

1+X Pilot Policy Update

March 2021

1. Introduction

This policy update by EduWorld on the 1+X certificate pilot program and Chinese Credit Bank has been commissioned by the Education and Research Section of the Australian Embassy in Beijing. The findings reported here are based upon desk research and interviews with stakeholders, conducted between October 2020 and March 2021.

2. Overview of the 1+X model

The January 2019 publication of the Chinese State Council's *Implementation Plan on National Vocational Education Reform* ('Reform Plan') included information about a '1+X' certification system, in which university and vocational institution degrees (the 1 component) would be supplemented with additional industry-based, practical qualifications (the X component) to address the skills gap between education and employment.¹ The subsequent *2020 Vocational Education Quality Improvement Action Plan (2020-2023)* ('Action Plan') provides further detail of how it is intended for the program to proceed.²

The main educational institutions involved in the 1+X pilot are secondary vocational schools and higher vocational schools.³ However, other institutions such as applied undergraduate colleges and universities are also encouraged to participate in the pilot program. As well as students attending institutions, 1+X pilot institutions are also able to offer X certificates to adult learners.

The intention is that the vocational skill level certification (the X component) will provide an evaluation of learners' vocational and technical abilities. The certification follows a structured model and is divided into beginner, intermediate and advanced level certificates, providing progression as well as flexibility to meet the varying skill levels of people who undertake the qualifications.

Stakeholders consulted for this project had varying views on the rationale behind 1+X. The most likely opinion was that it was a way to improve the employability of graduates, by increasing cooperation between industry and vocational education providers, or by demonstrating competency, prior learning or skills.

1+X Pilot Scope

To date, there have been four rounds of 1+X pilot programs, with an increasing number of certificates being added through each round. To date, a total of 470 certificates have been approved as part of the 1+X pilot.⁴

¹ State Council, February 2019, [Implementation plan on National Vocational Education Reform](#), in Chinese

² State Council, September 2020, [Vocational Education Quality Improvement Action Plan 2020-2023](#), in Chinese

³ **Secondary vocational schools**, which have various names including technical or specialised secondary schools, vocational secondary and crafts schools, offer an alternative path for students who have finished compulsory education and who do not go on to academic high schools. **Vocational colleges**, which include specialised colleges or vocational technical colleges, are administered at the provincial level. Vocational college programs are typically three years in length, leading to a diploma in a vocational specialisation.

⁴ China Vocational and Adult Education website, [Approved programs for the four rounds of the 1+X pilot certificates](#)

Figure 1: 1+X Certificate Approvals

Round	Number of certificates
1	5
2	10
3	76
4	379
TOTAL	470

The Action Plan notes there are 20 key areas for which skilled personnel are in short supply in China, including modern agriculture, advanced manufacturing, modern service industry, strategic emerging industries. In its initial stages, the 1+X program has targeted around 10 of these vocational skills areas.

In the earliest rounds, the X certificates approved appear to have been designed to apply to broad types of skills, including web front-end development, logistics management and aged care nursing. Since then, the nature of some of the areas addressed has gradually narrowed. By the time of the most recent, fourth round of X certificates, some of those approved were for very specific skills, such as ‘beauty photoelectric equipment operation’ and ‘online jewellery design.’

The official description of who is eligible to develop X certificates remains unclear and subject to interpretation. To date, in the first four pilot rounds of 1+X, it has only been enterprises that have been listed as developers of the X qualifications, with a mix of private enterprises. These have included small niche businesses, such as Beijing Game Power Education, massive ones such as Lenovo, Alibaba, Haier and Tencent, state-owned enterprises (SOEs), such as CRRC Corporation Limited, a large provider of railroad vehicles, and national associations, such as the China Medical Education Association.

There remain many outstanding questions about how the 1+X program will proceed, and this was commented upon in many of our consultations with stakeholders in China and Australia. They were unsure about whether and how the X’s would be standardised, how staff would be trained to deliver the identified competencies, and how the X certificates would differ from other, pre-existing certifications.

Provincial level implementation

The central government has established a mechanism to reward and subsidise the pilot work of the 1+X certificate system in each province through related transfer payments. Students from families with financial difficulties are exempt from relevant assessment fees.

Provincial and prefecture-level governments throughout China have submitted their work reports on the implementation of the 1+X program since its official launch in September 2019.

Liaoning Province^{5,6}

UPDATE ON IMPLEMENTATION OF 1+X PROGRAM

In Liaoning, a provincial-level committee has been established to coordinate, guide, promote and supervise the pilot. By January 2021, 145 colleges and universities had been involved in more than 1,000 pilot projects, with 130,000 students participating. Of note, only just over 3,000 students had actually taken certificate exams, though a further 20,000 are scheduled to take the tests required for the X certificate. Liaoning requires all 1+X certificate training to be provided free of charge, with the training and assessment related expenses to be included in colleges’ and universities’ budgets.

⁵ China Education News, November 2020, [Liaoning accelerates pilot work of 1+X certificate system](#)

⁶ People’s Daily, January 2021, [Liaoning promotes the reform of vocational education](#)

Types of courses

In the 4th round of the 1+X pilot, a total of 379 certificates were announced, including certificates in various fields where Australia is considered to have particular strengths, for example in early childhood and tourism/hospitality. Certificates announced in these two sectors in the fourth round are listed in Figures 2 and 3 below.⁷

Figure 2: 1+X 4th Round Early Childhood Education

#	Certificate provider	Certificate name
66	Golden Baby (Tianjin) Education Information Consulting	Early parent-child interaction guidance
67	Golden Baby (Tianjin) Education Information Consulting	Infant family education guidance
68	Shenzhen Chuangke Workshop Technology	Comprehensive literacy education for children
69	Young Lemei (Beijing) Education Technology	Childcare education for infants and children aged 0-3
70	Young Lemei (Beijing) Education Technology	3-6 year old child care education
71	Beijing Guorentong Education Technology	Online learning service
72	Beijing Andaz Management Consulting	Development and implementation of youth education project
73	Sichuan Beiying Education Management	Infant safety protection
74	Dalian Meijimu Education Technology	Exercise guidance for infants and toddlers aged 0-3
75	Beijing Game Power Education Consulting	Gamification of preschool curriculum
76	Xinhua Guocai Education Network Technology	Instrumental Art Director
77	Beijing Weide Elite Montessori Teaching Method Consulting	Kindergarten class operation organization

Figure 3: 1+X 4th Round Tourism and Hospitality

#	Certificate provider	Certificate name
82	Beijing Sankuai Online Technology	Hotel revenue management
83	Shanghai Palm Computer System	Tourism big data analysis
84	Ctrip Travel Network Technology (Shanghai)	Customized travel butler service
85	China Tourism Association	Travel planning
86	China Hotel Association	Hotel Operation Management
87	China Lodging Hotel Management	Modern hotel service quality management
88	Beijing Zhongkai International Research and Travel	Design and Implementation of Study Trip Courses
89	Beijing BTG Training Center	Front Office Operation Management
90	Beijing BTG Training Center	Food Service Management
91	Xinjiang Fangpuxiangsi Education Consulting	Wine service
92	China Hotel Association	Catering management operation

Designing the X programs

The X programs can be designed from scratch or be pre-existing programs repurposed for the 1+X model. X certificate providers create their own assessment outlines, teacher training materials, online learning resources based upon the core skills and knowledge relevant to their industry.

Educational institutions wishing to offer X programs are encouraged to consider ways to integrate the X program teachings and outcomes into their relevant vocational courses. To date, course development and teacher training has primarily been the responsibility of the X certificate provider.

⁷ China Vocational and Adult Education website, [Approved programs for the four rounds of the 1+X pilot certificates](#)

Zhongke Research Centre for Construction Industrialisation Innovation⁸

DEVELOPING AN X CERTIFICATE

In the development of its Building Information Modelling (BIM) certificate, approved in the first round of X certificates, the construction and engineering company Langfang Zhongke:

- Developed its own course syllabus for BIM modelling
- Created online learning course materials
- Created teacher training manuals for its partner educational institutions
- Hosted orientation and training sessions for teachers in various cities.

Implementation

When the VET Reform Plan was first released, there was an expectation that Universities of Applied Sciences would be the main implementing channel for the 1+X program, but as yet their role remains unclear. While many questions remain about how the X will be implemented, EduWorld's desk and primary research indicates that X programs are currently being taught and assessed through vocational schools and colleges, which have been selected as pilot schools to implement the X certificates in addition to the vocational education they provide. It is reported that 3.2 million students have already participated in the pilot.⁹

The MOE's 1+X website provides a comprehensive list of current X certificate providers (培训评价组织, which translates to 'training evaluation providers') as well as the pilot schools and the X certificates that they are teaching.¹⁰ As of January 2021, the pilot schools eligible to participate in the program comprise:

- 2,457 secondary vocational schools
- 1,243 higher vocational colleges
- 515 undergraduate institutions

Having been through the training for the X certificates, it remains unclear whether pilot schools are required to pay to be able to teach and assess the X certificates.

Chinese Tourism Association¹¹

STUDYING FOR A 1+X CERTIFICATE THROUGH A CHINESE MOOC

The stated goals of the 1+X Travel Planning certificate, as designed by the China Tourism Association are to:

- Enable students to master the knowledge of tourism product planning and customisation methods and processes
- Develop the ability to plan and customise different types of tourism products
- Meet the professional requirements of travel agency, travel planning agency and other tourism planning positions.

For students wishing to study online for the Travel Planning certificate, Zhejiang Tourism College has designed a course available through ICVE, a Chinese MOOC platform that was built by the Higher Education Press, which offers more than one thousand courses, most of them free. The Travel Planning course designed Zhejiang Tourism College is listed as requiring 16 hours of study (two hours per week) and was most recently run through ICVE from December 2020 – February 2021, with total enrolment of 897 students.¹²

⁸ Langfang Zhongke Building Industrialization Innovation Research Center, [Building Information Modelling certificate](#)

⁹ China Education Daily, January 2021, [Top 10 Advancements in Vocational Education in 2020](#)

¹⁰ MOE, [Vocational skill certificate service platform](#)

¹¹ China Tourism Education [website](#)

¹² ICVE, [Travel Planning Certificate course](#)

Train the trainer

In the pilot phases of the 1+X model, much of the focus appears to have been upon providing training to teachers in pilot schools, giving them a full understanding of the tiered 'X' qualifications.

The X program can be taught by teachers of partner education institutions who have undergone training with the X certificate provider. Training appears to be more likely to take the form of intensive, in-person training workshops, typically five days in length, to gain the necessary skills and course understanding required to teach students who wish to undertake the X certificate at their respective educational institutions.¹³ The X provider may also provide supplementary teaching materials to students, such as online resources, dedicated teaching videos and other materials.

China Association of Social Welfare and Senior Service¹⁴

DEVELOPING AND IMPLEMENTING AN X CERTIFICATE IN AGED CARE

One of the focus areas of development for the 1+X program has been social services.¹⁵ The China Association of Social Welfare and Senior Service (CASWSS) has been delivering training programs for the aged care industry since 2010 and has been accredited to provide aged care X certificates, based upon some of its well-established training programs which have been repurposed to the X certificate program.

CASWSS's Aged Care Professional Level X Certificate was approved in the first round of pilot certificates, and is currently being run through a total of 444 pilot schools, comprising:

- 169 Secondary Vocational Schools
- 234 Vocational Colleges (excluding technical colleges)
- 41 Undergraduate Colleges/Universities¹⁶

Adult learners have also been targeted, and are able to take the CASWSS's Aged Care Professional Level X Certificate at locations in Beijing, Inner Mongolia, Heilongjiang, Jiangsu and Sichuan.

Educational institutions and other organisations wishing to provide CASWSS's training courses are required to submit an application and are selected if they meet key criteria such as: previous experience in providing geriatric care training courses; demonstrable understanding of curriculum and key skill requirements; having the necessary physical equipment; and facilities and human resources available to provide training to students.

Teachers for the Aged Care Professional Level X Certificate are required to attend intensive training workshops. The five-day course for teachers has the following structure:

Day 1 – understand and interpret the 1+X policy

- General requirements, work schedule
- Elementary, intermediate and advanced aged care vocational skill level standards and assessment and evaluation content interpretation

Day 2 - Focused content and teaching methods for basic aged care professional skills

Day 3 - Focused content and teaching methods for intermediate aged care professional skills

Day 4 - Focused content and teaching methods for advanced aged care professional skills

Day 5 - Teacher training assessment

So far there have been five rounds of training for the aged care nursing program, each involving around 200 teachers, at a cost of 600RMB per day per teacher, and 3,000RMB for the course.

CASWSS provides dual certification for their X certificates, meaning that teachers can also qualify as assessors.¹⁷

¹³ MOE, Vocational Skills Information Platform, October 2020, [Sino-German Know-How teachers training workshop successfully provided for 900 teachers](#)

¹⁴ China Association of Social Welfare and Senior Service [Training program information](#)

¹⁵ China Business News, October 2019, [Ministry of Education announcement](#)

¹⁶ MOE, April 2019, [Aged Care Skills Certificate](#)

¹⁷ MOE, September 2020, [Dual certification for teachers and examiners of the geriatric care X Certificate](#)

Assessments

EduWorld’s analysis indicates that while there are no restrictions in how X certificate assessments may be conducted, with computer-based online assessments seeming to be far the most likely approach. Organisations that meet various requirements can serve as assessment centres for certain X certificates, though most typically it is the pilot schools themselves that act as assessment centres.

The split between theoretical and practical assessments typically varies depending on the level of the certificate.

Zhongke BIM Qualification¹⁸
THEORETICAL AND PRACTICAL COMPONENTS ACROSS VARIOUS LEVELS
 As the levels of the qualification rise, the theoretical component increases and practical skills decrease. Assessments are completed online through the BIM modelling X certificate assessment website, though assessors are physically present in the room where students are taking the assessments.

表 2 BIM 职业技能等级考核评价内容权重表

		Beginner	Intermediate	Advanced
		初级	中级	高级
内容	理论知识	20%	20%	60%
	专业技能	80%	80%	40%

1+X Foreign Collaborations

In the VET Reform Plan, it is suggested that schools and organisations should draw on the 双元制 (dual education system originating in Germany) to develop their X certificate training programs and other reports discuss the importance of drawing on international standards and experience when creating X programs.¹⁹

Jiangsu and Berlin 1+X collaboration²⁰
ACADEMIC EXCHANGE ABOUT 1+X BETWEEN GERMAN AND CHINESE PROVIDERS
 Talks held during a 2019 academic exchange between BSK international (an international education organisation based in Berlin) and the Wuxi Vocational Institute of Commerce (based in Jiangsu) addressed the 1+X model, covered elements including the structure of vocational competencies, the training and assessment of vocational competencies, the credit system of German vocational education, third-party assessment and examination, the conversion and basis of German vocational education credits and university degree credits.

EduWorld’s desk research has identified a small number of pilot X certificates that have input from a foreign provider.

¹⁸ BIM modelling assessment [website](#)

¹⁹ MOE, July 2019, [Regarding the implementation of the 1+X certificate pilot website](#)

²⁰ Wuxi Vocational Institute of Commerce, October 2019, [Sino-German Higher Vocational Education Cooperation Alliance \(Jiangsu-Berlin\)](#)

Know-How Education²¹

WORKING WITH GERMAN EDUCATION PROVIDERS TO DEVELOP X CERTIFICATES

Know-How Education is a Chinese provider of vocational education curricula, that specialises in delivering German automotive vocational education courses and models adapted to Chinese needs. Know-How has worked with more than 375 vocational educational institutions in China over the past 17 years, collaborating with them to provide various training certificates.

Know-How's website shows that they have worked with a number of German providers, such as Handwerkskammer Halle (Saale), a public 'Chamber of Crafts', and F+U Sachsen gGmbH, a not-for-profit VET institution, to develop teaching programs, materials and assessments, including 1+X certificates. Know-How's 1+X activities include providing:

- Two X certificate programs in Round Three of the pilot: Commercial Vehicle Sales and Service, Smart Vehicles Operation and Maintenance
- Teacher training
- Learning portals, educational videos, PPTs and exam questions
- A dedicated 1+X operations manager to liaise with partnered institutions
- Designing computer-based tests
- Using virtual reality, AI, big data and cloud to create the work based environment from which students will be tested on their ability to perform the required tasks in such an environment

Know-How has indicated it will invest in the development of this testing software that automatically marks exams, and provide partner schools real time online exam support for its students.

Opportunities for foreign collaboration

In our analysis of the pilot X certificates, the only reference to foreign collaborations appear to be those listed above from Round 3. While there is no documentation that precludes foreign providers from being involved in 1+X per se, the current evidence strongly points towards it being a program for Chinese providers.

The overriding objective of the 1+X program has led some commentators to believe that the pilot will lead to a new kind vocational education diploma, that 'like Australia ... is parallel and equivalent to the general education diploma'.²²

There were differing views among the stakeholders consulted for this research as to whether 1+X might offer opportunities for Australian education providers. Some said they had already looked into the possibility of developing programs, but had concluded that there was a strong preference for local programs.

There are, however, examples of 1+X programs being offered to international students, for example at the Guanxi Vocational and Technical College, where 23 international students from ASEAN countries passed a 1+X logistics management course in 2020.²³

²¹ Know-How, [Sino-Foreign collaborations](#)

²² Education Forum, March 2020 [Ten Reflections on Key Issues of Vocational Education](#)

²³ China Youth Daily, October 2020, [Guangxi Vocational and Technical College creates a new business card for international schooling](#)

3. The Credit Bank

For at least a decade, there have been moves within China to establish some kind of ‘Credit Bank’ system for academic qualifications in which credits and certificates could be used to gain specific academic degrees or diplomas. In November 2017, the education administration department of the State Council launched a ‘Credit Bank’ system for vocational education (职业教育国家学分银行).²⁴

Documentation from that time indicates that the Credit Bank will aim to serve as an online information system, registering, authenticating and storing the learning results associated with academic certificates and vocational skill level certificates into each individual’s ‘learning account’.

In a notice issued in March 2020, the MOE provides details of two different Credit Banks which the National Open University (国家开放大学) has been entrusted to develop: the Credit Bank Information Platform for vocational certificates,²⁵ and a separate X Certificate Service Platform.²⁶

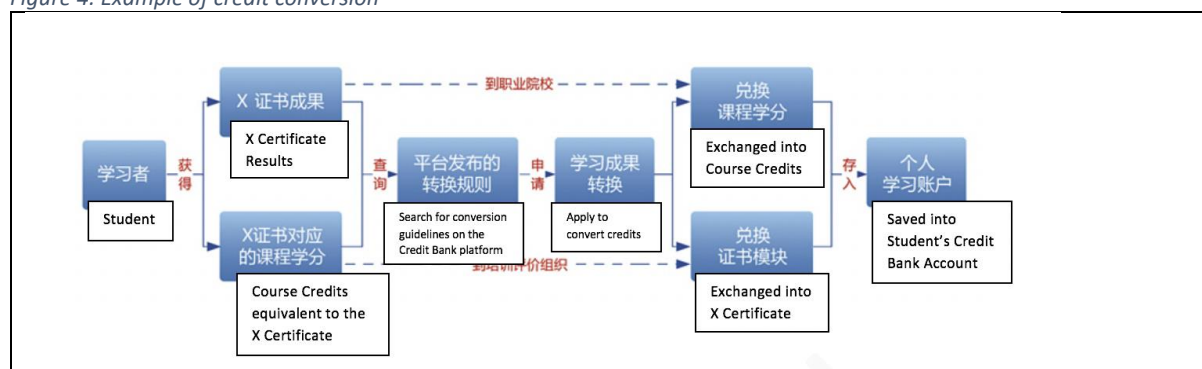
Students who participate in 1+X pilot programs will be able to upload their certificates, and institutions including vocational education colleges, universities, X certificate providers and other organisations will be able to upload and access the records of 1+X program participants.²⁷

Based on the credits of the Credit Bank, organisational users can formulate specific conversion methods for learning outcomes and implement the conversion of relevant learning outcomes. Some of the aspects that have been documented are that:

- Credit conversions/equivalencies will naturally differ depending on the X certificate Pilot schools and X certificate providers are required to provide their respective credit equivalencies to the Credit Bank.
- Once approved by the Credit Bank, these organisations should support students seeking to convert credits, and update the Credit Bank of these changes.²⁸
- There is a limit on the total course credits for which an X certificate can be exchanged.²⁹

An example of how credits can be converted is shown below and illustrates how the exchange of credits goes both ways: an X Certificate can be exchanged for course credits, or vice versa.³⁰

Figure 4: Example of credit conversion



²⁴ China Daily, November 2017, [Beijing launches academic credit bank](#)

²⁵ [Credit Bank Information Platform](#)

²⁶ [X Certificate Service Platform](#)

²⁷ MOE, [About the Credit Bank](#)

²⁸ MOE, [Credit Bank Credit Conversion](#)

²⁹ [Rail transportation major credit equivalencies](#)

³⁰ MOE, [Credit Bank Credit Conversion for Web Front-end Development X certificate](#)

4. Summary of Findings

It appears that the 1+X is still evolving. Even those with deep knowledge of VET policy and implementation in China remain unclear about how the program will be implemented. The 'pilot' nature of the certificates that have been approved suggests that the authorities are taking a 'try it and see' approach. This is not unusual in China, where impressive policy announcements are subject to varying degrees of provincial implementation.

In its current form, 1+X program development is currently mainly coming from private enterprises, with a small number of associations and SOEs also involved. While there does seem to be evidence of foreign – and specifically German - input into some X certificates, there have not to be date been any standalone foreign providers involved. Without having an established business presence in China, it seems very unlikely that Australian education providers will have the opportunity to be involved in the design of X certificates.

What is not clear is how the approved enterprises have been developing their 1+X programs and the extent to which they are drawing upon external course developers: if they are using external providers to design learning goals, is there some potential to assist them with doing so?

Primary research for this project indicates that Australia is held in high regard as a provider of train-the-trainer programs, and this might be another possible area of development and collaboration on the 1+X program.

The Credit Bank seems to be still at very much at the nascent stage, with very low awareness levels of what it does and for those who do know more, apparently fraught with complications. The latest information suggests there are two separate banks – one for X certificates and one for other types of vocational courses.