciences. Science is recognized as an equally essential component for developing adaptability and creativity as part of "whole student" education. Similarly, in the contemporary knowledge economy, skills traditionally associated with STEM graduates, such as quantitative literacy, are indispensable for professionals in the arts and humanities as well as effective contributors to civil society.

The Liberal Arts and Sciences in China

Liberal arts and sciences is a holistic philosophy, a comprehensive way of thinking about education's purpose, goals, and delivery. Its aim is to prepare lifelong learners with broad, integrated knowledge and a sense of social responsibility. It includes a general education component, common courses taken by all students or those required in a breadth of disciplines, but is not limited to only these courses. Instead of concentrating solely on teaching disciplinary content, LAS incorporates the intentional development of problem solving, intercultural, communication, and analytical skills. Graduates develop both qualitative and quantitative acumen, as well as what Gerard Postiglione, Ying Ma, and Alice Te's paper calls "a deep understanding of complex connections between issues of profound importance." Liberal arts and sciences education strives to prepare graduates to make wise contributions to technologically dynamic and culturally diverse societies.

Until recently, liberal arts education has been known as distinctively American. The U.S. is regularly regarded as liberal education's home owing both to its many prominent liberal arts colleges as well as the prevalence of general education requirements across the majority of U.S. public and private institutions. Yet the liberal arts and sciences is also under considerable pressure in the U.S. as critics question its value and purpose and contend that a more practical, career-oriented approach is needed.

Ironically, at the very moment that LAS education is criticized as lacking economic or social utility in the U.S., it is increasingly embraced in China (and throughout Asia, as well as other parts of the world) as crucial to achieving three important goals:

- **An Innovation Economy:** Globalization, rapidly changing technology, and the evolution of the knowledge economy require fresh thinking that is the hallmark of a liberal arts and sciences education. As technological advances make many jobs obsolete, success will be defined by those who can adapt to quickly changing markets and

learn new skills throughout their careers. In a future with unscripted, difficult-to-predict problems, more important than what one learns will be an understanding for *how* one learns, which is the central focus of a liberal arts and sciences education. Ingenuity and inventiveness will be essential in a knowledge economy. Qiang Zha's paper underscores how collaboration, social and economic entrepreneurialism, cultural intelligence, persistence, and creativity are crucial attributes of university graduates and the 21st century workforce. Yong Zhao's paper describes these as human characteristics that cannot be fulfilled by smart machines. They are the heart of liberal arts philosophy and pedagogy. So, too, China's progress will depend on creative solutions to vital social challenges. Complex national and global problems like environmental sustainability, public health, social inequality, and natural disasters require innovative, integrated solutions that span multiple fields of knowledge and draw on habits of free inquiry and creative expression.

In a future with unscripted
difficult-to-predict problems,
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learns.

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- **A Social Compact:** Economic innovation and a new-found focus on material success in China also mean that the educational system has an important role to play in shaping citizens capable of making wise judgments and caring for those least protected in society. There is growing concern about a moral vacuum in Chinese society, an imbalance that tilts toward individuals focused on

their own success with general disregard for the wellbeing of others. With 75% of Chinese secondary school leavers now considering some type of tertiary training, a growing cross-section of the population thus has the potential to influence economic and social conditions. To develop a social compact, it is imperative that graduates develop a strong sense of compassion, empathy, and tolerance, as well as a moral compass that will enable them to guide communities and institutions wisely – traits that can be cultivated by a truly liberal arts education. At the same time, China realizes that increased global mobility and transnational collaborations call for a citizenry and workforce that can interact effectively with people from a variety of cultures. The vantage of graduates must be at once local, national, and global, a complex dialectic for which a liberal arts education is the best preparation.

- **A Purposeful Life:** Amidst economic, technological, and social change, there is unease in China about individual rootlessness or aimlessness, of having “lost one’s way” or one’s purpose. To optimize their individual learning, students anywhere need time to explore a variety of fields before deciding on a career. In order to prepare graduates for lifelong learning, Zhao highlights how a liberal arts and sciences education cultivates an environment focused on personal passions, interests, and strengths. Passions and interests are critical for intrinsic motivation, which can precipitate long lasting and self-sustained learning. They cannot, however, be externally assigned or personally identified without time for exploration and reflection. A personalized university education contributes to self-actualization that helps graduates maintain critical perspectives about their work and their role in society.

A Pivotal Moment

Many of the attributes of a liberal arts and sciences education are not new ideas in China. As the world’s oldest continuous civilization, China has deep literary and philosophical traditions which focus on character development in addition to mastering knowledge content. The ancient Chinese “Six Arts,” study of the Analects, and Confucianism long defined the education of civic leaders who were steeped in humanism. These traditions align well with the holistic goals of a liberal arts education. They emphasize self-reflection and promote personal exploration rather than passive learning. They highlight the crucial role of faculty mentoring, exploration of a wide-range of ideas, and teachers who ensure students are motivated in their studies and engaged in a process of self-discovery. From the late Qing and early Republican periods, William Kirby observes in his paper, there was a “complex and often contradictory challenge to bring global knowledge and international standards of higher education

to China while serving the state and nation.” Leading universities expanded their attention to the arts and humanities even as they wrestled with a core tension between unrestricted academic research and bounded classroom teaching.

Yet the vast majority of Chinese higher education today remains highly utilitarian. In modern China, early forms of humanistic education transitioned to a focus on engineering and science, which significantly limited development of a liberal arts educational philosophy. Throughout the Nationalist and Communist periods, Soviet influence underpinned the creation of the PRC education system with a sentiment that a new nation could be forged by turning scientific expertise to ambitious engineering projects in “reconstructing” China with roads, railroads, and dams. Higher education was seen as an engine for knowledge production and human capital training to advance national infrastructure and technology. The humanities and the arts

were subordinated to the ideological needs of the state. As a result, the culture of undergraduate programs became highly specialized and professionally focused. Broadly speaking, this is still true today.

Many of the attributes of a liberal arts and sciences education are not new ideas in China.

Given this history, implementing LAS in Chinese higher education is not a universally welcomed idea or an easy task after decades of focus on career specialization and technical fields. The challenge is exacerbated by the fact that LAS is not a commonly understood concept among secondary school graduates and their families, faculty from traditional university programs, or the public. A high degree of skepticism still surrounds the potential for Western influence and excessive individualism, as well as the English terminology and political connotation of the word “liberal” (though it is unrelated in the context of LAS education). Further, Mainland Chinese institutions are still overseen by important political forces that are ambivalent about the virtues of liberal arts and sciences education for Chinese university students.

The employer perspective is more obscure but also presents obstacles to major education reform. On the one hand, employers continue to desire graduates with relevant knowledge and a known skill set that fulfills common standards in a given profession. As a result, some Chinese companies may view hiring students with unconventional LAS training as a risk in a culture where there are shared expectations around traditional professional preparation paths. At the same time, however, employers report that university graduates with technical training are inadequately prepared for 21st century jobs in other ways. They demand graduates with more creativity who can analyze and solve complex problems in innovative ways, employees

who can work in diverse teams, collaborators who think entrepreneurially, and workers with learning adaptability in a quickly changing knowledge environment.

Liberal arts and sciences education in China is thus at a pivotal moment. In moving from a traditional higher education structure to embrace an LAS philosophy, China has an opportunity to shift from imitation to influence. If China can harness the opportunity to implement LAS in innovative and culturally relevant ways, it has the potential to impact not only development in China but the way LAS is understood and fostered around the world. To China’s benefit, different institutions within China are likely to take a variety of approaches to LAS. Doing so will enable the country to both meet differentiated needs and develop a robust culture of experimentation. While we are not in a position to suggest political or ideological changes to the structures that govern Chinese universities, this report makes six key recommendations to overcome obstacles and to realize the potential for the liberal arts and sciences in China:

1. Make General Education Matter
2. Invest in Interdisciplinary Integration
3. Focus on Faculty Incentives and Development
4. Embrace Innovative Pedagogy
5. Scale Quality Programs
6. Study Multiple Traditions

It is notable that some of these recommendations are critical for any successful LAS program, not just those in China. However, building on the contributions of the June working meeting and the framing papers for that discussion (see Appendix B), this report focuses on the obstacles and challenges as they pertain to China, as well as China’s potential to lead a way forward for LAS beyond its borders.

RECOMMENDATIONS

Make General Education Matter

During the last decade, general education curricular reforms have been an important step forward for Chinese universities. General education provides an opportunity for students to study in disciplines outside their major. It typically exists in two forms: a core curriculum, sometimes called the “common core,” or a distribution model. In a common core program, all students are required to take the same courses. The purpose of these courses is to provide a shared knowledge base for all graduates. A distribution model requires students to take courses from a variety of disciplines beyond their major. The requirements are “distributed” across humanities, social science, arts, and the sciences and typically involve introductory courses or those specially designed for the general education program, e.g., a biology course developed specifically for humanities students or a poetry class created for students in STEM fields.

In China, contemporary general education reforms originated during the cultural quality education (CQE) movement beginning in 1995. Top tier institutions like Peking, Tsinghua, and Zhejiang Universities, in particular, experimented with efforts to broaden undergraduate training beyond a focus on science and technology. In the next ten years, the movement expanded to include 61 national centers focused on CQE that have influenced over 100 institutions. Both types of general education, common core and distribution models, are growing in China. All Hong Kong public universities and increasingly many on the Mainland now require that students take courses outside of their primary discipline where they are at least exposed to a variety of subjects.

The University of Hong Kong’s Common Core program is an instructive example. To ensure quali-

ty courses taught by faculty who were invested in their new Common Core, academic leaders developed a comprehensive approach. They worked together with faculty members to discern learning outcomes and a broad rubric for the program. Individual faculty, however, had autonomy to design courses that they then submitted for review. In this way, academic leaders, who also maintained the program budget, were able to evaluate course development to ensure that courses aligned with the program’s common goals and that the content and delivery were of high quality.

General education also faces major obstacles in China, especially in terms of how students and their parents regard these new requirements. They are often seen as an encumbrance, rather than an enhancement, to meeting their educational goals. Students are under significant social and familial pressure to score well on the gaokao and get into the best Chinese university they are able. Once there, they are expected to engage in a study program that will result in lucrative employment after graduation. Science, finance, and engineering are highly favored majors. These pressures are bred in a culture of competition instilled in students from a young age and amplified by a secondary education system focused on exam preparation.

Competition is also fueled by China’s widening prosperity gap and a rising middle class. Increased access to higher education has meant that a growing number of parents now see a university degree as their primary vehicle for achieving greater familial economic stability. As Zha explains, these pressures are disproportionately salient for students from lower socio-economic backgrounds. Students and their families want to know how their child’s university de-

gree will lead to employment and social mobility. To many middle-class families, liberal arts and sciences and even general education can appear at best a frivolous luxury and at worst an obstacle to future success.

The University of Hong Kong's Common Core program is an instructive example of quality general education.

Many Chinese students thus understandably lack intrinsic motivation to study in general education courses and often do so without understanding the purpose of these courses or their relationship to their major. Chinese students also often feel overburdened with two curricula—a general education curriculum and their major field of study. As in the U.S., Postiglione, Ma, and Te show how this leads to a widespread disregard for general education courses as “extra” and not especially relevant learning, especially the many courses that are viewed as watered-down versions of more substantive disciplinary material. At the same time, students (and their parents) complain about the effect of receiving a low grade in general education courses that impacts their overall university record.

The first step in making LAS matter in China is therefore to focus relentlessly on improving the

quality of general education courses. Even if students understand the purpose of general education, that justification as well as student motivation will be undermined if course content and delivery are poorly developed. If it is to succeed, the fledgling curriculum reform movement in China will require significantly more attention and resources. It is also critical to recognize that general education in itself does not go far enough. It is limited as a reform model when common core or distribution curricula are developed in a vacuum or as independent from the rest of the curriculum.

Instead, a higher education system that can address future needs depends on a broader and deeper articulation of the value of education beyond general education courses and a major, one that speaks to the pragmatic concerns of students and parents. Continuing to simply offer general education courses, particularly if they are of low quality, encourages students to think of general and professional education as unrelated. Educators believe they are providing students with academic breadth, but students come to see that breadth as irrelevant. Instead, general education courses work best when designed in concert with disciplinary requirements and pedagogical reforms. To improve quality, academic leaders should consider integrating the curriculum, prioritizing teaching, and providing opportunities for faculty development—measures that align squarely with recommendations for liberal arts and sciences expansion in China.

Invest in Interdisciplinary Integration

The future demands problem solving that can only be achieved through integrated, interdisciplinary habits of thinking, a central tenet of liberal arts and sciences education. Although general education provides a *multidisciplinary* curriculum, it typically lacks the integration that delivers a truly *interdisciplinary* education. Like disciplinary boundaries established in Germany and overemphasized in the West today, content and student experience

of the various subjects is siloed. Students also lack understanding about how courses connect to them personally. If focused predominately on general education, China's progress toward tertiary reform is playing catch-up in a losing game with a curriculum design that, as observed in the U.S. and other countries, does not achieve broad, creative, and critical thinkers on its own.

There are, however, some universities in Main-

land China and Hong Kong that are experimenting with new ways to approach the liberal arts and sciences that go well beyond general education courses. Examples include:

- At Fudan University, the Upgrade Plan 2020 for Undergraduate Education offers a fusion of courses based on its new 2+X system. This approach enables students to widen their basic general knowledge in the first two years and then, in their third year, to pursue even more options, including changing their major subject choice according to their interest and ability. The Plan aims to offer more choices to students and to encourage students to take more challenging honors courses. Required courses in political ideology have also been changing to stimulate debate and to address controversial issues.
- Yuanpei College at Peking University has for some years required general education courses that students may select from four areas: humanities, social issues, natural science or science history, and art or art theory. Yuanpei also offers interdisciplinary majors including Integrated Science; Paleontology; Philosophy, Politics and Economics (PPE); Foreign Languages and Foreign History; and Data Sciences. PPE is their most popular interdisciplinary major.
- In 2014, Tsinghua University established Xinya College as a reform program to further advance liberal education. Xin (new) ya (beautiful cultivation) focuses on integrated, interdisciplinary learning and self-cultivation. Students are exposed to classical and contemporary literature, linear algebra and quantum mechanics and can major in 15 concentrations ranging from Philosophy, Politics, and Economics to Creative Design and Intelligence Engineering.
- Lingnan University in Hong Kong offers a Common Core with four required courses and five clusters that cultivate in students a crucial set of transferable skills. Students also enroll in an out-of-classroom co-curricular program focused

on five areas of personal development. This design is central to the realization of a cohesive, humanistic, whole-person education. It adopts a student-oriented approach, emphasizes close faculty-student relationships and interactive teaching and learning modes, provides internships, and features directed research and cooperative learning experiences.

China has also recently established several joint venture universities, some of which are exploring new ways to introduce liberal arts and sciences education in the Chinese context. For example, Duke Kunshan University emphasizes interdisciplinary approaches, engagement with research questions, problem-based and team-based learning, and opportunities for students to craft individual pathways and deepen their intellectual engagement over time. Majors are first defined by curricular pathways that span several traditional disciplines such as Material Science, Environmental Science, Global China Studies, and Media and Art and can be problem-focused, comparative and cross-cultural, or innovative fusions within or across divisions. Students also develop a disciplinary area of focus to create a Signature Product that draws on mentored research and experiential learning such as internships or community-based field work.

These are a few of the institutions that are seeking to develop new approaches to liberal arts and sciences education in a Chinese context. Nurturing these ventures and developing more such experiments provides opportunities for China to reach its potential as a global LAS leader. Overall LAS reforms are still rare and, for the most part, available to only a small number of students at elite institutions. Leading LAS experimental programs such as Peking University's Yuanpei College and Tsinghua University's Xinya College, for example, admit fewer than 2,000 students out of the eight million university graduates across China each year.

Cultivating and expanding these experiments will be particularly difficult given the onerous management structures at universities in China. In the midst of university bureaucracy, disciplinary divisions, and a lack of cooperation among departments,

even government-mandated reforms take a long time to implement and are met with unpredictable bureaucratic challenges. However, the growth of interdisciplinary programming and an effective liberal arts and sciences philosophy depend on an academic culture that is deliberately integrated.

General education provides a *multidisciplinary* curriculum but often lacks the integration that delivers a truly *interdisciplinary* education.

For liberal arts to be effective, members of an academic community need to share a common LAS educational philosophy, a spirit of collaboration, and agreed-upon goals for student learning and development regardless of their role in the organization. Inter-faculty communication is crucial. Faculty will benefit from working together, but need to be given

incentives and time to do so outside of their traditional discipline boundaries and obligations. Rather than being relegated to general education course instructors or deans leading a curriculum reform, an integrated environment is shared across academic departments and disciplines; transcends leadership, faculty, administration, and students; and envelops the curriculum, co-curriculum, teaching, research, and service functions of the university or program.

The reform and expansion of general education is thus a good first step in the development of a broader liberal arts and sciences education model in China. And it is a positive sign that some pioneering institutions have already begun to take the next step by developing more integrated, interdisciplinary approaches to learning and problem-solving. These are necessary but hardly sufficient conditions for China to embrace and expand its own full-fledged model of liberal arts and sciences education. Indeed, there are other significant obstacles that need to be addressed, especially the pervasive undervaluing of good teaching and innovative pedagogy.

Focus on Faculty Incentives and Development

In order to achieve liberal arts and sciences learning outcomes, a renewed approach to classroom teaching is required. Transmission pedagogy and learning by rote listening and memorization without interpretation or critical evaluation, common in Chinese universities, are inadequate for developing creative thinkers and critical problem solvers. Mobilizing faculty to teach differently, however, and educating them about how to teach, is a more significant challenge and one that is often overlooked.

A primary obstacle is a lack of qualified faculty to carry out the type of teaching and curriculum and course design needed for LAS education and outcomes. While this is a widespread problem in the U.S. and Europe, it is magnified in China where traditional university teaching culture is predominately teacher-centered and lecture based. Further, given

burgeoning enrollments, faculty naturally have a tendency to use classroom practices that are efficient for teaching and assessing large numbers of students but inconsistent with a liberal arts education.

Many faculty are reluctant to teach in LAS or general education programs because, they openly admit, they do not know how. Few have had an opportunity themselves to be students, let alone teach, in a learner-centered environment. While they may be able to deliver content about their disciplinary focus, such as chemistry or economics, they are uncomfortable and ill-equipped to teach their subject in the context of broader social and environmental factors. Training for faculty to learn to develop interdisciplinary courses or work with faculty from other disciplines is even more scarce.

Even if faculty want to improve their teaching

skills, the time and opportunity for them to improve their pedagogy, enhance their course design techniques, or create new courses is in constant competition with the activities that will help them to prosper in the academy. China does not have a clear policy on role differentiation, in particular setting different expectations for research-intensive institutions and other universities that have a different balance between research and teaching. Academic research and investment in research infrastructure has become paramount in China, and publishing in high-ranking English journals is more important than any other faculty responsibility. Chinese faculty are sometimes even incentivized by large cash bonuses for publications in certain journals. There is, Postiglione, Ma, and Te conclude, a perception by many Chinese university faculty that LAS is supported as a theory but not as a practice. Institutional metrics and incentive structures thus hamper pedagogical innovation and the ability of institutions to deliver on the promise of LAS in China.

Academic leaders and educational authorities can leverage LAS to educate more creative socially conscious graduates by assessing the tension between rewards for research and teaching. While this is a challenge in many systems, it is particularly acute in China. Developing creative resources and incentives for improved teaching would be a significant step forward in helping China achieve its goals. Students will flourish if faculty are evaluated against measures that are aligned with LAS outcomes such as designing courses, improving their teaching skills, collaborating across disciplines, and mentor-

ing students. Integrating a robust measure of teaching quality among mixed incentives such as cash bonuses, professional development, and tenure advancement could be instrumental to developing a pedagogy-focused institutional culture.

Students will flourish if faculty and universities are evaluated against LAS outcomes related to course design, teaching, cross disciplinary collaboration, and student mentoring.

Of equal importance are strategies for helping faculty advance their skills. Making faculty development opportunities and training a priority is critical. This might include hiring faculty development and pedagogical experts, leveraging experienced faculty instructors to assist more junior faculty, formalizing regular faculty conversations about teaching, and providing research incentives for faculty who contribute to the scholarship of teaching and learning. In order to make development opportunities—as well as a positive pedagogical culture—a reality, institutional strategic goals should include priorities for teaching. For those priorities to be effective, they also need to be supported by aligning faculty incentive structures.

Embrace Innovative Pedagogy

Beyond incentives for good teaching, a focus on pedagogy involves greater attention to the ways in which students learn. It raises consciousness about the student experience and the process required to achieve, assess, and further study learning. A truly learning-centered culture is built on faculty and academic leaders who employ reverse design at

the program, curriculum, and course level. In some places this is also known as an outcomes-based approach. Reverse design places primary importance on articulating the outcomes and goals—what students need to know—before deciding what or how to teach. Assessment and teaching methods are then developed specifically to align with and achieve

the articulated learning outcomes.

Reverse design can also be key to mobilizing faculty. In implementing LAS reforms at the University of Hong Kong, for example, of Hong Kong, for example, education leaders engaged faculty in deciding together what they wanted graduates to be able to do. Answers to questions like this informed a distinctive approach to building and sustaining a core curriculum. And being involved in the articulation of end results and designing the means for reaching those results invested faculty in the reform process. It increased the propensity for faculty to see the initiative as shared intellectual property in which they had a stake and agency.

Integrating co-curricular programming is a key area in which China can play a leadership role.

In his paper, Zhao highlights several examples of the kind of pedagogical focus that could make Chinese campuses genuinely innovative. These include:

An entrepreneurial mindset is needed for all in a world where routine tasks are performed by technology. Individuals equipped with an entrepreneurial mindset look at problems as opportunities, actively seek creative solutions to problems worth solving, thoughtfully put ideas into action, continuously seek to improve and are always prepared to fail and try again. An entrepreneur-oriented liberal education is less about adding isolated courses or activities and more about foregrounding the entrepreneurial mindset as an essential learning outcome for all students.

Product-oriented Learning (POL) is a pedagogical approach to enhancing the entrepreneurial mindset and creativity in students by engaging them in creating high quality works that solve worthwhile problems. POL requires that all learning is centered on developing authentic and high-quality works, which can be products, services, or programs that have genuine value for others. POL emphasizes a process of review and revision to produce great works. It teaches collaboration skills in a way that helps students identify their strengths and weaknesses.

Innovative pedagogy must also extend to a student's overall holistic development. In China, LAS presents an unfamiliar learning environment in which students are expected to engage in substantial amounts of writing, class discussion, close reading of original texts, and interaction with their peers and instructors. Chinese students are most accustomed to—and comfortable with—lectures and exam preparation. Greater curriculum flexibility, rather than a strictly assigned list of requirements, also means that students must decide for themselves which courses to take and how to supplement their formal education with co-curricular activities.

For students to participate successfully in an LAS environment requires increased planning and assistance in and outside of the classroom from faculty who have the time and inclination to do so. Small classroom settings reflecting the Confucian model offer an opportunity for discussion-based pedagogy. Faculty and students can interact in person and, via new technologies, at a distance. These small group interactions also increase the potential for academic and personal mentoring. Similarly, for all these reasons, students will benefit from strategic plans that broadly incorporate the role and skill development of guidance counselors and faculty or non-faculty academic advisors.

As opposed to simply preparing students for employment, holistic education focuses on developing the whole person. Students' optimal maturation during university exceeds what happens in the classroom and what they learn during their major. The co-curriculum, which includes the learning experiences such as programs, activities, projects, and internships that extend beyond a student's academic studies, is an essential means to this end.

To be effective, it is important to offer more than a variety of out-of-classroom activities. The co-curriculum works best when it is intentionally designed with opportunities for students to explore how their non-academic experiences can be purposefully integrated with the formal curriculum. As many experienced Western LAS programs still struggle to fulfill this aspiration, there is a key opportunity here for China's LAS reforms to be influential globally. Co-curriculum programming that is

well integrated into the formal curriculum can be a central mode in which students develop an entrepreneurial orientation, learn about problem-solving and team work, and experience directly the power of following their creative passions.

This approach is especially important in China where students come to university focused on their academic pursuits, but not having experienced significant opportunities for developing a sense of personal efficacy and agency. Co-curricular programming offers unique opportunities in which

students make personal contributions to their academic community. The more voice students have in shaping the school's environment as well as their personal development, Zhao observes, the more they will grow their individual capacities for independent thinking and good decision-making. Innovative pedagogical practices, beyond ideas of active learning and incorporating technology, will be essential for creating strategies to integrate the curriculum, co-curriculum, and whole-student development objectives.

Scale Quality Programs

Done poorly, a liberal arts and sciences education will offer little to students, employers, citizens, and the global community. Such a misstep would be an expensive and time-consuming investment with serious opportunity costs. In order to deliver on its promise, liberal arts and sciences education is worth undertaking with an intentional dedication to quality that is cooperative, and incorporates continuous improvement. China can reach its full potential as a global LAS leader by creating its own liberal arts philosophy rather than replicating the U.S. or other traditions. If it is to succeed in embracing the liberal arts and sciences, it will do so by developing even better means of delivering a high quality educational experience.

At the same time, developing LAS on a scale that can be offered to a wider variety of students is one of the most serious challenges for Chinese higher education. Overall LAS reforms are still rare and, for the most part, available to only a small number of students at elite institutions. As Zha observes, the Chinese higher education system is tremendously stratified, with a few dozen universities far better resourced than the other lower-tier regional institutions, even as most new enrollments take place at those schools. Of course, LAS education is only one prototype in a diversified tertiary system. It is, however, uniquely suited to meet China's social needs, human resource talent, and innovation goals. Zha therefore poses a key question for the future: "How

can liberal arts education curriculum reach out and benefit the majority of students, especially those in non-elite liberal local institutions?"

The U.S. educational system, with its historical liberal arts tradition, faces the same question. Attempts to answer it have led to an increased interest in, and experiments with, new models for increasing access and delivering quality. For instance, Arizona State University's "New American University" model has leveraged technology and structural reforms to vastly increase its on-campus and online student body while improving graduation rates and learning outcomes. And the Minerva Schools have pioneered a lower cost, technology-based elite education that has no fixed geographical location. Whether ASU, Minerva, or other higher education experiments can succeed in producing sufficient quality at lower cost and greater reach remains to be seen. But their experiments bear close watching as they seek to upend traditional notions of who can attend college and how students best learn.

LAS programs are historically rooted in the United States and were originally designed for a small number of elite males. The current challenge in the U.S. is to adapt small, long-standing and carefully cultivated programs to an era in which large numbers of diverse students require access to the highest quality education. By contrast, China has a rare opportunity to begin thinking about how to

make crucial LAS innovations scalable at the same time as it introduces those innovations.

China has a rare opportunity to make innovations scalable at the same time as it introduces those innovations.

A key factor in going to scale will involve leveraging new technology to develop quality educational experiences. Already, students can access more than 300 interactive general education courses from their phones. New technology also makes it possible to create a more global experience even for institutions that do not enroll a diverse student body. It enables students to interact with non-Chinese peers and academic communities anywhere in the world. And equally important, it allows for program design that leverages the best instructors and researchers around the globe.

All these new possibilities benefit from extensive experimentation and careful evaluation, both for their effectiveness and quality and for their impact on the larger system of higher education. But if LAS education is to reach beyond a small, elite group of students and institutions, new pedagogical paradigms and new educational technologies will need to be a central part of the strategy. Significant investment of financial resources as well as time and expertise is crucial. Innovative LAS reforms and student learning need to be prioritized equally with technical disciplines, research infrastructure, and incentives to attract the top faculty—all activities that contribute directly to China’s goals of providing world-class education. Balancing all these priorities is central to creating time and space for faculty to focus on strategic pedagogy and intentional curriculum and co-curriculum design. Acknowledging and embracing the risk—and potential—of educational experiments is the first step in making LAS investment a worthwhile strategic priority.

Study Multiple Traditions

The liberal arts and sciences are not a one-size-fits-all prescription for educational reform. To succeed, reforms must be relevant to contemporary and local conditions. In China, as elsewhere, there is a need to integrate that which is uniquely local or national and, at the same time, examine the role of the nation and its graduates in a global society. By embracing a liberal arts education, China can draw on its own cultural heritage and engage in a comparative discourse. It can focus on perspectives within its heritage while attending to traditions from outside of China.

The intersection of local and global forces could, in fact, lead to a distinctive focus in China on twin goals: cultivating informed and engaged local citizens knowledgeable about Chinese perspectives, who are at once skilled in navigating global identities and commitments. This approach highlights the intersection of local, national, and global challenges and traditions.

It contrasts with existing educational approaches that are rooted either solely in individual national agendas or in abstract notions of global citizenship.

There are, of course, deep tensions built into this kind of an educational philosophy. The local and the global both pull and push on each other. Local and national traditions and commitments can easily outweigh concerns for other, more distant individuals and communities. Simultaneously, concern for the global can sometimes mean a diminution of diversity of thought, local traditions, and contextual needs. There is a long tradition of wrestling with these tensions in China, the West, and elsewhere: the delicate dialectic between the universal and the particular that is at the heart of many ethnic groups, religious and intellectual traditions, and national projects.

In China, Confucianism is a central and long-standing tradition that wrestles with these issues of

the local-global dialectic. It includes the importance of contextual and constructive criticism, the value of preserving harmonious relationships, and the role that empathy plays in human development—ideas that receive less attention in the Western liberal arts tradition. The Western cultural narrative tends to prize the individual and often alienated critic, the gadfly and aggressive Socratic questioner. In contrast, Confucian ideals of moral and intellectual development place greater stress on achieving a balance between evaluating an idea’s merits or faults and preserving harmony in society or relationships. Confucianism suggests that critical analysis must be contextual and empathetic in order to avoid undermining peaceful accord between family or community members, workers and employers, or leaders and citizens. The ways in which Chinese and joint venture universities draw on this tradition is an opportunity for deep and profound exploration of China’s own heritage.

By embracing a liberal arts education, China can draw on its own cultural heritage and engage in a comparative discourse.

Confucianism incorporates a multitude of traditions and interpretations within itself. Nor is it the only wellspring of Chinese values. Speaking of “the” Confucian tradition can oversimplify what is a complex and diverse heritage. And used in isolation, without engaging other Confucian and non-Confucian interpretations, the idea of contextual criticism can render some views or criticisms as illegitimate. The risk is that Confucianism will be used to justify blind obedience to authority. Similarly, overemphasis on Confucian harmony can come at the expense of the very individual creativity and independence of mind that a liberal arts and sciences approach cultivates.

How might this limited interpretation of a central cultural philosophy like Confucian contextual

criticism manifest in higher education? The tensions between the contextual and the critical, between the local and the global, are illustrated by ongoing debates over required courses in Chinese history, politics, and culture. These courses are often described as narrow, ideological propaganda in which teachers provide only a single, accepted view of complex issues. If so, this approach calls into question whether an LAS philosophy can function legitimately in China. As Kirby asks: “Can liberal education exist in a politically illiberal system?” “Perhaps,” he answers,

But as Cai Yuanpei argued a century ago, only with a significant degree of autonomy. ...China’s universities today boast superb scholars and among the world’s best students. But these students are also forced to sit through required courses in Party ideology, and they must learn a simplified version of the history of their own country. Even with new programs of general education in the realm of politics and history, the distance between what students have to learn in order to graduate and what they know to be true, grows greater every year.

Yet under more careful examination, it is notable that these compulsory courses are in fact broadening, that there is more variation among them and the teaching content than often realized. A closer look at compulsory ideology and culture courses suggests nuanced experimentation and ongoing efforts to examine materials in more open and engaging ways. This is true of the course delivery and content. Some teachers encourage students to ask questions, wrestle with different perspectives, and decide for themselves how to interpret the material. Class discussions sometimes include sensitive and controversial topics as well as broad explorations of different philosophical and cultural traditions. Diverse interpretations of Confucianism, for example, might be explored by having two faculty with opposing views teach the same group of students. Alternatively, faculty might invite students to participate in a class-wide debate about a single idea, but interpreted from multiple scholarly perspectives. One widely available online course, for instance, focuses on the meaning of justice in John Rawls and Karl Marx.

China’s rich cultural heritage is a bedrock for fully embracing a liberal arts education. All societies teach about their own culture and history and Con-

fucianism is an essential part of that teaching in China. However, it is only one part and engaging different perspectives, rather than a single ideology or interpretation, is what defines a liberal arts and science curriculum. This curriculum extends beyond the study of national traditions. It entails plac-

ing Chinese perspectives in dialogue with views from Indian, Islamic, Western and other cultures. Understanding those perspectives is crucial to a student's own personal and intellectual development and to their ability to engage with others in a global society.

Conclusion

Innovation in higher education anywhere is inherently challenging. There is a natural tendency to look for immediate and positive results. In reality, results are often difficult to measure and materialize slowly, usually long after financial and human resource investments are made. To date in China, there are promising initiatives at elite institutions like Tsinghua and Peking Universities. And there is significant momentum for reform in general education programs more broadly across the Chinese tertiary system. These experiments and reforms offer enormous potential for innovative efforts to blend Chinese and Western educational philosophies. Yet there is no national road map for a more extensive liberal arts and sciences agenda, one that could assure China a place in the vanguard of LAS reform globally.

So, too, the promise of liberal arts and sciences education cannot be fully realized without an openness to learning and teaching about a variety of traditions and perspectives. China's desire for innovative, entrepreneurial graduates is dependent on creative expression and self-exploration that is only possible with exposure to a broad intellectual and critical discourse.

So, too, the promise of liberal arts and sciences education cannot be fully realized without an openness to learning and teaching about a variety of traditions and perspectives. China's desire for innovative, entrepreneurial graduates is dependent on creative expression and self-exploration that is only possible with exposure to a broad intellectual and critical discourse.

China's potential as a site for profound and lasting innovation in LAS is significant. This report identifies six key ways in which China can capitalize on

that opportunity: careful attention to the limitations of general education, investing in interdisciplinarity and an integrated academic culture, prioritizing faculty development and incentives that are balanced with other strategic goals, embracing innovative pedagogy, fostering quality and access, and connecting the local and global dialectic while teaching a variety of perspectives.

Quality liberal arts and sciences education will result in better financial planners, more socially conscious engineers, and scientists capable of addressing a wide array of global problems that extend beyond the laboratory.

Of utmost importance is that these six recommendations for LAS reform be considered comprehensively. No single recommendation can by itself enhance China's opportunity to implement LAS successfully, or to lead the way forward on a global scale. The recommendations collected here are an integral part of a holistic education philosophy, not a variety of suggestions from which to choose.

At the same time, effective progress towards LAS innovation will be iterative rather than revolutionary. Insisting on a perfect implementation of all of these recommendations will prohibit experimentation as

well as reasonably timed reforms. Without compromising focus on high quality outcomes, new LAS initiatives can be developed incrementally with agile steps that also allow for incorporating feedback and making adjustments. The value of experimentation is that new ideas can be tested and optimized over time. These experiments are necessary, possible, and will pay substantial dividends. Experiments should be embraced as opportunities; they are a chance to try multiple approaches to LAS and to share the results with the broader global education community.

The recommendations above are intended for internal consideration in China. But from a global perspective, China is especially well situated to show other countries three things: new ways to meld the liberal arts philosophy with pre-professional education; to develop a truly interdisciplinary, integrated education (blending across disciplinary as well as curricular/co-curricular boundaries); and to produce innovative pedagogical practices that ensure quality and engender scalability.

These recommendations will require astute strategic planning and ample human and financial resources. Humanities, arts, and social science de-

partments will need to be strengthened with the same vigor that fueled China's central government to enhance research for the purposes of climbing world rankings. The liberal arts and sciences are not an alternative to the current preference in China for finance, engineering, and science. On the contrary. Quality LAS education will in fact result in *better* financial planners, more socially conscious engineers, and scientists capable of addressing a wide array of global problems that extend beyond the laboratory. Writers and artists will indeed be a by-product of a more wide-spread liberal arts and sciences approach in higher education, though not the singular output.

Within the last two decades, LAS programs have developed in every region and in countries where the educational philosophy has never existed before. This is not a coincidence. The forces of globalization, a rapidly expanding knowledge economy, and complex social challenges are driving an emerging global trend—the need for a different kind of graduate and a different kind of workforce. China is poised to be among the leaders in this global LAS movement.

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BACKGROUND PAPERS

These papers were written and shared in preparation for the Liberal Arts Innovation in China working meeting that took place in June 2017. The above CIHE Perspective report was developed as a result of that meeting. In addition to making brief reference to the papers in the report, we also provide them here for background information.

AUTHOR	TITLE	PAGES
Yong Zhao	Reinventing Liberal Arts Education in China in the Age of Smart Machines	23-33
William Kirby	Liberal Education in China, Past and Present	34-39
Qiang Zha	What is Liberal Arts Education in the 21st Century? An Exploration Starts with Chinese Universities and Goes Beyond China	40-48
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Reinventing Liberal Arts Education in China in the Age of Smart Machines

Yong Zhao

University of Kansas

WeChat has become one of the most visible Chinese products that many Western tech firms aspire to create (Hariharan, 2017). In a matter of six years, it has amassed nearly 900 million monthly active users. It has helped millions of Chinese to skip the desktop stage and directly enter the mobile Internet world. It has transformed how Chinese people communicate, socialize, work, and live with its multitude of features that went beyond simple messaging, many of which have been emulated by social media products in the West such as Facebook, WhatsApp, and Twitter. WeChat is shaping the future of social media in China and the world. “It is the best example yet of how China is shaping the future of the mobile Internet for consumers everywhere,” wrote *The Economist* in 2016.

Educational programs are certainly not the same as technology products. However, the WeChat success offers a number of important lessons for advocates of liberal arts education in China. First, Tencent, the company that created WeChat, had the courage to invent something new, rather than keep improving. Tencent had QQ, which was already a popular product. QQ was more or less a Chinese imitation of ICQ or Instant Messaging. But WeChat is a new invention, which turned messaging into a platform for communication, banking, publishing, gaming, and community building. Today, China’s experiments with liberal arts education are very much like Tencent’s QQ—an imitation. Thus much of the discussion about liberal arts education in China has been focused on what constitutes a true liberal arts education in the West, mostly the U.S. and who is a better imitator, meaning closest to the “true liberal arts education” in the West. Virtually no one is talking about inventing a new version of liberal arts education for China and the world. The atten-

tion is on the past of liberal arts, instead of the future. It is, however, both necessary and possible to invent a new one. Even the West, the homeland of liberal arts, has recognized the need to reinvent liberal arts. For example, the Association of American Colleges and Universities (n.d.) has put forth new visions and definitions of liberal education for the 21st Century.

Second, the success of WeChat is in very significant ways a success of deep understanding of the Chinese context, economically, psychologically, and culturally. For example, the voice messaging feature that brought WeChat’s initial victory over other platforms is an excellent measure to overcome the difficulty of inputting Chinese characters before the arrival of easy handwriting on smartphones. The moments feature that brought WeChat more users takes advantage of the “circle” tradition in Chinese culture. The Red Packet feature that made WeChat even more popular fits right into the Chinese tradition of giving “red packets” to friends, relatives, and employees around Chinese New Year. In other words, WeChat is very Chinese, although its features have a global impact. Why cannot China invent a version of liberal arts education that is very Chinese—fitting the Chinese political, social, and cultural contexts? While there are discussions about obstacles to implementing liberal arts education in China and efforts to chip away the obstacles, little is said about how to invent a liberal education that considers the obstacles as opportunities and sources of inspiration.

This essay makes the case for why China should and can invent its own liberal arts education that fits the rapidly changing world in the future and provides inspirations to other education systems around the world. This invention would be building on the

rich traditions of liberal arts education in the West but fits well with the Chinese context and takes advantage of emerging technologies.

Smart Machines: The Global Education Challenge

Education runs a race against technology (Goldin & Katz, 2008). Technology, in its essence, is about enhancing human capabilities. For example, television enhances human capabilities to view happenings that are beyond their natural vision and hearing, so is telescope. The steam engine enhanced human capacities to manipulate energy and move objects beyond the natural strength of human beings. While enhancing human capabilities, technology renders some capabilities less valuable and others more important. For example, the arrival of steam engines and other forms of transportation not only made it possible for human beings to transport more objects over longer distance, but also rendered knowledge and skills in advancing, operating, and maintaining engines more valuable while decreasing the value of knowledge and skills in building and maintaining horse wagons or manufacturing sails for ships.

Education is supposed to help human beings learn knowledge and skills that are valuable for success in life (Spencer, 1911). Since it is impossible for humans to master all knowledge and skills, educational institutions have to teach knowledge and skills that are of the most worth, as the British philosopher Herbert Spencer argued in his essay published over 150 years ago. Thus educational institutions must constantly evaluate what they teach or attempt to cultivate in future citizens. When education is able to equip the masses with the skills and knowledge deemed valuable by society, the potential prosperity brought about by technology is shared across society. Otherwise, human societies suffer from large prosperity gaps—with a few enjoying tremendous wealth, while the rest live in poverty.

Humans have gone through a number of major technological revolutions that have transformed societies and drastically redefined the value of knowledge and skills. Education has been able to catch up

to the aftermath of the First and Second Industrial Revolutions, although it took decades to do so. The education currently in operation in many countries is the result of responding to the changes brought about by the First and Second Industrial Revolutions. This education successfully equipped a massive number of people with the knowledge and skills needed in the industrial society and thus ushered in an era of economic prosperity after World War II in many countries around the world. In other words, education caught up to the technological changes.

However, technology advances do not stop. Over the past few decades, technology has advanced again in revolutionary ways. The accumulation of technological changes have amounted to the so-called Third Industrial Revolution characterized by automation, which has led to the decline of many traditional industries such as manufacturing (Florida, 2012; Schwab, 2015). Moreover, the revolution continues. As a result, humans are entering the Second Machine Age or the Fourth Industrial Revolution characterized by artificial intelligence (AI) and universal connectedness, which are predicated to transform human societies in drastic ways (Brynjolfsson & McAfee, 2014; Ross, 2016; Schwab, 2015).

This revolution is again redefining the value of knowledge and abilities. The knowledge and skills needed for the industrial society have been losing value or become obsolete because the tasks that required those knowledge and skills have been increasingly performed by technology or outsourced due to globalization, which is enabled by technology (Brynjolfsson & McAfee, 2014; Ross, 2016; Schwab, 2015; Zhao, 2012, 2015). Harvard economists Claudia Goldin and Lawrence Katz (2008) write:

Today, skills, no matter how complex, that can be exported through outsourcing or offshoring are vulnerable. Even some highly skilled jobs that can be outsourced, such as reading radiographs, may be in danger of having stable or declining demand. Skills for which a computer program can substitute are also in danger. But skills for non-routine employments and jobs with in-person skills are less susceptible (p. 352).

In the meantime, new technologies have created new opportunities, which make traditionally undervalued knowledge, skills, and abilities gain more

value (Pink, 2006; Trilling & Fadel, 2009; Wagner, 2008, 2012; Zhao, 2009, 2012, 2015). For example, American author Daniel Pink (2005) suggests that the traditionally valued “left-brain skills” are increasingly losing value but “the capabilities we once distained or thought frivolous—the ‘right brain’ qualities of inventiveness, empathy, joyfulness, and meaning—increasingly will determine who flourishes and who flounders” (p. 3).

In order to prepare citizens to meet the challenges and take advantage of the opportunities of this round of technological advances, education must rethink the knowledge, skills, and abilities it aims to cultivate. There have been many efforts around the world to define valuable knowledge and skills (Zhao, 2016). Although the different proposed skills vary somewhat from one another, the general consensus is that valuable skills and abilities in the Age of Smart Machines are those that cannot be replaced by machines, no matter how intelligent machines may become. Some examples of such competencies include creativity, innovation skills, learning to learn, adaptability, collaboration, communication, critical thinking, entrepreneurialism, and cultural intelligence (European Communities, 2006; Partnership for 21st Century Skills, 2016). Related to these broad categories of skills or competencies are personal qualities or non-cognitive skills such as grit, resilience, persistence, growth-mindset, etc. (Brunello & Schlotter, 2011; Duckworth, Peterson, Matthews, & Kelly, 2007; Duckworth & Yeager, 2015; Dweck, 2008; Levin, 2012).

Plainly speaking, the only way humans can compete with machines is not to become machines. In other words, humans must be able to do things machines cannot do. The challenge, however, is that traditional education for the masses has been about turning humans into machines—identical devices with similar capabilities to perform tasks predefined by humans with no social or emotional involvement. By design, it is not supposed or be able to make humans more human: unique, diverse, creative, entrepreneurial, social, and emotional.

There are already plenty of signs to suggest the traditional education paradigm has become obsolete and is equipping humans with skills and knowledge

that mismatch what the society needs. Massive youth unemployment (Elliot, 2013; Salmon, 2011; *The Economist*, 2013) and the widening income gap and disappearing middle class (Keeley, 2015; Kuriantzick, 2013; Pew Research Center, 2015) are two widely recognized indicators. In the United States, for example, less than 50% of adults have a “good job” and only 30% of those who work are engaged in their work, according to Gallup (n.d.).

Liberal Education: A Possible Answer

The mainstream response to youth unemployment has been more education, hence the rising call for all children to attend college and even beyond worldwide. Another closely associated response is make education more like training, equipping graduates with practical skills so they can find jobs. Holding colleges and universities accountable for preparing students for gainful employment has been a focal point of policies in the U.S., China, and other countries. As a result, education becomes increasingly practical and professional.

These responses are, however, wrongly headed. Simply more years of schooling that follow the traditional paradigm will not help graduates find jobs, neither will a narrow set of professional and practical skills prescribed for specific jobs. The reason is simple: existing jobs disappear or are redefined quickly and constantly. We cannot equip students with skills for jobs that have not been invented. Instead, as discussed in the previous section, we need to prepare students to be able to adapt to new jobs and better yet create jobs for themselves and others.

What we need is not only more education, but also a different kind of education for the future. Fortunately, that kind of education already exists and has been in existence for a long time. Just like the American-Canadian writer William Gibson once quipped: The future is already here—it’s just not very evenly distributed, the education for the future is already here, but it’s not evenly or widely distributed. The essence of that education has been well established in the tradition of liberal education.

Liberal education has many definitions and the definitions have evolved over time, as scholars debated what liberal education was, is, and should be

(Axelrod, Anisef, & Lin, 2001; Jiang, 2013; Mitchell, 2015). But there are enduring themes that many agree should be at the core of liberal education: cultivating intellectual creativity, autonomy and resilience; critical thinking; a combination of intellectual breadth and specialized knowledge; the comprehension and tolerance of diverse ideas and experiences; informed participation in community life, and effective communication skills (Axelrod et al., 2001, p. 52). These are consistent with the definition offered by AAC&U (n.d.):

Liberal education is an approach to learning that empowers individuals and prepares them to deal with complexity, diversity, and change. It provides students with broad knowledge of the wider world (e.g. science, culture, and society) as well as in-depth study in a specific area of interest. A liberal education helps students develop a sense of social responsibility, as well as strong and transferable intellectual and practical skills such as communication, analytical and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings (para. 1).

In more practical terms, liberal education (or liberal arts education) is often put in contrast to professional or practical education. While professional education trains people for certain type of profession or vocation, liberal arts education aims “to educate individuals for a life of learning and intellectual growth” (Mitchell, 2015, p. 5). It relies on a broad curriculum that typically consists of subjects in the humanities, sciences, fine arts, and social sciences. Pedagogically, liberal arts education uses discussions that challenge students intellectually. In some cases, students are required to read the canonical classics.

Historically liberal education has been reserved for the elite and fortunate. Because unlike professional education, it does not aim to prepare individuals directly for a profession, liberal education has been considered, rightly or wrongly, impractical, more of a luxury for the wealthy. For this reason, liberal education has been under attack and in decline in the United States (Mitchell, 2015).

However, the arrival of the Age of Smart Machines is making liberal education a necessity, not only for the elite few, but also for the masses. It is no longer an impractical luxury, but an economic ne-

cessity because liberal education seems to have some of the most essential elements of an education that makes humans more human. It has the best chance to cultivate what is needed to succeed in a society that is globalized, rapidly changing, complex, and diverse. In short, the spirit of liberal education offers the foundation upon which a new education paradigm can be built so as for education to win the race against technology.

A New Liberal Arts Education

To meet the challenges and take advantage of the opportunities in the Age of Smart Machines, a new paradigm of education can be built on the enduring tradition of liberal education, with a few additional features. These features reflect the changing nature of the human society, current understandings of human nature and human learning, as well as potentials for enhanced learning afforded by technology. The new features include: an entrepreneurial orientation, an explicit focus on creativity, passion and strength-driven personalization, and globalized learning environment.

Entrepreneurial Orientation

Historically liberal arts education has had little to do with entrepreneurship, which has often been associated with business schools. However, an education intended to prepare students for the new society cannot avoid entrepreneurship any longer. An entrepreneurial mindset is needed for all in a world where routine tasks are performed by technology (Aspen Youth Entrepreneurship Strategy Group, 2008; Shapero & Sokol, 1982; Zhao, 2012). Individuals equipped with an entrepreneurial mindset look at problems as opportunities, actively seek creative solutions to problems worth solving, thoughtfully put ideas to action, continuously seek to improve, and are always prepared to fail and try again. The entrepreneurial mindset is not only needed to start and manage businesses, it is needed in the social sector (social entrepreneurs) (Dees, 1998; Martin & Osberg, 2007), it is needed in public services (policy entrepreneurs) (Harris & Kinney, 2004), and within organizations and businesses (intrapreneurs)

(Swearingen, 2008). The essence of entrepreneurship is much more than profiting from businesses. It is about creating value for others. It is about advancing human causes. It is about bettering the world.

Liberal education has often been criticized for not being able to produce graduates who can find jobs, but in the new society, it's not about finding jobs because existing jobs will disappear and there will be no jobs to be found. Instead it is about creating jobs. The new liberal education should be oriented to prepare socially responsible entrepreneurs.

Moreover, liberal education and entrepreneurship are not mutually exclusive. As Babson College professor Mary Godwyn wrote in in 2009:

Liberal arts and entrepreneurship have a common foundation, but they have erroneously become defined as polar opposites within the academy; thus, the power and effectiveness of each have been undermined. The solution is for those in liberal arts and entrepreneurship programs to work together—without driving each other crazy (para. 1).

Some liberal arts colleges have started considering entrepreneurship seriously. For example, Middlebury College founded the Programs on Creativity & Innovation, including MidEntrepreneurs in 2007 and has since created courses and facilities to help students develop entrepreneurship abilities. Colorado College, Colgate, Oberlin and a host of other institutions have taken steps to “reinvent themselves as startup factories,” according to an article on the Forbes website in 2015 (Chen, 2015). The trend is growing. More liberal arts programs are accepting and engaged in making entrepreneurship education part of their regular curricula.

An entrepreneur-oriented liberal education, however, needs a lot more than adding isolated independent entrepreneurship courses, programs, or activities and creating entrepreneurship facilities for a few select students. It is much more than teaching accounting, financing, or business skill and knowledge. It should be about privileging the entrepreneurial mindset as an essential learning outcome for all students. It should be infusing entrepreneurial mindset throughout the curriculum and engaging students in entrepreneurial activities in their entire school life.

Explicit Focus on Creativity

Creativity is often mentioned as an outcome of liberal education, but how it is taught or nurtured is rarely articulated. Given the rising importance of creativity, the new liberal education needs to explicitly address the development of creativity. Although the general understanding is that all humans are born to be creative, that is, to come up with something new or original. But to be productively creative, one needs to be disciplined and educated.

Psychologists James Kaufman and Ronald Beghetto propose a 4-C model of creativity based on their review of the creativity literature (Kaufman & Beghetto, 2009). There are four types of creativity: mini-C, little-C, Pro-C, and Big-C. “Mini-c is defined as the novel and personally meaningful interpretation of experiences, actions, and events” (Kaufman & Beghetto, 2009, p. 3). An example of mini-C would be a student studying Chinese history having a personally meaningful and original idea about why China lost the First Sino-Japanese War in 1895. Little-C creativity refers to creative actions with which non-experts engage everyday. An example might be coming up with a creative way to fix a broken window or creatively combining different ingredients to develop an original cocktail. Pro-C is step above little-C. It refers to creative contributions of experts and professionals. An example might be a researcher developing a paper that advances the field or a writer producing a novel. Big-C refers to eminent creative contributions that are ground breaking. Einstein's theory of relativity, Da Vinci's *Mona Lisa*, and Darwin's evolution theory are all examples of Big-Cs.

The Four C model, according to Kaufman and Beghetto (2009), represents “a developmental trajectory of creativity in a person's life,” (p. 18), starting from mini-Cs to little-Cs, to Pro-C and finally achieving big-Cs, which only a few can achieve. While everyone can experience mini-Cs and little-Cs, achieving Pro-Cs requires time and efforts. A person can have experiences that enhance or hinder the development of creativity. For instance, teachers can subtly or overtly “kill creativity” at the mini-C or little-C stage (Beghetto, 2013), which can have negative consequences on the development of Pro-C in

later life. For individuals to create meaningful and valuable products, services, ideas, or works, they need to reach the Pro-C level, which requires purposeful nurturing, time, efforts, and discipline. Thus the new liberal education must have explicit plans to nurture creativity.

Passion and Strength-driven Personalization

Each and every human being is born unique on a host of dimensions: physically, cognitively, and psychologically (Gardner, 1983; Gardner & Hatch, 1989; Reiss, 2000). Their experiences also add to this uniqueness. Through a process called nature via nurture, some innate traits are enhanced and others are subdued. As a result, each individual human being is a unique combination of strengths and weaknesses in their abilities, with different personalities, passions, interests, desires, and experiences.

The uniqueness or individuality of humanity has been generally ignored at the best or actively suppressed at the worst in the industrial model of education that aims to impart a prescribed homogeneous set of skills and knowledge deemed useful for existing jobs. But today, it is the uniqueness that differentiates humans from machines. Sameness is no longer valuable and no student is an average student (Rose, 2016). Every student has an individual pathway, individual context, and individual set of abilities. Thus education should reorient itself from suppressing uniqueness to enhancing individuality. We should no longer aim to provide the same curriculum to a diverse population of students. The new liberal education should thus be personalized to support the discovery and development of passions and strengths for each student. Curriculum and learning activities should be driven by the passion and strengths of individual students. They should be co-designed with individual students instead of externally prescribed and imposed upon them.

Globalized Campus

There is no doubt that the world is globalized—interdependent, interconnected, and integrated on a global scale. Citizens today are not only members of a local community or nation, but also of the global

community because their actions and wellbeing affect and are affected by others beyond their local communities. Moreover, birthplaces are not likely to be the same places many children will live and work when they grow up. Thus developing global competency that enables everyone to participate in the global society and contribute positively to the globalized human community has become a necessity (Council on International Education Exchange, 1988; Reimers, 2009; Zhao, 2009, 2016).

The new liberal education must include, as one of its outcomes, the development of global competency. An effective way to develop global competency is to live and learn globally. Fortunately, technology has made it possible for students to engage in global interactions on a daily basis from anywhere on the globe. For example, a course can easily enroll students from many different locations on earth. Thus the new liberal education requires educational institutions not as local physically bounded entities, but as global campuses.

Global campus thinking provides another needed benefit: institutions do not have to rely on their local staff to offer all courses to students. Already there are international organizations that offer online courses for students across the world. This helps alleviate the concern over shortage of qualified faculty and staff to meet the needs of all students, especially when following a personalized approach.

A New Paradigm

In my 2012 book *World Class Learners: Educating Creative and Entrepreneurial Students*, I put forth a three pillar model as a new education paradigm that aims to prepare students for the Age of Smart Machines. The three pillars are student autonomy, product-oriented learning, and globalized campus. Each pillar is about the three essential elements of education: what to learn (curriculum and school culture), how to learn (pedagogical approach), and where to learn (learning environment) (see Table 1).

What: Student Agency and Autonomy

Students should have agency and autonomy over their learning experiences in the school. They should

TABLE 1. **Global, Creative, and Entrepreneurial: Elements of a World Class Education**

Student Autonomy: What	Voice: Governance and Environment	<p>To what extent are students involved in the development of rules and regulations in the school?</p> <p>To what extent are students involved in selecting and evaluating staff?</p> <p>To what extent are students involved in decisions about courses and other learning opportunities the school offers?</p> <p>To what extent are students involved in decisions about equipment, library books, technology, or other similar items?</p>
	Choice: Broad and Flexible Curriculum	<p>How many different courses, programs, and activities are offered?</p> <p>To what degree can students construct their own courses or programs?</p> <p>To what degree can students learn from outside resources, either in the local community or through online arrangements?</p> <p>To what degree does the school provide resources such as mini grants to support student-initiated activities such as clubs or project teams?</p> <p>To what degree can students be excused from externally imposed upon standards and assessments with good reasons?</p>
	Support: Personalization and Mentoring	<p>Does each student have an adult advisor or coach?</p> <p>To what degree can students choose the adult advisor or have the freedom to change advisors?</p> <p>To what degree are adults available to talk and work with students upon request?</p> <p>To what degree are students provided with opportunities to work with advisors from outside the school?</p>
Product-oriented Learning: How	Authentic Products: Meaningful or Useful	<p>Is there an infrastructure for students to develop, display, or market products and services?</p> <p>Are relevant policies that govern student products, for example, policies regarding ownership of the intellectual property of student products, in place?</p> <p>What products and services have students created?</p> <p>In what ways have students' products and services been used?</p> <p>To what degree are students engaged in product-oriented learning? Or what percentage of student activities is product oriented?</p>
	Sustained & Disciplined Process: Drafts & Review	<p>Is there an established process for reviewing proposals and products?</p> <p>Is there an established process and protocol for product improvement?</p> <p>Is there an established process to engage external experts from the broad community to participate in proposal and product review?</p> <p>Are there established criteria for products and proposal review?</p>
	Strength-Based: Unique and Local	<p>Does the school have unique features that reflect the local community resources?</p> <p>Does the school have unique features that reflect the strengths of its teaching staff?</p> <p>Does the school have an established mechanism for students and staff to explore and express their strengths?</p> <p>Does the school stand out in any other way?</p>
Global Campus: Where	Global Orientation: International Partners and Opportunities	<p>How many international partners does the school have?</p> <p>How frequently are students engaged in international activities?</p> <p>To what degree are students' projects/products oriented to global issues or needs of people from other countries?</p> <p>To what extent does the school utilize international resources?</p> <p>To what extent does the school provide resources to other countries?</p> <p>Are there established channels for frequent international interactions among students and staff?</p>
	Global Competence: Foreign Languages and Cultures	<p>How many foreign languages are offered in the school?</p> <p>Can students learn a language that is not offered by the school staff?</p> <p>What opportunities are available for students to engage in cross-cultural interactions?</p> <p>What opportunities are available for students to live or study in culturally unfamiliar situations?</p>

Adapted from Yong Zhao (2012), *World Class Learners: Educating Creative and Entrepreneurial Students*, Thousand Oaks, CA: Corwin Press.

be treated as full members of the learning community and thus have voice in the rules that govern the school's social environment, curriculum and staff that make up the school's intellectual environment, and facilities and equipment that are part of the physical environment. They should be working with faculty and staff to co-design their personalized learning plans.

How: Product-oriented Learning

Product-oriented Learning (POL) is a pedagogical approach designed to enhance the entrepreneurial mindset and creativity in students by engaging them in creating high quality works that solve worthwhile problems. POL requires all learning is centered on developing authentic and high quality works, which can be products, services, or programs that have genuine value for others. POL emphasizes on a process of review and revision to produce great works. It teaches collaboration skills in a way that helps students identify their strengths and weakness.

Where: Globalized Campus

The learning environment is global by design. Students learn from, with, and for others from around the world on a daily basis. Courses and projects can include members from other places beyond the school and local community. Teaching can be done remotely by faculty from beyond the local community. Students can help solve problems in other places.

Reinventing Liberal Education in China: Recommendations

China is well positioned to be a pioneer in reinventing liberal education for a number of reasons. First, China has clearly felt the urgent need for more creative entrepreneurs and innovators (Zhao, 2014). Innovation and entrepreneurship have been promoted as the key to China's future prosperity. Major policies have been issued to encourage college students to take on entrepreneurship and higher education institutions have been tasked with the responsibility to promote and support entrepre-

neurship on campuses. Entrepreneurship colleges and programs are mushrooming, with policy and financial support from governments at all levels. But the efforts so far have not been very successful because traditional education is unable to equip students with necessary qualities and skills: entrepreneurial mindset, creativity, innovation skills, and other capacities. An add-on entrepreneurship program or course is unlikely to instill in students the needed abilities and dispositions. Hence the urgent need for a new education paradigm.

Second, China has recognized that recent economic development has brought material wealth to its citizens, while at the same time resulted in the unhealthy pursuit of material and commercial success at the cost of integrity, concern for others, and psychological health (Hangyal & Teng, 2018; Jiang, 2013). For both economic and social reasons, China needs citizens with skills in critical thinking, innovation, and moral and ethical judgment. These needs have already prompted China to experiment with elements of liberal arts education in various formats that include establishing independent liberal arts colleges and increasing general education courses. However, liberal arts colleges/programs in China, like their western counterparts, face criticism of being elite, impractical, and useless for finding jobs.

Third, the lack of a tradition in liberal arts education in Chinese universities may actually be a blessing in disguise. History can be a huge burden for innovation and change, as anyone with experience trying to make changes in a university can attest. It is more possible to develop new practices than change existing ones. China's lack of history in liberal education means it does not have many faculty members who have a past to defend, nor does it have preconceived model of liberal education to protect.

Fourth, China's authoritarian and centralized government has the power to mandate changes, if it so desires. China has built the longest high-speed rail in the world and completed numerous unbelievably large-scale projects for this reason. While not endorsing a centralized and authoritarian approach

to education because the same approach can cause disastrous consequences on a large scale as well, if China wishes, it could start massive transformation in the education sector within the authoritarian and centralized system.

Fifth, many Chinese students, especially those who succeeded at the gaokao, have learned to be compliant and obedient. They have learned not to be creative and pursue their passion or interest. Many of them do not know why they want to study something beyond the prospect of getting a job that pays well. Many view this as an obstacle to liberal education. However, it can be a great opportunity. Because of their test-prep experiences before college, the students can appreciate and enjoy experiences that respect their passion, strengths, and creativity and help them create value for others, which enhance their sense of genuine accomplishment.

However, while China has the opportunity to reinvent liberal education in China for China and the world, the opportunity can be easily lost without thoughtful strategies and clear plans. Below are some of my recommended strategies:

First, liberal arts programs need to move away from being elite and impractical. They should be proud of being able to educate all sorts of students instead of just “the best” few. Liberal arts programs may consider admitting students using a broader set of indicators than just test scores, or better yet, for those programs that select students from already admitted students, use a random approach such as lottery.

Second, liberal arts programs should reach out to entrepreneurship initiatives on campus and work collaboratively.

Third, students are powerful change agents. Liberal arts programs should enlist students as teachers, collaborators, and leaders instead of treating them as just recipients of instruction.

Fourth, liberal arts programs should seriously consider the use of technology to enhance their delivery of education and student engagement.

Fifth, liberal arts programs should not try too hard to change existing faculty. Instead, efforts should be placed to think creatively about how to use

existing faculty in ways that support the new paradigm of education, in conjunction with other resources such as students, technology, and new recruits.

Finally, liberal arts programs should reach out to governments to seek more freedom. Perhaps liberal arts programs can be established as “special economic zones” that Chinese government often uses for bold experiments with policies.

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Liberal Education in China, Past and Present

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Education in the liberal or liberating arts is hardly new to China. It was at the heart of the longest educational tradition in human history. It defined the first generation of modern Chinese colleges and universities in the first half of the twentieth century. Today, every major Chinese university is experimenting with curricula and programs in the liberal arts and sciences. A joint-venture initiative, Duke Kunshan University, aims to reintroduce the liberal arts college to an educational landscape that discarded the concept after the founding of the People's Republic. Yet as the liberal arts return to China, they face challenges new and old. Over the course of the twentieth century, Chinese higher education came to stress the importance of science, engineering, and (in more recent years) the professions over a foundational education in the liberal arts. And Chinese governments, past and present, have been both patrons and censors of liberal education, broadly defined.

China is home to the world's longest continuous civilization, with the longest continuing sets of philosophical and literary traditions. The study of those traditions defined not only what it meant to be a scholar, but also what it meant to have influence and power. The imperial educational and examination system, which lasted a millennium from Song through Qing times, brought the most learned men in the realm into the service of the state—not because they had been trained in statecraft or tax collection, but because they had deeply studied what we would today call the “humanities”; because they had studied, memorized, chanted, and metaphorically consumed the classics, and they would, in office, act according to the principles of human behavior that the study of the *Analects*, *Mencius*, and other great works set out. They would serve the state, but they would do so as truly educated men.

There has seldom been a higher academic ideal:

good people embarking on the living study of great books in order to do good work in society. This was the ideal, although never fully realized in practice. And there were limits to this system: the lack of the study of mathematics, science, and practical affairs, did not mean that the Empire was thereby better governed. Their absence arguably contributed to the Qing Empire's incapacity, in the nineteenth century, to respond to a militarized, industrialized, and otherwise energized West, in a series of humiliations that would spell the end of a 2,000-year imperial tradition.

The Qing fell in 1911, but in education the more important date is 1905, when the ancient examination system was ended overnight. From that date—and under both Nationalist and Communist regimes—China would be governed not by a civil service chosen for its proven capacities in moral reasoning, but largely by exemplars of that most dominant and successful Western export, the modern, professional military, in the direct service of another Western export that would not be particularly sympathetic to humanist discourse, the Leninist state. That liberal education could grow at all in this political landscape is a remarkable story.

Taking the place of the examination system and the academies associated with higher learning in later imperial times was a set of new colleges and universities founded in late Qing and early Republican times. Theirs was the complex and often contradictory challenge to bring global knowledge and international standards of higher education to China while still serving the state and nation.

Take the case of Wuhan University, China's oldest modern university. Founded in 1893 as the “Self-Strengthening Institute” (自強學堂) under the reformist Governor-General Zhang Zhidong, its early, instrumentalist focus was toward the study of those subjects that would bring about China's return to “wealth and power” (富強), primarily mathemat-

ics, science, and business, though not at the expense of China's educational tradition. Zhang's famous Exhortation to Study (勸學篇) published in 1898, argued that "Chinese learning" (education in the classics) had to remain the foundation, while "Western learning" was for "practical matters" (中學為體西學為用).

By 1928, however, Wuhan University had become one of China's first comprehensive, national universities, with a distinguished and internationalized Faculty of Arts to match those in Law, Science and Engineering. Wuhan University enjoyed a strong history of growth before 1949, and then it was nearly destroyed during the Cultural Revolution. Today it is again a major comprehensive university, with a faculty of nearly 4,000 teaching a student body of 34,000 undergraduates and 21,000 graduate students. Ranked in 2016 as fourth among Chinese universities by the University Ranking of China (sponsored by the Chinese Universities Alumni Association), it has become the indispensable partner of the new liberal arts college at Duke Kunshan University, of which Wuhan University's former president, Liu Jingnan, is the Chancellor.

Or take the case of Tsinghua University. Tsinghua was founded as an imperial academy in 1911, the last year of the last emperor of the last imperial dynasty. The history of Tsinghua mirrors the story of higher education in modern China.

Founded by the Qing court as *Qinghua xuetaang* (清華學堂) near the site of the *Qinghua yuan* (清華園), an imperial garden of the eighteenth century, Tsinghua began as a preparatory school in the arts and sciences for students selected to study in the United States, funded with Boxer Indemnity Funds remitted from the United States. By 1925, Tsinghua was itself a college of liberal arts and sciences and home to China's leading Institute of Chinese Studies, the *Guoxueyuan* (國學院). Its famous "four tutors"—Liang Qichao, Wang Guowei, Chen Yinque, and Zhao Yuanren—added international and scientific dimensions to the study of Chinese language, literature, linguistics, and archaeology. With the establishment of the National Government in 1928, Tsinghua became National Tsing Hua University and the leader of a vibrant mix of institutions (public

and private, Chinese and foreign) that made Chinese higher education one of the most dynamic systems in the world in the first half of the twentieth century (Qian & Li, 2001).

Tsinghua's influence went well beyond China. Its history department, founded in 1926, was chaired for its first decade by T. F. Tsiang (Jiang Tingfu), a recipient of an American liberal arts education at Oberlin and a doctoral degree from Columbia. Tsiang revolutionized the study of China's modern international relations. He would go on to a distinguished diplomatic career, serving as the Republic of China's ambassador to the United Nations from 1946 to 1966. John K. Fairbank, a pioneer in modern Chinese studies in the United States, learned his Chinese history from T. F. Tsiang at Tsinghua in the early 1930s. (The undergraduate course on East Asian history that Fairbank began teaching at Harvard in 1939 has been, in one form or another, central to Harvard's general education programs for nearly eighty years.)

After the establishment of the People's Republic on the mainland, Tsinghua, like most institutions of higher learning, was Sovietized. It became a polytechnic university to train engineers. The schools of sciences and humanities, agriculture, and law were all abolished, and their faculty members were dispersed to other institutions. This reorganization positioned Tsinghua for leadership during the First Five-Year Plan (1953–1958), when it trained many of China's subsequent elites, but the relentless politicization of universities under Mao Zedong first weakened, and then nearly destroyed, Tsinghua. During the early years of the Cultural Revolution (1966–1976), Tsinghua became a prominent battleground for factional and ideological strife at the national level. Much diminished during the late 1960s and 1970s, it reopened as a shell of its former self in 1978 (Hinton, 1972; Tang, 2003).

Over the subsequent decades, Tsinghua's agenda was tied closely with that of the era of "opening and reform." The university received bountiful government investment and rose to lead China in engineering and science. It established a series of professional schools, one of which, the School of Economics and Management, has become the most

selective school in the world for undergraduate admissions. Tsinghua's graduates, among them Presidents Hu Jintao and Xi Jinping, have come to dominate the Chinese leadership elite.¹

Today, Tsinghua has reestablished itself as a comprehensive university. A School of Humanities and Social Sciences was established in 1993, and in 2012 it was divided into separate schools. Tsinghua's Law School was reestablished in 1995. In 1999, the former Central Academy of Arts and Design became part of Tsinghua, as did Peking Union Medical College in 2006. In November 2009, Tsinghua revived its famous Institute of Chinese Studies. The Tsinghua School of Economics and Management began to lead the university in reforming its general education curriculum. And at the university's one hundredth anniversary in 2011, a magnificent New Tsinghua Academy (新清華學堂) was dedicated not to the fields of engineering, science, and technology, for which Tsinghua has been best known in recent decades, but to the performing arts.

The most famous effort to make the liberal arts the foundation of a modern Chinese university occurred at Peking University (北京大學). Founded as the Imperial University of Peking (京師大學堂) in the "Hundred Days" of reform in 1898, it was intended to be the national capstone of a new school system, with initial focus on moral education, the Chinese classics, plus (from "Western learning") the applied sciences, military science, and manufacturing. Its graduates were to serve the imperial state in the tradition of successful examination candidates.

The new national institution had multiple near-death experiences in the last thirteen years of imperial rule, but with the founding of the Republic in 1912 it was reinvented on a German, indeed Humboldtian, model. The Republic's first Minister of Education, Cai Yuanpei, was a German-returned scholar (University of Leipzig) who in the first month of the Republic issued an official opinion that universities should no longer simply serve government, but should be granted institutional auton-

omy and be places for an "education with a worldview" (世界觀教育). He stressed the importance, as had Wilhelm von Humboldt, of *Bildung*, that is, of broad, humanistic learning as the foundation of both teaching and scientific research (in the sense of *Wissenschaft*) (Weston, 2004).

When Cai Yuanpei assumed the presidency of Peking University in 1917 his inaugural address declared, "People outside the university...observe that all who study here have it in their minds to become officials and get rich." Students, he said, should devote themselves to learning, not in narrow specializations but in the humanities and natural sciences. Cai's presidency, which overlapped with and helped to define the New Culture movement of the May Fourth era, saw the rapid growth of the humanities at "Beida" (北大), as Peking University was popularly called, and phased out the business and engineering divisions (Weston, 2004). He recruited to the Beida faculty the scholars Chen Duxiu and Li Dazhao, who would be instrumental in introducing Marxism to China. He recruited also to this "national university" the philosopher Hu Shi, a student of John Dewey at Columbia, who had written, "For a country to lack a navy or an army is not a cause for shame; [but] a country without a university, a national library, museum, or art gallery, should be ashamed" (Weston, 2004, p. 30). It was in the tradition of this intellectually vibrant and diverse Peking University that its students would play dramatic roles in challenging successive Chinese governments in the liberal and patriotic public demonstrations of 1919, 1935, and eventually 1989.

Today, a century after he assumed the presidency of Beida, an elite liberal arts college named for Cai Yuanpei sits at the heart of Peking University. In Yuanpei College (元培學院) a select group of Peking University students choose (and can change) their course of study in the liberal arts and sciences in an intimate educational setting.

A sense of the liberal arts as central not only to individual growth but also to national salvation can be found in the history of National Southwest Asso-

¹ On the earlier development of a Tsinghua "clique" in politics, see Li Cheng (2001), *China's Leaders: The New Generation*, pages 87-126 (Lanham, Md.: Rowman & Littlefield).

ciated University (國立西南聯合大學), popularly known as “Lianda” (聯大). Over nine years (1937-1946) during and after the Sino-Japanese War, this institution brought together an extraordinary collection of faculty, students, and administrators from Tsinghua, Peking, and Nankai Universities who had trekked from North China to Kunming, in China’s southwest, to resist, endure, and outlast the Japanese invasion. With faculty strength across the humanities and social sciences (and with Nankai adding unique strength in economics and engineering), Lianda brought together in concentrated form the elite of Chinese higher education. Lianda’s course of study for its 3,000 undergraduates was modeled on Tsinghua’s and that of American colleges. As Tsinghua Chancellor Mei Yiqi declared, “Liberal education is primary, specialization secondary” (Israel, 1998, p. 132). There was a core curriculum that included courses in Chinese and Western history as well as introductory courses in philosophy and the sciences. A general education requirement demanded that students in the humanities take at least one course in the sciences and two in the social sciences. Beyond that, students had broad liberty to shape their course of study, and faculty exercised “near total control over course content, teaching methods, and grading” (Israel, 1998, p. 133).

Lianda would prove the last major endeavor in liberal education for decades to come. Throughout the Republican period, there were strong counter-trends. The National Government, established under the Guomindang in 1928, sought to bring educational institutions under greater government and Party control. Public universities were to be “partified” (黨化). Required courses in Sun Yat-sen’s Three People’s Principles were introduced. Above all, the government sought to channel educational resources more directly to areas of government priority and to limit enrollment in the humanities and social sciences in favor of science, engineering, and, at the secondary level, vocational training. One leading Guomindang official proposed in 1932 that in order to “train talent to meet society’s needs,” enrollment in the humanities and law should be suspended for a decade. During the decade of the 1930s, engineering enrollments tre-

bled at government-funded institutions. In the same period, the number of students enrolled in the liberal arts fell by one-third. As the Minister of Education, Wang Shijie, the former chancellor of Wuhan University, said in 1937, knowledge was to be “harnessed to produce results in connection with the economic development of the country” (Kirby, 2011, p. 291-292). By 1949, when the mainland fell to the Communists, less than 10 percent of graduates of Chinese public universities graduated with degrees in humanistic disciplines. The Communists then took that number to the vanishing point.

In both the Nationalist and Communist periods, the rise of the engineering state worked to limit the influence of the liberal arts. Both regimes shared a belief that in an age of science one could engineer a bright future, a new nation. This was the dream of Chinese leaders from Zhang Zidong and Sun Yat-sen onward: a government of technocratic expertise, capable of “reconstructing” China with roads, railroads, and dams—a government of huge ambition, as seen in the Three Gorges Dam project, first conceived by Sun Yat-sen in the 1920s, planned by Chiang Kai-shek in the 1940s, and later built by the governments of Jiang Zemin and Hu Jintao. In recent years, nearly every member of the Standing Committee of the Politburo of the People’s Republic of China—the seven to nine or more men who run the country—has had training in engineering. Of all the world’s governments in the early twenty-first century, only China’s has the engineering imagination, political will, and financial resources to complete projects on the scale of the Three Gorges Dam. This and other great infrastructure projects—highways, railways, subways, airports, and more, on a scale unmatched anywhere—are the result of an engineering state unleashed and unchecked.

A second belief articulated in different eras of the twentieth century was that culture and the arts were to be firmly subordinated to the purposes of the developmental state. Under Chiang Kai-shek’s New Life Movement and Mao Zedong’s Cultural Revolution, the humanities in particular were mobilized for the purposes of the state. As Mao Zedong put it, there was no such thing as art for art’s sake. Literature and art were to be defined as “the

artistic crystallization of the political aspirations of the Communist party.” (As the twentieth-century writer Lu Xun once observed, all art may be propaganda, but not all propaganda is art.)

A third trend, set out first in the Nationalist period but taken to dramatic extremes in the Communist era, is the intrusion into universities of political propaganda masquerading as science. In each era there have been politically required courses, first of the Three People’s Principles of Sun Yat-sen, and then of Marxism, Leninism, Mao Zedong Thought, and beyond. These courses have been at once curricular and extra-curricular, not part of the regular course load but required nonetheless. As President Xi Jinping has said, “The world cannot have a second Harvard, Oxford, Stanford, MIT, or Cambridge, but it can have famous Chinese schools like Beida, Tsinghua, Zhejiang University, Fudan, and Nanjing University.” To achieve that goal, the Party Secretary of Peking University, Zhu Shanlu, noted in early 2015, “We must hold high the flag of the advanced spirit of Socialism with Chinese Characteristics, and closely link the goal of nurturing and promoting Core Socialist Values.” “Universities,” Zhu continued, “must grasp the right to the leadership, management, and discussion of ideological work tightly in our hands....We must successfully manage the battlefield, manage our troops.” While “academic research has no boundaries,” he concluded, “classroom lecturing must have discipline” (學術研究無禁區，課堂教育有紀律).

Zhu unwittingly captured the dilemma and challenges facing Chinese higher education from the late nineteenth century to the present. Many of China’s greatest intellectual traditions are rooted in the humanities and the broader liberal arts. The past one hundred years has witnessed the rise, and fall, and now return of institutions devoted to liberal education. Perhaps the most important revolution in Chinese higher education today is the fact that even under the leadership of engineers, leading institutions have come to believe (once more) that an education without the humanities is incomplete. This is a recognition that in an age still consumed with “wealth and power,” that as

countries vie for power and individuals seek to accumulate, an education that stresses the values that make for a strong, and even harmonious, human community are more important than ever, hence the creation of Yuanpei College at Beida and the approval and support of a liberal arts college at Duke Kunshan University.

Over the past decade, many mainland universities, together with those in Hong Kong and Taiwan, have competed to introduce general and liberal education programs that open opportunities for learning across the humanities and social sciences. They stress the education of the whole person, not just training the specialist, with the aim to ensure that graduates are curious, reflective, and skeptical learners—people with the capacity for innovation and lifelong learning. Just as many American educators believe (not wrongly) that young Chinese are better educated in math and science than their American counterparts, many Chinese educators believe it is the West, and particularly the Americans, who are “innovative” and “creative thinkers” while the Chinese (somehow despite all their ancient inventions and modern revolutions) remain “traditional,” “rule-bound,” and “rote learners.” Presidents of Chinese universities have taken their American counterparts at their word and have devoted enormous effort to craft curricula for general and liberal education in a Chinese context.

But the tensions set out by Zhang Zhidong in the late nineteenth century remain. In Chinese government policy today, a new version of “Chinese learning” is often given official pride of place over “Western learning.” At least in Zhang Zhidong’s day people knew what Chinese learning—a deep education in the classical canon—meant. Today it is “socialism with Chinese characteristics” and the “guiding role of Marxism in ideology,” according to the recent Minister of Education, Yuan Guiren. (The assumption that Marxism is not “Western” must be the subject of another essay.) In beginning an ideological surveillance of universities that continues to this day, Yuan argued in 2015 against the proliferation of “Western values” and textbooks in Chinese universities. It was better, he suggested, to study the theories of President Xi Jinping (“Education minister warns against ‘wrong Western values,’” 2015).

This leads to a final question: can liberal education exist in a politically illiberal system? Perhaps, but as Cai Yuanpei argued a century ago, only with a significant degree of autonomy. German universities in the nineteenth century had many political pressures, but they were the envy of the world in part because they also had traditions of institutional freedom that fostered and (at times) protected creative thinkers. China's universities today boast superb scholars and among the world's best students. But these students are also forced to sit through required courses in Party ideology, and they must learn a simplified version of the history of their own country. Even with new programs of general education in the realm of politics and history, the distance between what students have to learn in order to graduate and what they know to be true, grows greater every year.

This then is the challenge for the future of the liberal arts and sciences in China. This is a challenge and an opportunity for the bold experiments in liberal education that are occurring both in Chinese universities and in international collaborations such as Duke Kunshan University.

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Zhu, S. (2015, February 3). Yi peiyu he hongyang shehui zhuyi hexin jiazhi guan wei yinling zhashi zhuhao xinxi ngxingshixia gaoxiao xuanchuan sixiang gongzuo [Use nurturing and promoting the core values of socialism to show the way; Firmly grasp the university propaganda and ideology work under new circumstances] (Trans: Jocelyn Eby). *Renmin Wang*. Retrieved from <http://edu.people.com.cn/n/2015/0203/c1053-26497898.html>

TABLE 1. Notions Relevant to the Curriculum in Question in China and beyond

Term	Definition	Emphasis
Liberal Arts Education	Liberal arts education is an approach to learning that aims at producing well-educated graduates who have a range of knowledge in different fields and the ability to think independently. Liberal arts education does not prepare a student for a specific job or occupation, but rather build capacity to fit into a range of possibilities. (Altbach, 2015)	humanistic appreciation of knowledge
Liberal Education	The essence of liberal education is to develop the freedom to think critically and independently, and cultivate one's mind to its fullest potential, to liberate oneself from prejudice, superstition, and dogma (Levin, 2003, p. 15).	students' ability to think critically
General Education	General education emerged in response to changing societal needs and the tension between classical liberal education and more practical or specialized education. It serves as a foundation for technical or vocational training, fostering in students the ability to think beyond their areas of specialization. (Stark and Lattuca, 1997)	students' ability to think beyond their areas of specialization
Humanist Education	Humanist education is an approach to strengthening ethical principles and values in the process of learning (Dewey, 1944; Stallman, 2003), and now infused with respect for life and human dignity, equal rights, social justice, cultural diversity, international solidarity, and shared responsibility for a sustainable future (UNESCO, 2015).	value and agency of human beings beyond narrow utilitarianism and economism
Whole-person Education	Whole-person education fosters spiritual, intellectual, humane, social and physical development of the students, and nurture them to become confident, caring leaders who possess integrity, perseverance and a sense of responsibility for themselves and others (Sivan, Chan and Wong, 2014).	well-rounded character education
Holistic Education	Holistic education is a philosophy of education based on the premise that each person finds identity, meaning, and purpose in life through connections to the community, to the natural world, and to humanitarian values such as compassion and peace (Miller, 2000).	development of students' intellectual, emotional, social, physical, artistic, creative and spiritual potentials
Classical Education	A classical education embraces study of literature, poetry, drama, philosophy, history, art, and languages. Now it is often used to refer to a broad-based study of the liberal arts and sciences, as opposed to a practical or pre-professional program. (Unger, 2003)	the study and understanding of a core canon
Tongshi Education	<i>Tongshi</i> (literally meaning "interconnected" and "knowledge") education is the Chinese variant of general education, originating in the Chinese educational tradition that emphasizes a broad-range learning of classical Confucian texts over acquisition of technical expertise (Levenson 1969), and now combining a historically long-standing Chinese educational philosophy with a Western notion of general education (Zhang, 2012).	antiprofessionalism and moral education
Guoxue	<i>Guoxue</i> (literally meaning "national learning") refers to a realm of learning that intends to identify, and even represent a Chinese essence, or the national character. With the Confucian revival of these years, Guoxue becomes closely identified with Confucianism. (Dirlik, 2011)	native learning, as imbedded in the texts and individual exemplars of antiquity

Liberal Arts Education in Chinese Universities: Status Quo and Challenges

Liberal arts education is becoming popular in elite Chinese universities, largely following the exercise in American peers such as Harvard and Chicago. The major barrier lies with the fact that the liberal arts curriculum often mechanically imitates the Western practice, which in turn adds a considerable amount of courses and focuses on transmission of knowledge, arguably a broad array of knowledge. Such practices inevitably increase the workload of the students, hence they are often perceived as a burden. By the same token, many students, and even instructors, apply a utilitarian view upon liberal arts education curriculum, and thus regard it as a kind of “luxurious” add-on (Zhang, 2012).

The Conceptual Framework: A Social Change Driver Perspective

Arguably, this particular type of curriculum, whether called liberal arts or general education, “is an approach to learning that empowers individuals and prepares them to deal with complexity, diversity, and change. It provides students with broad knowledge of the wider world as well as in-depth study in a specific area of interest...it helps students develop a sense of social responsibility, as well as strong and transferable intellectual and practical skills such as communication, analytical and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings,” as rightly stated by the Association of American Colleges and Universities (AAC&U) on its website. Such an insightful statement regarding the goal, pedagogy, and outcome of liberal arts education resonates with the German notion *Bildung*, which is seen as a process wherein an individual’s spiritual and cultural sensibilities as well as life, personal and social skills are in process of continual expansion and growth. In this sense, fulfillment is achieved through the development of one’s own individual talents and abilities, which in turn leads to the development of one’s society. Put another way, *Bildung* does not simply accept the socio-political status quo, but rather it

includes the ability to engage in a critique of one’s society, and to ultimately challenge the society to actualize its own highest ideals. Thus two things need to be noted here: 1) self-cultivation is a lifelong process, and 2) self-cultivation is achieved through a unification of selfhood and identity within the broader society. Drawing on the notion *Bildung* as a conceptual framework, an effective/ideal liberal arts education should essentially empower the individuals’ self-cultivating ability, and take into account the social changes when reconfiguring such ability.

The Meta Social Changes: Drivers Pushing for a 21st Century Liberal Arts Curriculum

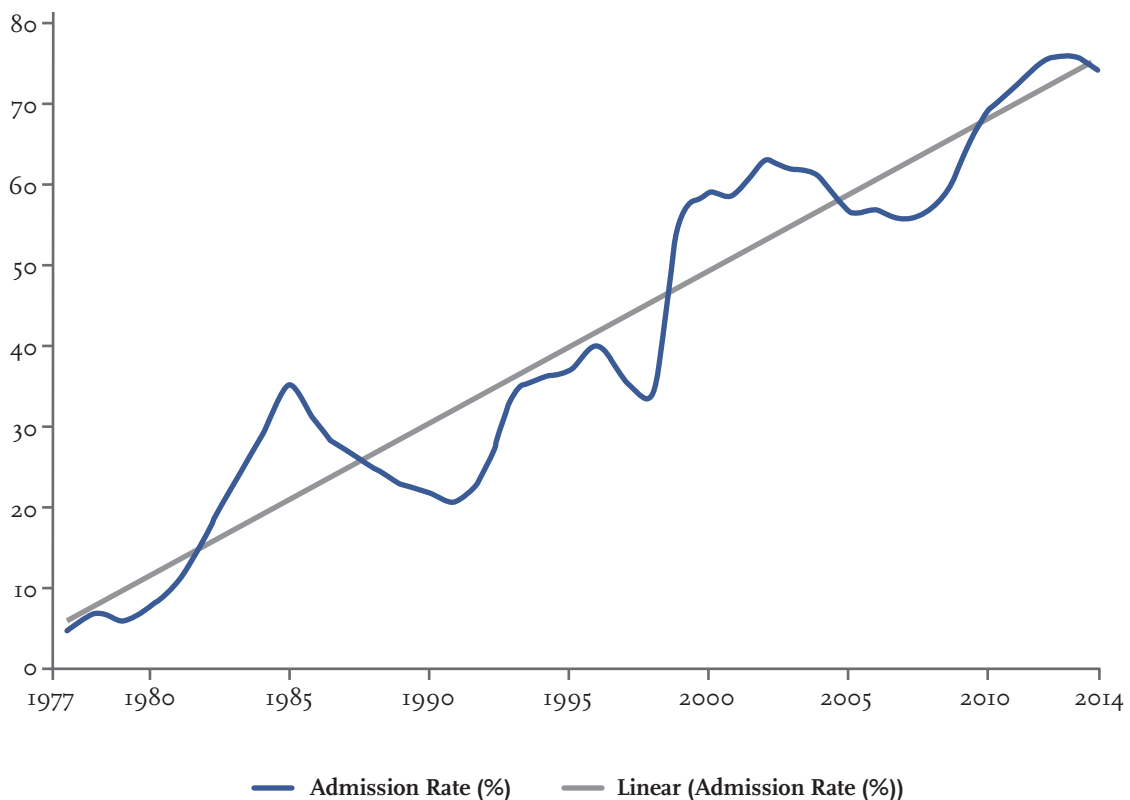
From there, this paper deliberately argues that, while rooted in cultivation of humanism (that emphasizes the value and agency of human beings, and prefers critical thinking), an effective/ideal liberal arts education curriculum in the 21st century must take into account those fundamental and significant changes that closely relate to education in current as well as future society, and such changes arguably include the massification of higher education, an increasingly knowledge-based economy, and the accelerating trends of globalization. The expansion/growth of higher education has an explicit bearing not only on equality and equity in education but also on organization and delivery of curriculum. The liberal arts curriculum, which used to cater to elite students and prepare them to exercise leadership in society, now is supposed to address the needs of non-elite and underprivileged students and thereby empower them in their life and social mobility pursuits. Hence, the discourse of social justice ushers in the pressure and challenge for liberal arts education to help address educational equality and equity along with higher education expansion and differentiation in China and elsewhere. A knowledge-based economy renders the students to pursue and develop the ability that enables them to fashion their knowledge to the work contexts experiencing constant changes and increasing uncertainties. Finally, the process of globalization requires all students to develop a kind of global consciousness and the competency for global opportunities and engagement.

Regarding social justice, since the late 1990s, Chinese higher education has experienced a massive expansion in terms of enrolment size and participation level. The participation rate in higher education among the appropriate age cohort reached 42.7% in 2016 (Ministry of Education, 2017), and now up to 75% of high school leavers would have the opportunity to have some form of higher education, as shown in Figure 2. It depicts that the students coming to Chinese universities are changing and changed. Nowadays 70-75% of Chinese university students are the first-generation higher education participants (students who are the first in their families to receive higher education), and are considerably disadvantaged in their academic and intellectual development due to inadequate cultural and social capital (Lu et al., 2015; Zhang et al., 2017). In the meantime, the Chinese higher education system be-

comes tremendously stratified, witnessing a few dozen universities sitting on top of the pinnacle and resourced way better than other peers. Most new enrolments, unfortunately, go to a large number of low-echelon provincial universities, which in turn results in a kind of dilemma in terms of expansion for differentiation and stratification. Then, how could liberal arts education fit in this scenario, and benefit the majority of students, especially those in non-elite local institutions? Arguably, if still confined to elite universities, liberal arts education might be held responsible for reinforcing university (and ultimately social) hierarchy, and producing the so-called “refined egoists” (Wei, 2012).

In this regard, the AAC&U vision of the 21st century liberal arts education serves as a guideline or a principle, as illustrated in Table 2. The central notion in the AAC&U vision is that liberal arts edu-

FIGURE 2. Admission Rate to Chinese Universities and Colleges, 1977-2014



Data source: Sina Education, 18 June 2015.

cation is essential and thus should be made available and accessible to more and ultimately all students. Arguably, information and communications technology (ICT) and especially massive open online courses (MOOCs) now help disseminate and deliver liberal arts education curriculum in a much wider spatial spectrum. It appears that developing a liberal arts education curriculum and even delivering such a curriculum are no longer a very difficult task, yet how to forge students' self-cultivation and self-actualization capacity remains a tough job. It is essential for cultivating and sustaining their critical thinking ability, yet challenging to students from low SES families or the first generation students who are under enormous pressure to study for employment. Arguably, such students are critically in need of the self-cultivation and self-actualization capacity in order to rectify their socio-political status. Therefore, pedagogically linking liberal arts education to social equality and equity might be appealing to those who are subject to socioeconomic constraints and employment anxiety. Notably, this notion goes perfectly well with UNESCO's call for a humanistic vision of

education and development, which takes the debate on education beyond its utilitarian role in economic development and now to the level of a sustainable future for all, i.e., to heighten respect for life and human dignity, equal rights, social justice, cultural diversity, international solidarity, and shared responsibility for a sustainable future (UNESCO, 2015). A humanistic vision of education "reaffirms a set of universal ethical principles that should be the foundation for an integrated approach to the purpose and organization of education for all... Based on this ethical foundation, critical thinking, independent judgement, problem-solving, and information and media literacy skills are the keys to developing transformative attitudes" (UNESCO, 2015, p.37). Arguably, such an approach has significant implications for the design of learning in today's liberal arts curriculum, which is now supposed to promote the acquisition of relevant knowledge and the development of competencies for the sake of reincarnating our ethical and moral foundations, and reaffirming education as a common good.

TABLE 2. Recommendations in Light of Changing Nature of Liberal Arts Education

Essentials of Liberal Arts Education	Liberal Arts Education in the 20th Century	Liberal Arts Education in the 21st Century
What	<ul style="list-style-type: none"> • intellectual and personal development • an option for the fortunate • viewed as non-vocational 	<ul style="list-style-type: none"> • intellectual and personal development • a necessity for all students • essential for success in a global economy and for informed citizenship
How	through studies in arts and sciences disciplines ("the major") and/or through general education in the initial years in the university	through studies that emphasize the essential learning outcomes across the entire educational continuum—from school through university—at progressively higher levels of achievement (recommended)
Where	elite liberal arts colleges or colleges of arts and sciences in larger elite institutions	all schools, community colleges, colleges, and universities, as well as across all fields of study (recommended)

Source: Adapted from Association of American Colleges and Universities (2007). *College Learning for the New Global Century*, p. 18, Figure 5.

²Please see sample liberal arts courses made available by Coursera: <https://www.coursera.org/browse/arts-and-humanities?languages=en>

As such, China's tradition of *shuyuan* education could be a useful, as well as a powerful, leverage for Chinese universities to practice liberal arts education for social equality and equity. The *shuyuan* was a form of private academies of classic learning, and carried a strong sense of academic independence for the sake of nurturing the whole person. The *shuyuan* began to flourish in the Tang and Song dynasties, forging an alternative system to the imperial or civil service examination system and a knowledge tradition stressing humanistic education, with an independent ethos that was tolerant of different schools of thought. In contrast to pragmatism of the imperial examinations system, the *shuyuan* fostered character development. Education in *shuyuan* is considered important for its intrinsic value, which is oriented "towards the deep approach rather than the surface approach to learning" (Lee, 1996, p. 34), and emphasizes "studying extensively, enquiring carefully, pondering thoroughly, sifting clearly" (*Doctrine of the Mean*, XX.19) in the learning process. Many of liberal arts education units in Chinese universities now name themselves *shuyuan*, in a deliberate effort of linking themselves to the Confucian education tradition. Furthermore, Confucian education has a strong bearing on education equality and equity. Some argue that Confucius was the first ever educator who raised the ideal of educational equality and equity, and put them into practice, which might be best exemplified by his famous sayings of "education without class distinction" (*you jiao wu lei*) and "teaching students in accordance with their aptitude" (*yin cai shi jiao*). The former means providing education to everybody regardless of his social status and economic situation, which is the basic content of educational equality; the latter refers to rendering appropriate education to individual students based on their needs and learning abilities, which is the key of educational equity. All in all, the Confucian tradition of *shuyuan* education is proven a useful pathway, in epistemological and pedagogical senses, to humanist education that is now supposedly aligned with social justice and inclusion. This is particularly true in an increasingly utilitarian world in which marketization and commercialization of knowledge are taking hold.

Essentially, neo-Confucianism that used to prevail in *shuyuan* advocates maintaining a balance between the value of the collective and of the individual, and does call for attention to and respect for individual development and liberal tendencies. Neo-Confucianism is not merely about self-cultivation. Rather, it advocates transforming or renewing the society at large, along with one's pursuit of internal establishment or sagehood. Simply put, neo-Confucianism is concerned with what humans are meant to do, and why that is a natural and good thing to do. William Theodore de Bary absorbed such educational ideas in neo-Confucianism into Columbia University's Core Curriculum, when serving as provost at the university in the 1970s. Arguably, those neo-Confucian notions have distinguished Columbia University's Core Curriculum from the general education practices in other Ivy League peers and elsewhere, in the sense that, while many general education curricula are meant to familiarize students with basic approaches to knowledge in different disciplinary areas of modern studies, Columbia's Core Curriculum stresses bringing out every student's self-awareness and informed reflections, via a dialogue with the great minds. Through the Core Curriculum, the students are expected to understand what they ought to do, who they ought to be, and engage with sciences and humanities in humanly meaningful ways (Chung, 2016). When reforming liberal arts education, universities in China and elsewhere should not forget what Professor de Bary drew from neo-Confucian perspectives and brought to the Core Curriculum in Columbia University.

Another salient feature of the 21st century is that our life anticipates fast changes and increasing uncertainties, and this situation is certainly being actuated and accelerated by a progressively knowledge-based economy, which in turn demands lifelong learning and advancing our knowledge and skills. In this context, the university is obliged to prepare students for such complexity and uncertainty, which requires a strong ability to fashion and adapt their knowledge and skills to various and varying life and professional situations. Arguably this pertains greatly to one's cognitive ability; as such cognitive education should be incorporated into liberal arts

education curriculum. Cognitive education is a kind of education that seeks to improve the cognitive skills of the students in order that they can lead a constructive life. Perhaps Hargreaves (2000) specified what cognitive education might help students when putting forward the abilities that students need to function effectively in a knowledge-based world: meta-cognitive skills; ability to access, select and evaluate knowledge; ability to develop and apply various forms of intelligence; ability to work and learn effectively, and in teams; ability to create, transpose, and transfer knowledge; ability to cope with ambiguous situations and problems; ability to learn to redesign themselves and their career; and ability to choose and fashion relevant education and training. Arguably, some of these abilities may go beyond what cognitive education is about, and further to the level of metacognition, which concerns “thinking about thinking” and using information and strategies to think better and solve problems. Often, metacognition has been described as the self-correcting nature of thinking, i.e., the mental process of being aware of monitoring, supervising, organizing and making decisions re one’s own thinking process. Some scholars go further and maintain that brain or mental research outcomes should be employed to underpin our curriculum design in the university. A number of liberal arts education colleges in the US have practices to embed their students’ intellectual and linguistic training in brain science-driven curriculum (Zhao, 2017). While some educators have realized and recognized the necessity and importance of cognitive education regarding students’ lifelong learning and professional development needs, there are not many courses that are developed and tailored towards such needs. Many instructional and learning paradigms that were effective and efficient for transmitting the knowledge, skills and dispositions and needed for industrial economies are still prevailing, and will not produce these desired results, as envisaged and outlined by Hargreaves and other researchers and thinkers.

Globalization is certainly a meta-trend in the world that conditions many discourses in our life and society, including the university sphere. As the

world becomes increasingly interdependent and an increasing number of concerns become shared by the world as a whole, it becomes evident that global education, i.e., education for global citizenship and for a shared global future, becomes a logical (perhaps even inevitable) response. Global education focuses on the interrelated nature of human culture and life. A global approach, with the world as it is and each country and region rich in history and culture, points to the pedagogy dependent on cross-disciplined inquiry that encompasses a deeper understanding, broader knowledge base, and emphasis on the interconnectedness of knowledge. The primary focus of global education falls on developing the students’ self-awareness and critical thinking; helping them see themselves in the hopes and dreams of others and comprehend that there exists an equality of being, and an understanding of “the other” with the confidence to recognize that we are “the other” for all those we encounter. Arguably, global education is essential for recognizing equivalent experience, and carrying an unobstructed vision of equality among all in a globalized world, thus should enter liberal arts education curriculum in the 21st century. Dale’s (2000) Globally Structured Agenda for Education might provide a vision for how to integrate global education in liberal arts education curriculum, which comprises such principal components as “learning to live together in the global village,” “learning to know (knowledge in specific areas),” “learning to do (preparing for the unforeseeable future),” and “learning to be (aesthetics, responsibility for community goals, reasoning, creativity)”. Notably, he even put global education before other components on his agenda. Indeed, globalization has incredibly impacted and affected our lives and society, which in turn challenges and calls for students and educators to make connections between global and local issues. In this sense, many tensions that will underlie such a curriculum, e.g., those between global and local perspectives, universal and individual orientations, traditional and modern aspects, competition and equality of opportunities, expansion of knowledge and human capacity, as well as spiritual and material elements.

Hence, the liberal arts education curriculum for the

Conclusion: The 21st Century Liberal Arts Education Curriculum in Perspective and Some Approximating Practices in the Real World

21st century university in China and elsewhere should be rooted in a knowledge tradition (the shuyuan and neo-Confucian tradition in the case of Chinese universities) and embrace meta changes and movements in the society at large and globally. Ideally it comprises essential units such as humanist education, cognitive education, and global education. Arguably, within a liberal arts curriculum, humanistic education is fundamental for fostering critical thinking, and a sense of social consciousness and responsibility; cognitive education is necessary for educating students for a world of unscripted problems; and global education is crucial for developing global awareness, and ethical thinking across the world or globally. Notably, these three units should not be viewed as separate module blocks, but rather interrelated piles of basic course bricks. Put another way, an individual institution or student may use such course bricks to build a portfolio of courses that span the three essential domains, which is specifically tailored to the institutional or personal preference. Empowered by such a liberal arts education curriculum, the university is able to act as a leader in terms of forging values, visions and innovations, on the part of the students, rather a follower of or an adaptor to social status quo.

In the real world, there are initiatives observed that approximate ideal liberal arts education curriculum in the 21st century university or aspects of such a curriculum, though they do not necessarily tag themselves so. For example, Tsinghua University in Beijing recently launched a two-year cognitive education minor program, which offers courses relating to cognitive learning theories and skills from multi-disciplinary perspectives, and taught by the faculty pooled from cross-disciplinary fields such as education, psychology, computer science, and fine arts. It aims to infuse humanism, innovativeness and global vision into the students' learning process,

and nurture leading, great minds among them. Another and perhaps more influential example is the Stanford 2025, a ground-breaking paradigm shift for university education. In particular, it pledges to flip “the axes of knowledge and competencies so that skills became the independent variable of a Stanford education.” Instead of building foundations solely in a unique discipline, students are to master skills and competencies, which became building blocks that could be “rearranged” and translated across a myriad of work contexts throughout their lifetimes. For this sake, Stanford University is to launch undergraduate teaching hubs built around core competencies such as Scientific Analysis, Quantitative Reasoning, Social Inquiry, Moral and Ethical Reasoning, Aesthetic Interpretation, Creative Confidence, and Communication Effectiveness, etc. Also, this Stanford initiative prompts “Purpose Learning,” whereby students declare a mission, not a major. The intent is that students couple their disciplinary pursuit with the purpose that fuels it. At the end, Stanford students are expected to accelerate both their personal sense of meaning and outward global impact. Cultivated by the liberal arts curriculum like these, our students would be qualified and competent to carry on historical humanism, tackle new challenges in a fast changing world, and take responsibility for assuring a bright and just human future.

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Institutionalizing Liberal Arts in Chinese Higher Education: Obstacles and Challenges

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Top tier universities lead their national systems in launching curricular reforms, though they often face obstacles and challenges. It is not surprising that this is also true in China, where there has been a growing interest in liberal arts curriculum. Concepts of liberal education, firmly rooted in Western civilization and widely implemented in American universities, have gained traction in China, as well as other parts of Asia (Godwin & Altbach, 2016; Jung, Nishimura & Sasao, 2016). Some aspects of liberal arts education even resonate with traditional Chinese educational thought (Xing, Ng & Cheng, 2012). Yet, there are a number of obstacles and challenges to implementation of liberal arts education in China, some unique to China and some common to other countries without a liberal arts tradition.

This paper considers the development of Chinese liberal arts education but defines it broadly to include *boya jiaoyu* {博雅教育} as well as the more widespread *tongshi jiaoyu* or general education {通识教育}. Both have been officially linked to the cultural quality education movement that began in the late 1990s. It is a stretch to include all such programs under the rubric of liberal arts higher education as it is understood in the United States. However, this paper was invited by Duke Kunshan University, China, where a new liberal arts curriculum is currently being developed. Therefore, further definitional matters will be touched upon later in the paper.

The institutionalization of concepts and practices of liberal arts education in China occur within the context of a vision of re-globalization for an evolving world order. The rise of China and the valorization of indigenous knowledge roots have produced initiatives such as the China Dream, the Belt and Road, the Asia Infrastructural Investment Bank, and the

Asia University Alliance, all pointing to indications that liberal arts education in China will be evolving for some time to come.

Background

Western ideas and practices in Chinese higher education began their influence in the late 19th Century but were sharply curtailed at the founding of the PRC in 1949 (Hayhoe, 1989, 1996). It took more than thirty years for there to be a renewed interest in Western ideas and practices in higher education (Postiglione, 2010). This can be attributed to Chinese leader Deng Xiaoping, who is credited with launching China's economic reform and opening to the outside world. By the end of the 20th Century, China's transition from a planned to a market economy gained speed along with its transition from elite to mass higher education (Postiglione, 2015). As the 21st Century unfolded, and Confucian heritage states in eastern Asia began to prosper through economic globalization, the valorization of indigenous knowledge roots, a subtext since the early encounters with the West, became an increasingly popular response to contemporary globalization and the rise of Asian universities in the global rankings (Cheung, 2012; Postiglione, 2017a; Yang, 2016).

It is a complex task to untangle the contradictions surrounding history of the liberal arts in Chinese higher education, something that goes beyond the scope of this paper (See William Kirby's paper in this collection). Therefore, we begin the story in 1979, as the Chinese government actively sought opportunities for its students and scholars to study at universities in Europe and North America. At that time, there was a singular focus on the study of science and technology because these were viewed as

the key areas of knowledge for economic development. Years later, however, sustaining China's economic rise came to be viewed as hinging on a broader form of higher education that could spur innovation by drawing on the humanities and social sciences (Kirby & van der Wende, 2016; Postiglione, 2016).

Nevertheless, culture follows power. With the expressed desire for the country to take more of a guiding role in the global order, contemporary university policy has come to align more closely with indigenous culture and political exceptionalism. In fact, China's universities have been on a run. They are first in the world in the number of students in higher education and third in the number of foreign students, after the US and UK. Excellence initiatives such as the 211, 985, and 2.0 projects have led to a rise in the number of Chinese universities that are world ranked. The top ranked universities recruit students from schools in Shanghai where students scored atop the international assessment of mathematics and science (PISA, OECD, 2013). With more GDP for R&D and more scientific publications than any country except the US, China may well become influential beyond its national borders, including through the "One Belt, One Road" (OBOR) initiative. In short, China's universities are expected to play a greater role in anchoring economic globalization in a way that reflects the leadership's vision.

No country, no less a developing country, has reformed its universities as quickly. Yet, China's colleges and universities are beset with a difficult set of tasks. They must continue to expand access through mid-century, annually prepare eight million graduates for employment, and ensure social stability through party supervision of curriculum and ideological education. The proportion of students from rural areas attending top tier-universities has decreased since the early 1990s (Chen, 2015; Li, 2015; Liu & Gao, 2015; Wang, 2015; Xie & Postiglione, 2015). The distribution and use of research funding has been plagued by questions of efficiency, and the commercialization of research remains weak. Universities operate with relatively less autonomy than might be the case elsewhere. Finally, system-wide quality remains low, while student creativity and in-

structional innovation is considered inadequate for helping China avoid the middle income trap.

In the meantime, government has begun to formulate policies to reform undergraduate education, raise quality of teaching and research, and improve mechanisms of assessment and evaluation. It has also begun to gradually cede more autonomy to universities in determining the requirements for the awarding of degrees (Postiglione & Chen, 2016). It has permitted universities to deepen international linkages, while insisting it guard against threats to educational sovereignty. At the same time, China's universities have begun to project soft power around the world.

As the world's second largest economy continues to build a massive system of higher education, there is ample discussion about creating a unique and exportable university model to parallel the Beijing Consensus. What a Chinese model of higher education will mean for the world is beyond the scope of this paper. However, a partial answer can be found in how it manages implementation and development of liberal education.

Liberal and General Education

Liberal arts continues to enter university curriculum in many parts of Asia (Godwin, 2013; Kirby and van der Wende, 2016; Jiang, 2014; Li曹莉, 2009;). It has begun to affect the traditional over-specialization of undergraduate education. While there still remains a strong bias toward STEM disciplines, the interest in liberal arts higher education has brought the humanities and social sciences to the fore in a new way.

Liberal arts colleges are a distinctively American form of higher education, distinguished by small class size, residential character, generalist curricula, open intellectual atmosphere, and professors who take a special interest in students' education. These can be found in Asia if they are established in highly open societies. For example, Lingnan University of Hong Kong has defined itself as a "liberal arts university," distinguished by its interdisciplinary curriculum, small classes, a vibrant campus life, and rich international exposure.

Although a large research university, the Uni-

versity of Hong Kong has a special focus on liberal arts higher education through its Common Core Curriculum (CCC). The CCC aims to broaden student perspectives and to develop the intellectual, social, and innovative skills needed to address the complexities of 21st century life. HKU's CCC also aims to have students articulate a broader perspective and a deeper critical understanding of the complex connections between issues of profound importance. It provides an intellectual atmosphere for students to better navigate the similarities and differences between themselves and other cultures; provides opportunities for students to more fully participate as individuals, members of social groups, and citizens in global, regional, and local communities; and, provides opportunities for students to demonstrate the creative, collaborative, and communication skills that contribute to the quality of their own and others' lives.

In the case of the University of Hong Kong and Lingnan University, the liberal arts, even in a place like the Special Administrative Region of China, is much more than general education (Postiglione, 2017b). General education provides students with opportunities to study other disciplines outside of their major area of study. This can be done by offering students introductory courses in different disciplines. The former provides experiential learning that connects with the larger world, while the latter only connects with broader course offerings on campus.

In practice, general education often results in more study of the humanities and social sciences for students in the sciences, medicine and engineering. However, it is less the case that students in the humanities and social sciences would be offered more opportunities to study mathematics and science courses. In short, liberal arts rather than general education is generally focused more on whole person development.

To be sure, there remains a good deal of debate about terminology. For example, quoting Godwin and Altbach (2016) on liberal education: "It requires its students to study beyond a single subject or family of disciplines (and beyond the humanities)." This statement alone makes it difficult to distinguish between liberal arts and general education, until they add that: "In order for liberal education to liberate the

mind, it requires a multitude of perspectives, ways of thinking, methods, and knowledge content anchored in a variety of disciplines....the foundation for learning how to interpret, interrogate, or make new knowledge framed in the constructs of various fields" (2016, p. 9). Since they use the term "liberal education" to refer to all forms of non-specialized curriculum in which students have a degree of free choice, this raises questions in the case of China, since non-specialized courses also include required courses that may not be intended to liberate the mind in the way in the way that Godwin and Altbach use the term "liberal education."

China's curriculum reform is a work in progress, as was liberal arts higher education when it was first advocated in the US in the 19th Century. In China's case, the cultural quality education (CQE) movement in higher education (*wenhua sushu jiaoyu* {文化素质教育}) began in the late 1990s. It was officially ushered in by Zhou Yuanqing (Ministry of Education's director of higher education and soon to be vice minister) in 1995 at a meeting in Wuhan's Huazhong University of Science and Technology. The meeting intended to broaden the thinking about the intellectual range of study in universities, and especially the promotion of humanities and social sciences.

As China's transition from a planned to a market economy gained speed in the mid-1990s, universities were still dominated by the specialized soviet curriculum model. The CQE movement called for the promotion of a more humanistic education, one that cultivated sensitivities, competence and character. Based on the *Cultural Quality Education Outline for College Students*, top tier institutions such as Peking, Tsinghua and Zhejiang Universities began experimenting in 1995. The following year, 32 CQE national centers were established, encompassing 53 top research universities. To solidify the movement, a national conference was held at Tsinghua University in 2005 on the 10th anniversary of CQE movement. The Ministry of Education added 61 centers encompassing 104 more universities.

By then, there was a great deal of rethinking about the purpose of higher education and the "idea" of the university, as well as its uses. The conceptual discussion had implications for the classroom, cam-

pus, and practice in society. Writings of early thinkers such as John Henry Newman and Wilhelm von Humboldt received attention, as did university advocates of liberal arts education such as Robert Hutchins and James Conant. Influential Chinese liberal thinkers of the modern period such as Cai Yuanpei and Mei Yiqi were also studied.

Despite much discussion and debate, a consensus about curriculum change has yet to be reached in China's universities. Nevertheless, the discourse has changed to include liberal arts education. What is certain is that the CQE movement led to the institutionalization of a general education curriculum (*tongshi jiaoyu*), which included a series of electives in the first two years of university. At the same time, there has been a growing respect for liberal (arts) education that is Chinese in theory and practice, what Li Cao (2010) calls: "liberal education localized" (p. 157). However, she cautions:

It is still a minority culture and is yet to prove its resilience in the face of overwhelming forces of mass culture and technological utilitarianism whose major concern is the "use" of the university, rather than the "idea" of the university" (p. 158).

While general education curriculum has become popularized across comprehensive universities in China, liberal arts education has a closer resonance with Peking University's Yuanpei Program and Tsinghua University's Xinya Program, both of which are limited to selective groups of students. While this paper examines Chinese literature and cases about liberal education in order to identify and discuss obstacles and opportunities, there is ample evidence that there has been a steadily deepening engagement with liberal education curricula.

One indication of the rapid growth of interest of all forms of liberal and general education in Chinese universities is found in the increasing number of academic journal publications that use the term *boya jiaoyu* {博雅教育} (liberal arts education), *tongshi jiaoyu* {通识教育} (general education), and *wenhua sushu jiaoyu* {文化素质教育} (cultural quality education) [See Figures 1-4].

Figure 1 indicates a gradual increase in journal articles using the term "liberal arts". The seeming

dip in 2016 is due to unavailable figures at the time of the search for the second half of 2016. The term "general education" has become more widely used in academic publications as indicated in Figure 2. Journal articles using the term "general education" are more numerous in the literature due to the fact that it has already been popularized across comprehensive research universities. Meanwhile, use of the more official term "cultural quality education" was high when the CQE movement was launched but use of the term has dropped as liberal and general education become increasingly used.

Case Studies of General/Liberal Education in China

The following summaries are based on available information about liberal education/general education at leading Chinese universities.

Mission

There are a variety of liberal education/general education programs at China's universities. They provide a broad scope of knowledge and perspectives through cross-disciplinary studies that go beyond the specialist stream in undergraduate programs. Examples can be found at many universities, including Peking University (PKU), Sun Yat-sen University (SYU), Wuhan University (WHU), Fudan University (FDU), Nanjing University (NU), and Zhejiang University (ZJU). Other institutions advocate nurturing the whole person with good character, such as Tsinghua University (THU), Shandong University (SDU), East China Normal University (ECNU).

Selection

The curriculum is a part of the undergraduate program in each university and is compulsory for students from different majors. What is characteristic about the cases studied is that every student is required to take certain political courses, English courses, basic computer training, physical education courses, as well as military training. Some universities include these into their liberal education program, i.e., WHU, ECNU, and ZJU.

FIGURE 1. Number of journal articles using the key word: boya jiaoyu 博雅教育 1997-2016

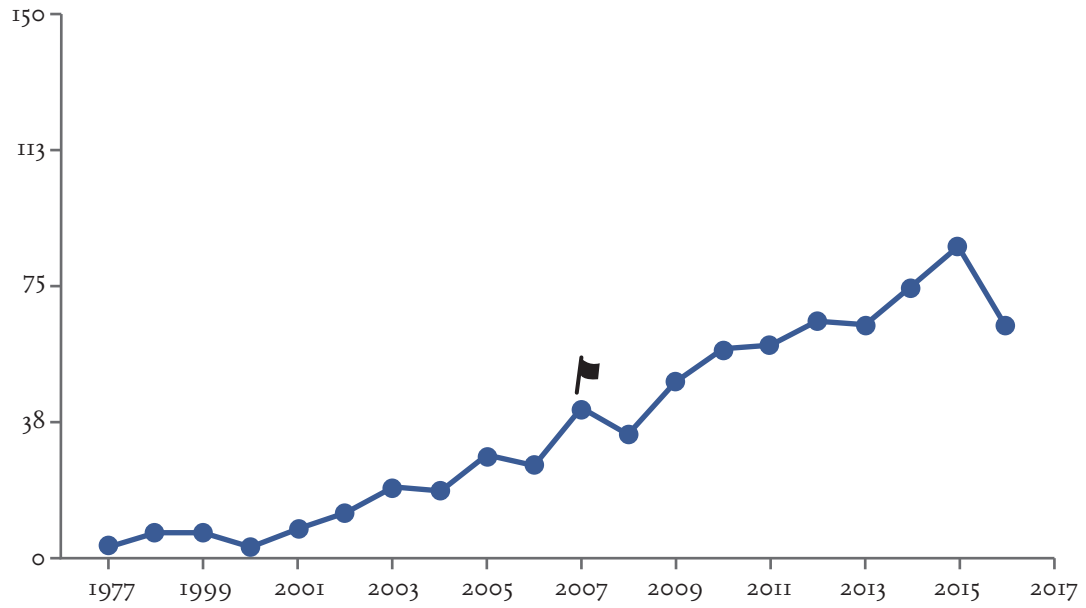


FIGURE 2. Number of journal articles using the key word: 通 教育 1997-2016

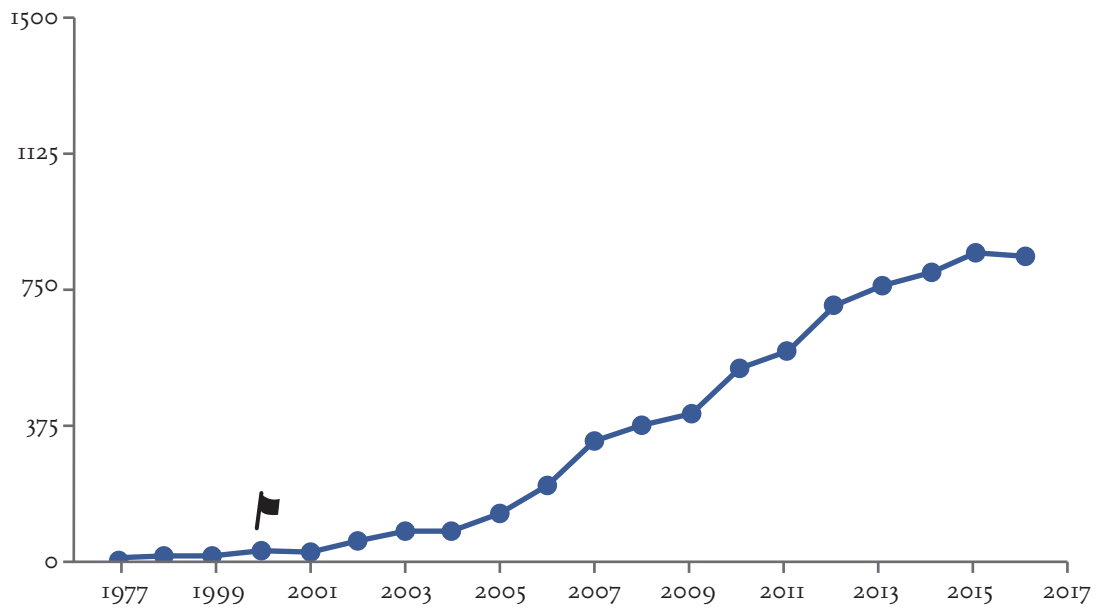


FIGURE 3. Number of journal articles using the key word: 文化素质教育

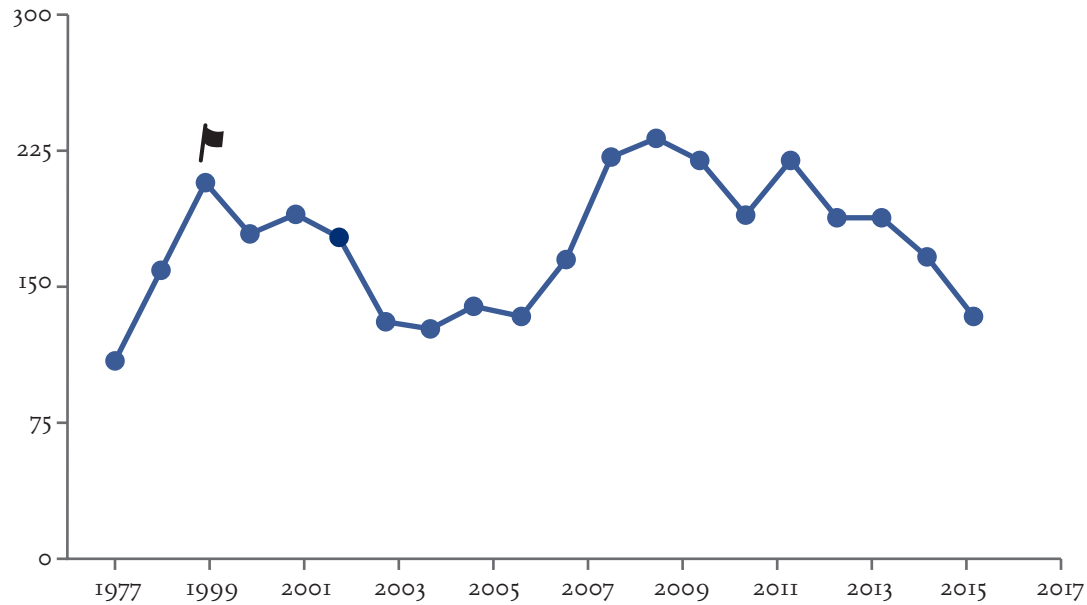
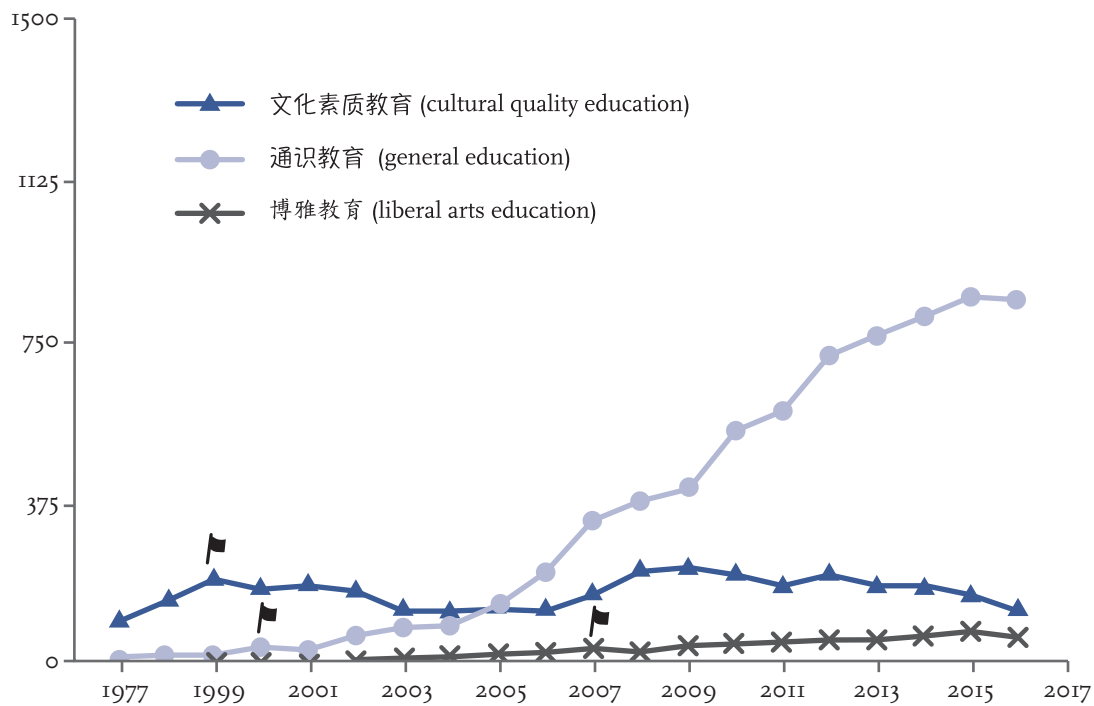


FIGURE 4. Comparison of the number of journal articles using the 3 key words 1997-2017



Course Requirement

China's universities usually offer liberal education courses under certain categories, with a bias in humanities, arts, and social sciences, i.e. the “cultural quality” discipline areas.

Considerable attention has been given to raise students' awareness of Chinese cultural heritage, provide an appreciation of diverse civilizations, and an understanding of economic globalization. These courses take up only a small portion of bachelor-level programs' total credit requirement (see Li and Shi (2013)). In some institutions, PKU for example, science and engineering students are required to earn slightly more credits from humanities than other students.

Overall Governance

In some universities, liberal/general education is managed by the Office of Academic Affairs, e.g., Peking University, Tsinghua University, Shanghai Jiaotong University, East China Normal University, Nanjing University. In other universities, it is under the control of the School of Undergraduate Studies, e.g., Zhejiang University and Shandong University. The very selective liberal education colleges usually operate as an independent arm of the university, e.g., Yuanpei College of Peking University and Xinxin College of Tsinghua University.

Course Establishment

The most common practice consists of 4 steps: (1) an individual teacher or a group of teachers designs a course and submit an application to their department(s); (2) the department(s) decides whether to forward the application to the Office of Academic Affairs or the General Education Committee, e.g., SYU and FDU; (3) the Office or Committee arranges a committee of experts in the certain academic field to judge whether the course should be included into the core course scheme; (4) if the application is successful, the Office or Committee would provide support for course development and implementation, schedule it on the academic calendar, and conduct course evaluations and reviews, e.g., Peking University, Wuhan University, East China Normal Univer-

sity and Shandong University. Usually, core courses receive extra financial support from the university. For example, ECNU offers 20,000 RMB in the first two years for a 2-credit course and 7,200 RMB per semester afterwards. In SDU, it is 50,000 RMB for each core course.

Course Assessment

Common core liberal/general course reviews are normally conducted annually or every few years. On this basis decisions will be made about future viability and offerings of specific courses. In SDU, the number and quality of core courses offered are included as indicators in end-of-semester teaching quality assessment for each department. This is supposed to foster collective efforts from the departments to enhance the quality of these common core liberal courses. In FDU, a research team composes a quality assessment report on the general core courses after every semester.

Special Programs

Yuanpei College of Peking University

This liberal education program was launched in 2007 with the mission to “strengthen the foundation, promote cross, respect for choice, excellence in teaching” (加强基础, 促进交叉, 尊重选择、卓越教学). It selected 200 students per year based on gaokao scores and preferred choice (志愿填报). The Yuanpei program is independent from any school or department and is directly governed by the university. Yuanpei students enjoy freedom to choose from all undergraduate courses offered at PKU and decide their own majors, including newly established interdisciplinary degree programs by the college itself. They can choose to graduate in three to six years with at least one bachelor degree, as long as they complete all requirements of their major(s) set by respective departments. Yuanpei students can also join a specially designed summer camp program about on college adaptation before their freshmen year, live in a residential college with superior facilities, receive advice from a pool of supervisors within and beyond PKU, and gain opportunities for overseas study.

Xinya College of Tsinghua University

With the mission to be absolute and elegant, use knowledge and inherit innovation (渊博雅正、器识为先, 传承创新), the Xinya College opened in 2014. It selected 60 students per year based on gaokao scores and choice of *zhuyuan*. It is independent from any school or department and directly governed by the university. Students take liberal arts courses in the first year before choosing a major. All liberal arts courses are offered by the college itself and other courses by respective departments. Students can finish their bachelor degree program in four or five years. Outstanding students may apply for an honors degree. Several interdisciplinary majors were established exclusively for Xinya students: Creative Design and Intelligent Engineering & Philosophy, Politics and Economics (with Schwarzman College involvement). Xinya students can also take advantage of overseas opportunities at top institutions e.g., Harvard and Oxbridge. Xinya students live together in a newly built residential college.

Undergraduate Residential Colleges at Fudan University

The FDU collegiate system covers all undergraduates, something unique in China. Fudan College was established in 2005, and enrolls all freshmen for one year of general education before they begin their professional training in schools and departments. In 2012, a new Fudan College (undergraduate school) was founded that integrates functions of the old college, the Office of Teaching Affairs, and the Undergraduate Admission Office. Fudan currently has five residential colleges to accommodate all undergraduates, who are randomly assigned with roommates from other disciplines. These colleges are important bases for extra-curriculum general education. The colleges not only provide space and facilities for various student-oriented activities and projects, but also employs advisors from the university and beyond, including professors, successful alumni, and leaders in diverse industries.

Boya College of Sun Yat-sen University

The mission points to “An elite education for wis-

dom and accomplishment” (精英教育, 智慧与修养) through study of the liberal arts program. Launched in 2009, this program admits 30 students each year, selected from the newly recruited undergraduates of the SYU. The College (人文高等研究院) is governed by the Institute for Advanced Studies in Humanities. Aimed at cultivating learned thinkers and scholars with elite education, the courses are focused on Chinese and Western classics, including the Ancient Greek and Latin Epics. There are fewer courses, but more reading, discussion and assignments in this four-year program. The students choose their major in their third year from six areas: Philosophy, History, Chinese Language, Political Science and Administration, Sociology and Law.

Obstacles and Challenges

Despite the increasing interest in liberal education curriculum, the popularization of general education courses, and the special programs outlined above, there are a number of obstacles and challenges that are cited in the Chinese academic literature. Selected literature is referenced at the end of this paper and briefly summarized below.

1. First, there is confusion over the idea of general education, in terms of the aims of undergraduate education in contemporary China. This includes a lack of general education theory specifically suitable for contemporary China. Efforts to define general education have been made from various perspectives (曹莉, 2007b; 李曼丽, 1999; 陆一, 2016; 陆一 & 徐渊, 2016). However, within institutions there is a lack of common recognition of the significance and essence of general education (曹莉, 2008, 2010; 张灿辉, 梁美仪 & 才清华, 2007, p.191). Moreover, there are indications that liberal education is significant in theory but insignificant in practice (王洪才 & 解德渤, 2015, p.25; 张春莹 & 平章起, 2013, p.98). This is often used to explain the low motivation for general education among some professors and students.
2. Students are over burdened with these two curricula. There is a strain between general education and professional education (王洪才 & 解德

渤, 2015, p.25). Several modes of balancing general and professional education has been identified (陆一, 2016, 21-22). The attitudes of key leaders, such as department deans, toward general education can greatly influence the implementation of liberal/general education policies (张灿辉, 梁美仪 & 才清华, 2007, p.177).

3. Bureaucratic management is onerous in universities of the Chinese mainland. Thus, there is a low level of institutionalization and low level of cooperation among departments and offices within the university (张灿辉, 梁美仪&才清华, 2007, p.192). This is the reason why the design of general education curricula is not systematic. The designing process lacks wide engagement from teachers and students (曹莉, 2007a).
4. The low quality of general education is a concern. General education is often mistaken as merely extra knowledge learning (王洪才 & 解德渤, 2015, p.25-26). The curricula may only include introductory courses in different fields. Although extra-curriculum activities such as public lectures, classics reading groups, and social work have also been taking place on and off campuses as parts of general education (胡显章, 2006, p.22), they seem not to be the focus of practice or research.
5. Liberal and general education continue to suffer from insufficient resources from the university. There is a lack of qualified and motivated teaching staff. In particular, universities in the Chinese mainland lack qualified postgraduate students to serve as teaching assistant (曹莉, 2007a, 2008, 2010). Even Yuanpei College at Peking University lacks adequate qualified teachers and has to deal with the weakness of large-scale classes (张灿辉, 梁美仪 & 才清华, 2007, p.184-185).
6. The assessment of general education lacks comprehensiveness. Sometimes it is solely about quantified indicators, e.g., number and scale of courses (曹莉, 2008, p.85). On top of the chal-

lenges and obstacles listed above, there can be a conflict between general education and political education (曹莉, 2008, p.86).

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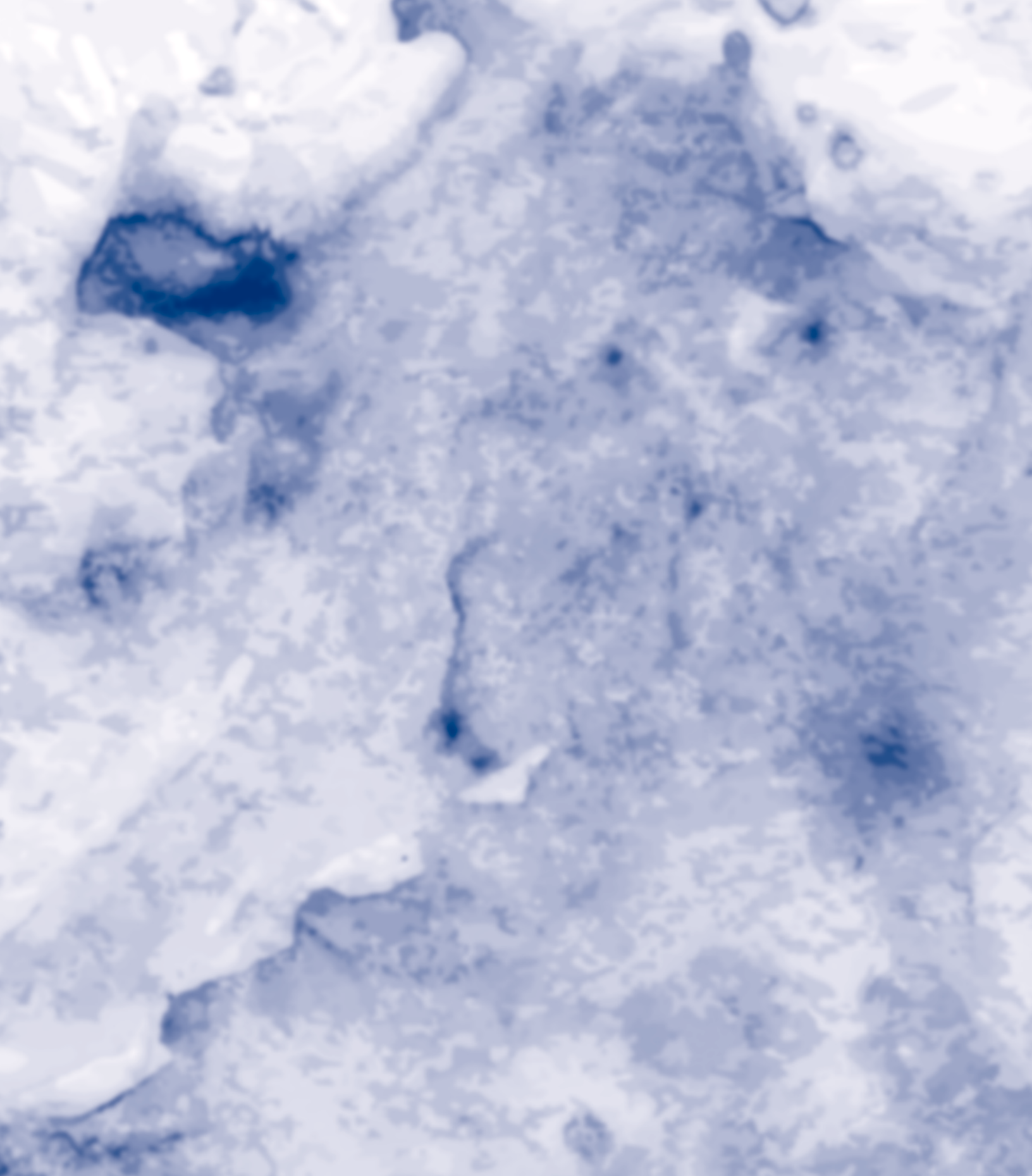
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