

A New Platform for Industry-Academia Collaboration—The Smart Machine Tool Practical Talent Cultivation Program in Taichung Municipal Dajia Industrial Senior High School

(Courtesy of Qiao-Lin Lin at the Division of Academic Senior High Education)



In order to strengthen the training of vocational and practical abilities, the K-12 Education Administration, Ministry of Education, encourages vocational high schools to develop their school characteristics through enhancing their teachers' competence and curriculum. Many senior high schools have established cooperative education programs, employment-oriented programs, and industry-academia collaboration programs. Under the policy concept of "industry-academia collaboration" that seeks to promote a win-win outcome for the academia and the industry, and to shorten the gap between theory and practice, the Taichung Municipal Dajia Industrial Senior High School has launched a "Smart Machine Tool Practical Talent Cultivation Program" to connect the smart machine tool industrial chains in greater Taichung, to work with the regional industrial associations, and to emulate from the vocational talent cultivation system of the industry associations in Germany to jointly cultivate talents in the machine tool industry, creating an industry-academia collaboration mechanism based on industry associations, and provide students with more options.

This program focuses on collaborating with smart machine tool-related manufacturers and suppliers, who provide students with internships for practical operations mainly in processing and assembly, with the work in design and quality assurance as the supplement, to cultivate their basic professional machine literacy and skills before entering the workplace. Through the regional industry associations, the school has successfully partnered with several companies, and the school will help cooperating companies to develop internship courses, arrange mentors for professional guidance on site, formulate teaching principles for workplace skills, while cooperating companies will work with the school to plan and develop a database of industry-academia skills training and assessment questions year by year, thereby establishing a professional skills certification mechanism for internships.

Students in this program should learn the basic professional machine literacy and skills in the 10th and 11th grades, and perform internship in the workplace throughout the 12th grade year. While at school, the school offers humanities courses every week, and arranges visits to all cooperating companies in the first three semesters. In the 11th grade, the school will organize matchmaking events for companies and students, and students need to receive 80-hour pre-employment basic professional technical training in the workplace planned by the companies. With mentors appointed, the companies will teach students relevant skills through using the equipment on site to train talents with the expertise needed in the workplace in line with the independent education mechanism in the industry. During the internship in the 12th grade year, the school will arrange visits to cooperating companies for observation, and all students in the program and the companies will observe how education and training measures are conducted at each plant, and the students in the program, who have been interned in the plant, will give a presentation on the internship, to demonstrate the effectiveness of students' internship and vocational training results.

The K-12 Education Administration stated that, through collaboration with the National Chin-Yi University of Technology, after students graduate, they can continue the advanced vocational training courses at the university, so as to train talents for the workplace and to effectively

motivate young people to study and work locally, while ensuring that the students' skills meet the needs of the industry. Meanwhile, students can put what they have learned to good uses as professional talents are sought after by the industry. In this way, the vision of " thinking globally while acting locally through local talents who are trained and employed locally" in vocational education will be achieved as a result.