

2019 SNAPSHOT

SICHUAN, GUANGDONG, GUIZHOU AND HEBEI PROVINCES, CHINA

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OVERVIEW

Win the Future is an initiative that aims to explore and test strategies to improve instruction in China's secondary vocational schools to enhance the technical, professional and life skills of vocational students so they are better equipped to enter the workforce. Launched in 2016, the initiative is being led by the China Development Research Foundation (CDRF), whose mission is to advance good governance and public policy to promote economic development and social progress.¹ The initiative is a three-year pilot intended to reach 150,000 students from 31 schools in four provinces: Sichuan, Guangdong, Guizhou and Hebei. Win the Future grew out of findings from a CDRF assessment of vocational education from 2013 to 2014, commissioned by the Department of Vocational and Adult Education, Ministry of Education.² CDRF found the Chinese government had placed a steadily increasing focus on developing secondary vocational education, particularly around improving quality and expanding access for economically disadvantaged students, and identified a need for continued improvement around school capacity, addressing uneven education quality, and boosting the life skills of secondary vocational students in areas such as self-respect and self-confidence.³

An investment from the JPMorgan Chase & Co. New Skills for Youth initiative and other donors is enabling CDRF to design and implement interventions to ensure that the skill level of vocational students meets the demand of employers, while increasing achievement levels and improving the self-confidence of secondary vocational students. The investment is also enabling CDRF to collect and analyze data about the interventions to inform policymakers about how to further strengthen China's vocational education system to meet rapidly changing industry demands while promoting social equity.

JPMORGAN CHASE NEW SKILLS FOR YOUTH INITIATIVE

Launched in 2016, New Skills for Youth⁴ is a \$75 million, five-year global initiative aimed at transforming how cities and states ensure that young people are career ready. The overarching goals of the initiative are to:

- Dramatically increase the number of students who successfully complete career pathways that begin in secondary school and culminate in postsecondary degrees or credentials tied to high-wage, high-demand jobs; and
- Catalyze transformational approaches to the design and delivery of programs and policies to increase students' career readiness and disseminate lessons learned around the world.

This snapshot is part of a series documenting the progress of the local investments from across the globe that aim to identify and implement the most promising ideas in career education, with a special focus on communities with the greatest needs.

SECONDARY VOCATIONAL EDUCATION IN CHINA

In China, primary and secondary education take 12 years to complete. The first nine years are compulsory and include primary education for children ages 6 to 12, followed by three years of junior secondary school, or junior middle school. Students who continue then progress to either an academic-focused senior secondary school or a vocational senior secondary school. Students who are academically underperforming or do not have the means to choose an academic high school and university go to a vocational secondary school. As such, vocational secondary education is viewed as a national strategy for achieving social equity and alleviating poverty. Vocational students account for 36 percent of the student population at the secondary level, totaling nearly 16 million students.⁵ Approximately 80 to 90 percent of students in secondary vocational schools are from rural China.⁶ Roughly 50 percent of the students in these schools are from families that earn less than \$1,500 per year; 25 percent are from families in which the parents have no regular work or stable income.⁷ Seventy-one percent of the parents of vocational education students have completed only junior middle school or below.⁸

Source: China Development Research Foundation

THE WIN THE FUTURE INITIATIVE

Support from a number of donors — including an investment from the JPMorgan Chase New Skills for Youth initiative — is providing CDRF with an opportunity to enhance the quality of the secondary vocational education system in China to meet fast-changing industry demands while promoting social equity by enhancing curriculum, expanding student access to career-related resources, and conducting research to inform policy. Specifically, CDRF's Win the Future initiative is focused on carrying out a series of pilot projects to:

- **Reshape the school management philosophy of secondary vocational schoolmasters to embrace more collaboration between schools and employers to enhance the curriculum;**
- **Build teacher capacity around workplace knowledge and skills and around applying teaching methods that better align with industry need; and**

- **Improve student confidence, readiness for the workplace and entrepreneurship skills.**

CDRF is in the final year of a three-year social experiment supported by the New Skills for Youth initiative and has made significant progress. Three elements stand out among the Win the Future initiative's efforts: new partnerships among schools, local government agencies and corporations, in which partners engage directly with schools to provide training to both teachers and students; a strong emphasis on not only enhancing the technical and professional skills but also addressing the "life" barriers of vocational students in the curriculum; and an emphasis on piloting strategies to inform national policy.

Engaging Employers and Other Partners to Improve the Curriculum and Change Teaching and Learning Methods

When launching the initiative, CDRF built strong partnerships with both employers, such as Apple and Bosch, and local government agencies, including the Department of Education of Guangdong Province, the Department of Education of Sichuan Province, and the Department of Education of Guizhou Province. The employers served as project sponsors, providing funds and professionals to work directly with the schools. The local government agencies were in charge of coordination during the preliminary school selection period. Once the initial schools were selected, the local government agencies provided personnel for the intervention activities, such as training sessions for school principals. Each school formed a project team to coordinate the interventions, surveys and research assessments.


The interventions CDRF implemented in the 31 schools included training principals of secondary vocational schools on the value of incorporating school-enterprise partnerships (e.g., education-business partnerships) into their school management plans. As of August 2018, CDRF had conducted four training workshops for 132 schoolmasters and senior teachers, covering topics such as artificial intelligence; advanced manufacturing; logistics; case studies around better practices on school-enterprise collaboration and in-demand skills; and major innovations from companies such as Apple, Bosch, IBM, Mercedes-Benz and Internet-based businesses in China.

The interventions also included bringing into the classroom highly skilled “senior technicians” from multi-national companies in the processing and manufacturing, transportation, information technology and finance and business sectors. These senior technicians aimed to improve the quality of the courses by sharing research, developing curriculum and conducting career development sessions at schools. CDRF noted that the sessions led by the senior technicians changed the teaching and learning atmosphere, boosting the self-confidence of teachers and students, as well as their levels of enthusiasm for learning the material.

This approach to teaching and learning was not without challenges, however: CDRF would often have to make adjustments to plans to account for school schedules, especially academic subject teaching, as well as the availability of senior technicians who were coordinating lessons in the schools. Communication among the senior technicians and teachers could be a challenge, as well, because the teachers needed to rely on translators. CDRF further refined the model in 2018 by having the senior technicians directly train teachers to deliver the curriculum to students instead of teaching the students themselves. This change enabled the technicians to use their time more effectively. Employer partners including Schneider, Bosch, GAGC and Siemens also provided teachers from select pilot schools with opportunities for professional training similar to a teacher externship experience. According to CDRF, the practical training helped to transform the instructional philosophy of the teachers and improve their teaching methods.

From 2016 to 2018, employment rates for secondary vocational students from schools that participated in the Win the Future initiative increased from 75 percent to 87 percent, while matching employment rates (meaning the job used the skills learned) rose from 52 percent to 73 percent.⁹ The six-month retention rate reached 91 percent.¹⁰

Source: China Development Research Foundation



“Vocational education is different from general education, but both are equally important. There are still many issues in vocational education in China in contrast with vocational education in developed countries, including the incomplete system infrastructure, lack of supporting policies related to the technical training of teachers, uneven levels of school management and lack of confidence of teachers and students in the secondary vocational schools. The Win the Future initiative aims to promote the development of secondary vocational education in China and train high-quality technical personnel for China. Therefore, it is very important.”

—*Enterprise Partner*

CDRF established cooperative relationships with many professional institutes at home and abroad throughout the design and execution of the project to enhance the curriculum, including the Institute of Psychology CAS, the International Youth Development Foundation, GIZ and the Organisation for Economic Co-operation and Development. In 2018 CDRF partnered with TAL Education Group to improve student achievement in academic courses by incorporating digital resources and distance learning for Chinese, mathematics and English courses. CDRF also collaborated with Apple to introduce electronic equipment into the classroom.

Enhancing and Expanding Access to Program Components to Boost Students' Life Skills

In the initial year of the grant, CDRF placed a heavy focus on revising the technical skills component of the curriculum and on enhancing soft skills and entrepreneurship. Students point to the soft skills components, such as learning to be more detail oriented, and the focus on hands-on learning as particularly helpful.

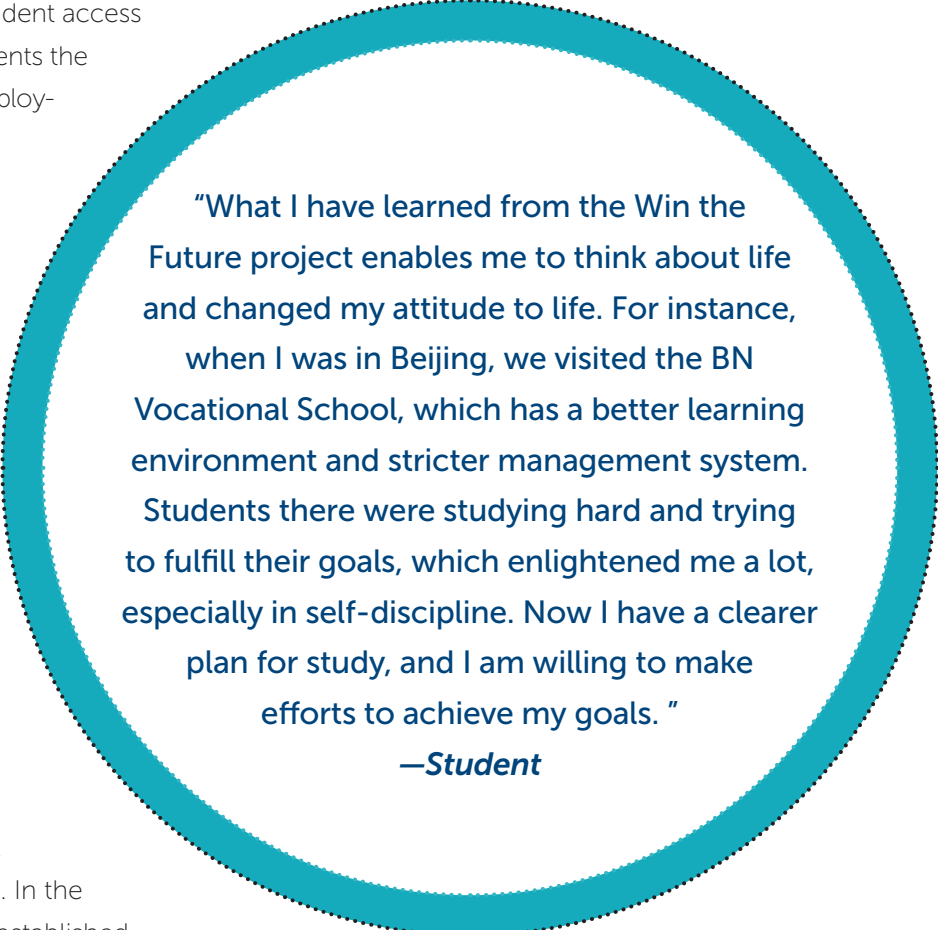
"In the 'senior technician is teaching' session ... an engineer of Schneider (China) Co., Ltd., taught the Application and Maintenance of Industrial Robot and the PLC Control Technology courses for a period of 13 days in our school. He gave lessons to four classes of two grades in the Application of Electromechanical Technology major and one class in the Intelligent Control Technology major of the Intelligent Technology Teaching department (177 students in total). He took part in the class communication for two days with a total six class hours and gave lessons to 14 teachers of the Intelligent Technology Teaching department for two and a half days with a total 16 class hours. The teaching combined theory explanation with activities. During the full course of teaching, the senior technician took full advantage of the simulation software to demonstrate the real working scenes in a digital manner. During the theory teaching session, the senior technician used many lifestyle examples and body language to enlighten the students, rendering it easier for them to understand. The teaching method increased the students' engagement in class and helped improve the teaching methods of our teachers in the Intelligent Technology Teaching department as well as enhanced the teachers' occupational skills. This session helped optimize the teaching quality of practical training for the Intelligent Control Technology major and Application and Maintenance of Industrial Robot major and also helped enhance the students' abilities for employment."

*—Director of Teaching Department,
Vocational School*

A web platform was launched to expand student access to resources about careers and to give students the opportunity to interact with prospective employers, mentors and other professionals who could provide advice about career planning.¹¹ Providing students with a digital platform has been particularly valuable, as most of the vocational students reside in rural or peri-urban areas of China, with limited access to such resources and industry partners.

Many of the students who attend secondary vocational schools face challenging circumstances as compared with the national population of secondary students, particularly with regard to emotional well-being, behavior and attentiveness. The academic subject-matter knowledge of secondary vocational school students is often insufficient as well, which then limits their career opportunities. In the second and third years of the grant, CDRF established several program components to address the psychological barriers, or life skills, of students, particularly boosting their self-respect and self-confidence. Schools worked to create a positive and safe atmosphere on campus. The schools provided opportunities for students to express themselves at least once a week, in an effort to release negative feelings and build self-confidence. In addition, a number of student interest groups were formed to support peer networking and students' connectedness to school. According to CDRF, students who participated in and led these interest groups were more positive in confronting the difficulties in their learning and life.

The interim results of the interventions for 2018 showed noticeable changes in almost all variables with overall increases in positive developmental characteristics, reductions in negative developmental characteristics and improvements in academic achievement.¹² Specifically, the interventions boosted the growth mindset of students and reduced feelings of loneliness and



“What I have learned from the Win the Future project enables me to think about life and changed my attitude to life. For instance, when I was in Beijing, we visited the BN Vocational School, which has a better learning environment and stricter management system. Students there were studying hard and trying to fulfill their goals, which enlightened me a lot, especially in self-discipline. Now I have a clearer plan for study, and I am willing to make efforts to achieve my goals. ”

—Student

depression as well as behavioral difficulties of students. The school interventions also significantly improved the reading ability and cognitive competence of students, typically related to reasoning and concentration. Students also point to increased confidence, goal setting and improved academic outcomes. Further analysis of the interventions is planned to determine which interventions are more effective and how to produce and generalize the interventions beyond the pilot schools.

Informing National Policy

From the outset, there has been a strong emphasis on evaluating the range of strategies being implemented through Win the Future to inform national policy. Briefing reports containing achievements at every stage of the initiative are shared with relevant government agencies. CDRF's recommendations for national policy include:

- Expanding continuing education opportunities for secondary vocational students and building a more practical vocational education system that attracts more in-service staff to teach in schools;
- Improving the quality of teachers by increasing funding, improving working conditions and the management structure, increasing financial investments for external teachers, such as the senior technicians, establishing a teacher training base for vocational education, and developing a teacher professional development system;
- Establishing a comprehensive employer-school partnership system to improve the quality of practical training, with local government creating incentives for employers to become involved in the development and implementation of local vocational education;
- Incorporating life skills into the curriculum in secondary vocational schools, paying close attention to the mental health of students, establishing a supportive campus culture and emphasizing transferable skills; and
- Bringing attention to and increasing support from the state and society for vocational education. The differences between the secondary vocational school students and high school students are largely based on family background, educational opportunity and adverse life experiences. CDRF recommends that the state and society increase support to change social attitudes toward secondary vocational education and secondary vocational school students.

The findings and recommendations from the Win the Future initiative have since been embedded in three national policies:

- Circular on Vocational School Students Internship Management — Ministry of Education;
- Opinions on Further Strengthening and Improving Moral Education in Secondary Vocational Schools — Ministry of Education; and
- National Vocational Education Reform Implementation Plan — State Council.

LOOKING FORWARD

In the immediate future, CDRF is working to develop micro-film training and professional skills courses, with plans to engage more non-profit organizations and employers. CDRF plans to organize more extra-curricular activities to broaden students' experiences and increase efforts to place students in internships and jobs, particularly those students coming from less developed rural areas. CDRF also intends to assess students' psychological development to further understand their needs and make policy recommendations.

The China Vocational Skills Education Association invited CDRF to develop a plan for the next three years built on the social experiments to date. The future interventions will likely explore:

- How to further enhance students' psychological development to help lay a solid foundation for their future development;
- How to improve students' academic achievement and their capacity for lifelong learning;
- Better cultivating vocational and employability skills for students, including communication, self-management/discipline and critical thinking;
- Effective methods to deepen school-enterprise collaborations, work-study integration and modern apprenticeships; and
- The development direction for county-level secondary vocational education.

ACKNOWLEDGMENTS

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ENDNOTES

¹ For more information about the China Development Research Foundation, see <http://cdrf-en.cdrf.org.cn>.

² <http://cdrf-en.cdrf.org.cn/zdzyjy/index.jhtml>

³ *Ibid.*

⁴ For more information about New Skills for Youth, see <https://www.jpmorganchase.com/corporate/news/stories/newskillsforyouth.htm>.

⁵ China Development Research Foundation. (2018, November). *Secondary vocational education and human capital development in the future stage report of secondary vocational education "For the Bright Future" project.*

⁶ *Ibid.*

⁷ *Ibid.*

⁸ *Ibid.*

⁹ Figures provided by CDRF.

¹⁰ *Ibid.*

¹¹ For more information about the web portal, see <http://wf.cdrf.org.cn>.

¹² Study results provided by CDRF.