

Sino-Australian vocational education and training cooperation

Helping provide skills and training for China's growing economy

Christopher Lawson

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Introduction

As a large and rapidly developing economy with an enormous population, China has for many years been looking to foreign countries and institutions to provide assistance to help develop capacity in its education system, including at the sub-degree level (which includes both vocational education and training (VET) and below-degree level higher education qualifications).

Australia has played an important role in helping China to develop its capacity, through projects like the Australia China Chongqing Vocational Education and Training Project (ACCVETP)¹, which ran from 2002 to 2007 with Australian and Chinese government funding.

Australia's peak body for public VET (TAFE Directors Australia) has also been active in supporting China's capacity building, signing a Memorandum of Understanding (MoU) with the China Education Association for International Exchange (CEAIE) in 2008, which led to the development of the Vocational Education Leadership Training program with Australia, providing training for Chinese leaders of vocational institutes from 2010 to 2015.

The Australian Skills Quality Authority (ASQA) signed an MoU with CEAIE during a "Sino-Australian Vocational Educational Strategic Policy Dialogue" in 2015 and since that time ASQA and CEAIE have conducted two sets of joint audits of Australian vocational qualifications delivered in China in partnership with Chinese institutions². More recently, the Australian and Chinese governments signed an overarching MoU on cooperation in VET during the visit to Australia of Premier Li Keqiang in March 2017, paving the way for even closer cooperation.

Australian public and private providers have been partnering with Chinese institutions to deliver both non-award and full qualifications in China over more than two decades. The National Centre for Vocational Education Research (NCVER), Australia's counterpart to China's Central Institute of Vocational and Technical Education, has conducted annual surveys of VET activity undertaken by Australian public providers offshore since 2003. These NCVER surveys show that China is Australia's largest partner by far. Between 2010 and 2014 alone, Australian TAFE institutions are estimated to have taught vocational skills in China to more than 100,000 students³.

The number of students studying Australian VET qualifications in China dwarfs the number of Chinese students coming to Australia to study VET. Analysis by the Australian Department of Education and Training shows that in 2014, for every

http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/Web/13289/ezine/year 2006/jul aug/international chinese.htm

¹ For more information see

² ASQA's report on their pilot audit of VET programs in China is available here https://www.asqa.gov.au/sites/g/files/net2166/f/Regulating_offshore_delivery_of_VET_-ASQAs_2015_pilot_audit_program.pdf . CEAIE's report is available here http://en.ceaie.edu.cn/article/detail?columnid=16&id=171

³ The estimate is derived from tables 1 and 57 of the NCVER report https://internationaleducation.gov.au/research/TransnationalEducationData/Documents/NCVER Offsh ore 2014 final report.PDF

Chinese student who came to Australia to study VET with a public provider, twenty Chinese students undertook VET training in China with Australian public providers⁴.

For some students, these Australian VET qualifications taught in China provide pathways to further study with Australian education institutions, either in China or in Australia, while for others they provide them with the skills and training needed to advance in their vocational careers in China.

Case Study 1: Shanghai Pharmaceutical School and Box Hill Institute

The Shanghai Pharmaceutical School (SPS) and Box Hill Institute (an Australian TAFE located in Victoria) have collaborated on joint programs for more than a decade, with the first students admitted to a joint program in pharmaceutical logistics in 2004 and to pharmaceutical manufacturing in 2007. The joint programs deliver training to current and future employees of the Shanghai Pharmaceutical Group.

SPS report that more than 600 students have completed these programs. Graduates enjoy an outstanding 98% employment rate, and have performed well in skills competitions at the national level. Graduates enjoy meaningful careers due to the value gained by an English language education, problem solving skills and highly relevant technical ability.

The programs are supported by a very strong teacher training program, and teachers from the Shanghai Pharmaceutical School regularly attend programs at Box Hill Institute in Melbourne to keep their skills up to date.

The Shanghai Education Commission has declared this to be a "Model Joint Program", and Australia's Minister for Education and Training, Senator the Hon Simon Birmingham, visited the collaborative program in 2015 as a leading and long-standing example of cooperation in VET between Australia and China.

Sino-foreign joint programs

One major way that Australia has supported the development of China's education capacity is by working with Chinese institutions to deliver formally approved Sinoforeign joint sub-degree level programs in China.

Australia has been a key partner for China in delivering formal government approved Sino-foreign joint programs, and Chinese institutions have more government-approved joint programs with Australia at this sub-degree level than they do with any

⁴ More information on Australia's transnational education can be found at https://internationaleducation.gov.au/research/Research-Snapshots/Documents/TNE_Public%20VET%202014.pdf

other country, showing the depth and breadth of cooperation with Australian education institutions.

Joint education programs between Chinese and foreign partners (Sino-foreign joint programs) require approval from the relevant Chinese education authority⁵. For subdegree level joint programs, this approval authority rests with the relevant provincial education department, who examines applications for programs (submitted by the Chinese partner) and makes a decision.

Approved programs are submitted to the Chinese Ministry of Education (MoE) for registration. The MoE issues a "Chinese-Foreign Cooperative Education License" and lists details of the approved programs on the relevant part of its Jiaoyu Shewai Jianguan Xinxi Wang (JSJ) website⁶.

The MoE maintains and updates the official list of Sino-foreign joint programs at the sub-degree level on the JSJ website, based on information provided by the provincial authorities. The accuracy of this list depends on the accuracy of the information provided by China's thirty one separate provinces and regions.

The detailed analysis on Australian programs in this report is based on the MoE's publicly available official JSJ list as at June 2017.

The global context for Sino-foreign joint programs

In late 2016, the Center of Research on Chinese-foreign Cooperation in Running Schools at Xiamen University (one of China's top universities) produced a report for the MoE called the *Report on Development of Chinese-foreign cooperation in running schools 2010-2015*, colloquially known as the "Blue Book". This Centre is the first institute in China to focus on research in this area. It acts as a research and policy consultant for the MoE and is a national think tank for the development of Sinoforeign education programs.

According to the Blue Book by the end of 2015 a total of 741 higher vocational level (sub-degree) Sino-foreign joint projects had been approved by Chinese provincial education authorities, including 23 joint institutions and 718 joint programs across 27 provinces. Of these, 359 or almost half had been approved in the last five years.

⁵ For more information, please see https://internationaleducation.gov.au/International-network/china/PolicyUpdates-China/Pages/CHINA-Approvals-processes-for-Sino-Foreign-Joint-institutions-and-Joint-programs.aspx

⁶ A searchable list of Sino-foreign joint programs is available (in Chinese) on the JSJ website at http://www.crs.jsj.edu.cn/index.php/default/index/sort/1008

⁷ More information on the release of the Blue Book is available (in Chinese) at http://cfcrs.xmu.edu.cn/ec/32/c4042a191538/page.htm

Table 1: Joint project approvals by year

Year	Joint programs	Joint institutes	Total	Proportion of total joint projects
1993 ⁸ to 2010	363	19	382	52%
2011	115	2	117	16%
2012	77	0	77	10%
2013	50	0	50	7%
2014	41	0	41	6%
2015	72	2	74	10%
Total	718	23	741	100%

Table 1, derived from table 4-1 and additional information in the Blue Book, shows the recent spike in provincial approvals, with almost one in six approvals happening in 2011 and more than a quarter of all approvals being granted in 2011 and 2012 combined. Over the first 18 years, an average of 21 programs and institutes was approved per year. From 2011 through 2015, an average of 72 programs and institutes was approved per year, as cooperation with foreign education institutions expanded rapidly.

Table 2: Joint projects by country (1993 to 2015)

Country	Joint	Joint	Total	Proportion of total
	programs	institutes		joint projects
Australia	190 ⁹	6	196	26%
Canada	119	6	125	17%
United Kingdom	98	1	99	13%
United States	93	2	95	13%
Republic of Korea	46	0	46	6%
Germany	32	0	32	4%
Singapore	21	2	23	3%
New Zealand	20	1	21	3%
All other countries	99	5	104	14%
Total	718	23	741	100%

Table 2, derived from table 4-14 and additional information in the Blue Book, shows that Australia has more than a quarter of all joint project approvals, making it the leading partner country for joint project approvals.

Australia and Canada together have more than half of all the joint institutes approved to operate at the sub-degree level.

⁸ The Blue Book does not put a date on the start of approved joint programs, however according to the Jiangsu education department the first joint program approval took place in 1993 with an Australian institution: http://english.jsjyt.gov.cn/2015-12/15/c 47364.htm. The earliest listed Australian program on the JSJ website was approved in 1994.

⁹ While the Blue Book shows Australia as having had 196 joint projects approved in total, a number of these have subsequently expired. According to the MOE Australia has 150 active joint projects (144 joint programs and 6 joint institutes).

Germany, a leading country in the provision of vocational education and training, has a limited number of joint programs, and no joint institutes. Sino-German VET cooperation, while substantial, largely follows a different cooperation model, outside of the scope of the Blue Book and of this paper.

Table 3: Joint project approvals by country from 2011 to 2015

Country	Joint programs and institutions	Proportion of country's joint projects since 1993
Australia	90	46%
United States	58	61%
Canada	53	42%
United Kingdom	40	40%
Germany	23	72%
Korea	22	48%
Singapore	9	39%
All other countries	64	62%
Total	359	48%

Table 3, derived from table 4-15 in the Blue Book and table 2 above, shows the total number of joint programs and institutes approved over the five years from 2011 to 2015, and the proportion that this represents of each country's total approved joint projects.

While Australia still had the largest number of joint programs and institutes approved in this period, with a quarter of all approvals, more than half of Australia's programs were approved before 2011. In contrast, nearly three quarters of Germany's joint programs were approved between 2011 and 2015, and more than 60 per cent of the United States' joint projects were approved in this period.

With the rapid growth in joint project approvals in 2011 and 2012, a growing number of foreign and Chinese institutions have multiple joint programs. This has raised some concerns, with the MoE referring to this phenomenon as "education franchising", and perceptions around too many partners leading to a reduction in quality.

The Blue Book notes that a small number of foreign institutions (37, or 13 per cent of all foreign providers) each offer more than five joint programs or institutes in China, accounting for 43 per cent of all joint programs and institutions. The report also states that 24 (or seven percent) of Chinese institutions operating joint programs or institutes have more than five such joint ventures, accounting for 17 per cent of all programs.

Although the MoE has expressed concerns with both foreign and Chinese institutions offering multiple programs, some Australian providers offering multiple programs have seen these programs renewed by the provincial authorities in recent years. This is likely to the fact that these Australian institutions are providing highly specialised and much sought after skills in high demand in province.

The China Electricity Council (CEC) and Chisholm (another Australian TAFE located in Victoria) have worked together since 2003 to enable Chinese students from the CEC-affiliated vocational colleges to obtain Australian and Chinese qualifications in power systems.

Chisholm works with CEC power institutes in Baoding, Fujian, Guizhou, Jiangxi, Shandong, Shanghai, Shanxi, Wuhan and Xi'an, providing training in Electricity Supply Industry (ESI) Power Systems. This training develops a range of high level skills focused on the design, testing, repair and troubleshooting of electrical and electronic circuits, design and protection of distribution systems, and the management and implementation of environmental and sustainable systems in the ESI field.

Chisholm staff travel regularly to China to deliver the programs, and staff from the power institutes visit Chisholm to maintain and update their skills and knowledge.

Chisholm reports that the collaboration provides the power companies with a work-ready pool of bilingual local talent. Graduates of the Chisholm / CEC programs benefit from improved English language skills, skills directly linked to prospective employment, work placement components, learning and assessment using international competency based practices, and strong employment prospects with 90 per cent employment of graduates within six months.

Graduates also have the option to continue their studies in Australia with RMIT, receiving credit towards a degree in power engineering. ¹⁰

Australian institutions involved in transnational education are often large and very experienced in this area, with the staff, resources and expertise to deliver multiple joint programs across different provinces and fields of education without compromising quality.

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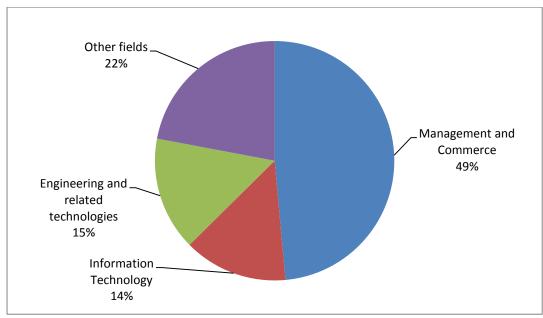
¹⁰ Information for the Chisholm case study is mainly sourced from Chisholm's website (https://www.chisholm.edu.au/industry/international-projects-and-consultancy/power-institues).
Chisholm also featured as a case study in a series of Austrade case studies of transnational education industry engagement – see

Table 4: Disciplines of joint programs

Disciplines	Programs	Proportion
Finance and Economics	314	38%
Information Technology	116	14%
Tourism	87	11%
Manufacturing	81	10%
Culture and education	46	6%
Civil engineering	46	6%
Artistic design and communication	38	5%
Transport	25	3%
Medicine and health	19	2%
Materials and energy	13	2%
Textile and food science	11	1%
Agriculture and fishery	9	1%
Public utilities and services	7	1%
Environment, weather and safety	5	1%
Biochemistry and medicine	5	1%
Resource development , survey and mapping	1	0%
Water conservancy	1	0%
Public security	1	0%
Law	1	0%
Total	826 ¹¹	100%

Table 4, reproduced from table 4-8 in the Blue Book, shows the Chinese disciplines of approved joint programs and joint institutes at the sub-degree level.





¹¹ The number of programs by discipline is greater than the total number of joint programs and joint institutes, as joint institutes offer multiple programs.

Figure 1 shows the disciplines in table 4 clustered into broad fields of education, based on the Australian Standard Classification of Education ASCED¹² (combining finance and economics with tourism under management and commerce, and manufacturing and civil engineering under engineering and related technologies).

Using ASCED, just under half of all joint programs fall within management and commerce, with sizeable proportions in engineering and information technology. The Blue Book notes that in recent years the disciplines of programs approved have broadened, with disciplines including atmospheric science, ecology, physiotherapy, naval architecture, ocean engineering and cultural heritage protection all being encouraged and supported.

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¹² For more information on ASCED, see http://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyCatalogue/B49672F95CD93ABECA2570B3 0005BFE1

Australian joint programs

As at June 2017, there were 150 active Sino-Australian joint programs at the subdegree level approved by China's provincial education authorities and registered with the MoE, involving 30 Australian providers and 88 Chinese institutions across 22 provinces. These 150 joint programs have provided training opportunities for almost 100,000 Chinese students, based on their approved quotas and their dates of approval. Australia's 150 active joint programs have an annual intake quota of 12,605 providing skills and training in key areas of vocational education and training and sub-degree education across China.

There are a further 48 joint programs that have expired, involving 21 Australian providers and 32 Chinese providers across 10 provinces. These 48 expired programs provided training opportunities for nearly 30,000 additional Chinese students over the duration of their program lives.

In total, almost 125,000 Chinese students have had the opportunity to benefit from Sino-Australian sub-degree level joint programs between 1994 and 2017, providing a substantial contribution to the training of China's developing work force.

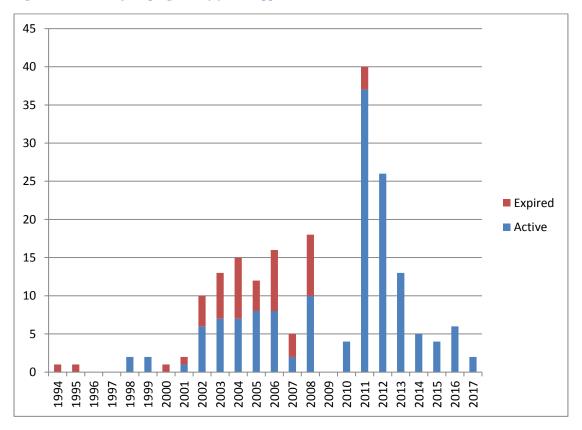


Figure 2: Australian joint programs by year of approval and status

Figure 2 shows the status of Australian joint programs and the year that they were approved. Australia's first joint program listed on the JSJ website was approved in 1994, while the first programs still active were approved in 1998. Of Australia's 150 active joint programs, more than half of them were approved between 2011 and 2013,

with only nine programs being approved between 2014 and 2015 (out of a total of 113 programs approved across all countries).

A large majority of these active below degree level programs (112) are with 17 TAFE providers, and a further 30 programs are offered by 9 Australian universities. The remaining 8 programs are offered by four private Australian registered training organisations.

Of the 30 Australian providers, nine have more than six active below degree level programs.

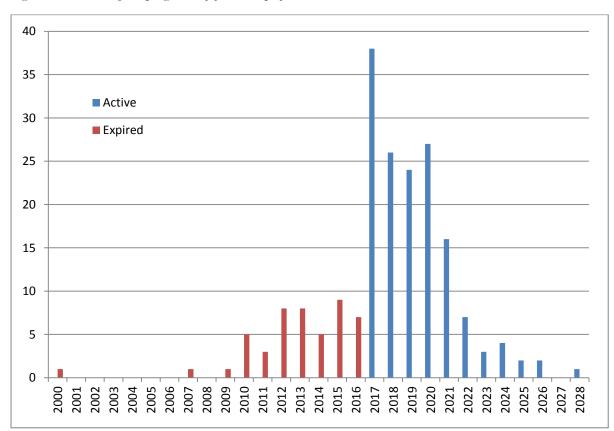


Figure 3: Australian joint programs by year of expiry

Figure 3 shows the current year of expiry for Australian joint programs. Thirty eight of the 150 active joint programs are due to expire in 2017, with a further 50 programs due to expire in 2018 and 2019. Some of these joint programs may be renewed as they come to the end of their period of approval, while others will expire and not be renewed. Australia's longest running active joint program has been active for 19 years.

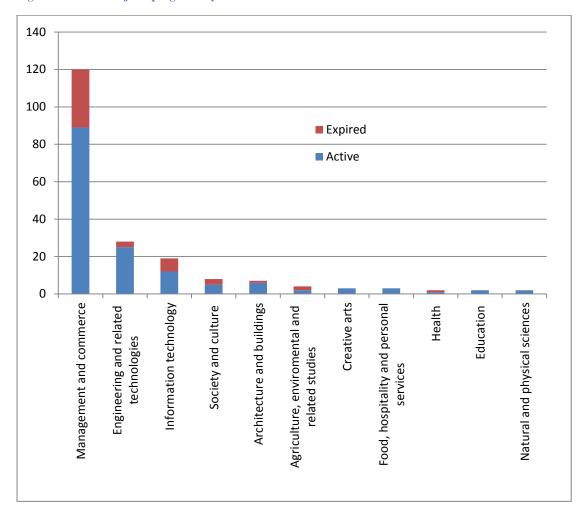


Figure 4: Australian joint programs by broad field of education

Figure 4 shows the broad field of education for Australian joint programs. Just over sixty per cent of Australian joint programs fall within the broad field of education of management and commerce, compared with just under half in figure 1 above which looks at all countries combined.

This broad field of education masks the fact that Australian programs in this field cover a wide range of areas, including accounting, marketing, event management, tourism management, hospitality management, logistic management and international business, meeting the provincial needs of Chinese businesses and firms in developing their skills as they open their businesses up to the world.

1.3% 1.3% 0.7% 2.0%_ Management and 2.0%_ 1.3% commerce ■ Engineering and related 4.0% technologies ■ Information technology 3.3% ■ Society and culture Architecture and buildings 8.0% Agriculture, environmental and related studies Creative arts 59.3% 16.7% ■ Food, hospitality and personal services ■ Health Education Natural and physical sciences

Figure 5: Active joint programs by broad field of education

Figure 5 shows the broad field of education for each of the active joint programs. For active programs, almost sixty per cent are in management and commerce, while one in six is in engineering and related technologies. A further one in twelve programs is in the field of information technology, while Australian education institutions also help provide training in a range of other fields of education, including pre-school education, maritime operations, nursing and graphic design.

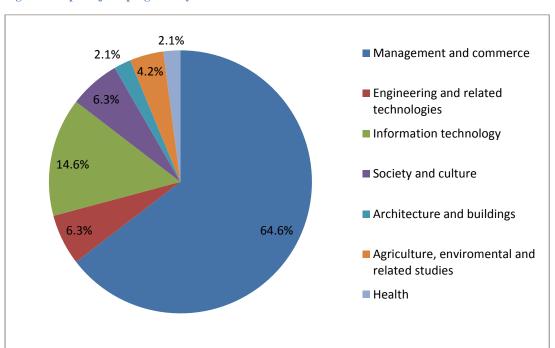


Figure 6: Expired joint programs by broad field of education

Figure 6 shows the broad field of education for expired joint programs. Management and commerce and information technology comprise a relatively larger proportion of expired programs, showing a gradual shift away from these areas into emerging fields of education.

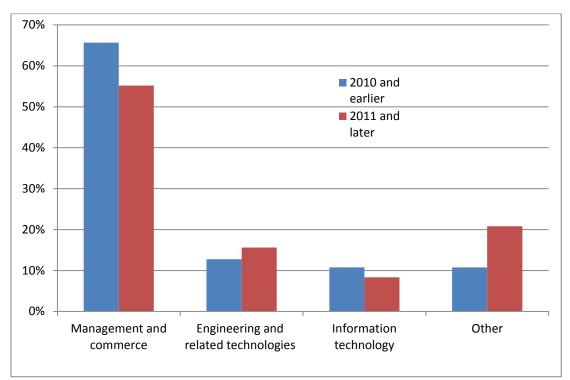


Figure 7: Broad field of education for joint programs by year of approval

Figure 7 shows the shift in broad field of education over time. Just under half of all Australian joint programs have been approved since the end of 2010. While a majority of these programs are still in the broad field of management and commerce, more than one in five new programs are in fields other than management, engineering or information technology, as Australian education providers work with their Chinese partners to develop new and broader VET skills across China in response to changing patterns of demand.

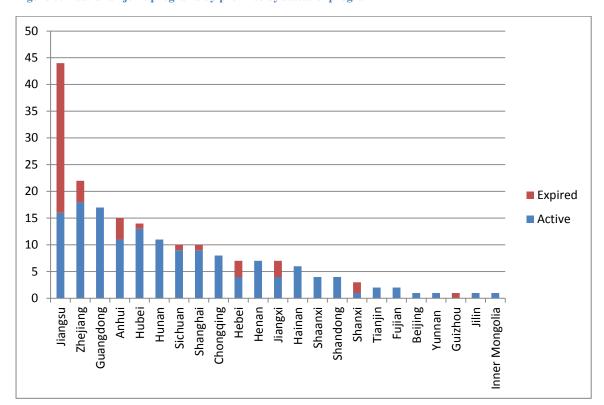


Figure 8: Australian joint programs by province by status of program

Figure 8 shows the distribution of Australian joint programs by province. Australian providers have cooperated with Chinese institutions to deliver training in twenty two of mainland China's thirty one provinces, municipalities and autonomous regions, with programs still active in twenty one of these. Jiangsu province has had 44 approved joint programs with Australian institutions, of which sixteen are still active. Australia has eighteen active joint programs with institutions in Zhejiang province, more than with any other province.

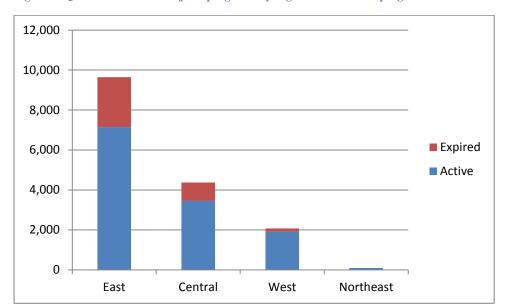


Figure 9: Quotas for Australian joint programs by region and status of program

The National Bureau of Statistics divides China's economy into eastern, central, western and north-eastern regions. Looking at these classifications, more than 40 per cent of the places for active programs delivered in China by Australian providers are being delivered in the central and western regions of China, helping to meet China's emerging skills needs in these developing economic regions.

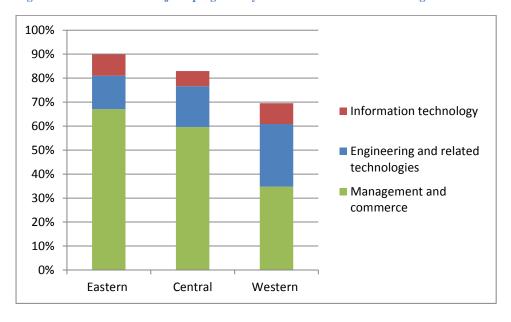


Figure 10: Active Australian joint programs by broad field of education and region

Joint programs delivered in the eastern regions of China are more likely to be in the broad field of management and commerce, while a significantly greater proportion of programs delivered in western China are in the field of engineering and related technologies. Not shown above is the one program delivered in north-eastern China, which is in the broad field of health.

Australian joint institutes

As at June 2017, there were six active Sino-Australian joint institutes at the subdegree level approved by China's provincial education authorities and registered with the MoE, with another one approved institute no longer in operation.

Table 5: Australian joint institutes by year of approval and province

Year of approval	Joint institutes	Province
1997	1	Shandong
1999	1 (now ceased)	Fujian
2000	2	Jiangsu, Shanghai
2003	1	Hubei
2011	1	Zhejian
2017	1	Fujian

Table 5 shows the year of approval and distribution across China of Australia's joint institutes. Five of the six active joint institutes are in eastern China, while one is in central China (Hubei). The six active joint institutes have provided training opportunities for almost 67,000 Chinese students dating back to 1997, based on their approved quotas and their dates of approval, and they have a combined intake quota of 5,720 students per year.

Each of these joint institutes provide programs in management and commerce, two also provide programs in information technology, two in society and culture and one in engineering and related technologies (joint institutes by their nature can offer a broader range of courses than single joint programs).

Conclusion

Australian education providers have played a leading, active and vibrant role in helping China to develop the vocational skills need to drive its expanding and changing economy over nearly a quarter of a century, dating back to the approval of the first joint program in Jiangsu in 1994. More than a quarter of all MoE approved joint programs and joint institutes in China since 1994 have been delivered by Australian institutions, more than for any other country.

Over these 23 years of Sino-Australian cooperation in MoE approved joint programs and institutes, 37 Australian universities, TAFEs and private education providers have worked with their Chinese partners to deliver skills and training to an estimated 200,000 Chinese students across a broad and growing range of education disciplines, providing them with high quality practical and vocational skills. Graduates of these programs are sought after by Chinese employers, and many courses have very high employment rates.

Australian education providers have proven responsive to the changing demands for skills of China's economy and the growing focus on providing opportunities for skills development in central and western China, developing new programs and cooperative ventures with institutions across China to meet China's emerging needs and to provide skills and training for China's growing economy.