

## **TECHNICAL SKILLS: THROUGH LEARNING AND PRACTICE?**

Sabyrzhan Madeyev

Implementation of the State Programme of Industrial and Innovative Development of the Republic of Kazakhstan is impossible without a developed system of professional education, which targets to train specialists in order to meet the real needs of the labor market. Accordingly, the employment of graduates of colleges and universities (and, first and foremost, in the area of their specialty), the level of their wages and their subsequent career are the most important effectiveness indicators of a system of technical and vocational, and higher education.

For many jobs in today's labor market, technical and vocational education is more appropriate and rational than higher education. At the same time, many jobs are becoming technically more complicated, information-rich and require applicants to have effective combination of practical skills and theoretical knowledge. Accordingly, in terms of developing students' competences and skills, we observe the increase of the convergence of systems of technical and vocational education and training (TVET) and higher education.

### **What the colleges and universities can learn from each other in the process of collaboration and partnership?**

Interaction of universities and colleges should help to ensure the continuity of the levels of education by synchronizing the contents of the relevant curriculum (university credits and college modules). In terms of the future employment, this factor of continuity has two functions: it reduces the training time for college graduates, who directly enter the second or third year of a university in related specialties; and it improves the quality of university graduates, as they are more motivated and focused on training for this specialty, which they have studied during the college.

In addition, the interaction of universities and colleges can encourage the development of additional professional competencies within a particular specialty. When a student of a college or a university gets a certain specialty, he or she can complement their skills with working professions, which will increase their employment opportunities.

In the frame of training a particular specialty to a student (for example, a cook), some colleges teach their students the skills of several related occupations (confectioner, bartender, waiter) with the issuance of the relevant certificate, thereby increasing the likelihood of their future employment. Universities can also enhance the competitiveness of their graduates by training them additional skills (job qualifications).

It is known that training at the university is more theorized compared to training at colleges, so the universities' adoption of college experience, the practical component of which reaches 60-70%, will benefit students of higher educational institutions. Moreover, since universities save credits by including college content in the modules of the university curriculum, they may use such credits to upgrade and improve their academic programmes by increasing the number of practical training hours.

Colleges, in their turn, can solve the problem of the early entrance of qualified junior engineering staff to the labor market necessary for industrial and innovative development of our country by implementing a programme of post-secondary education (applied baccalaureate).

Considering various options for collaboration and co-operation of vocational schools in Kazakhstan, it should be noted that recently there was a discussion about the possibility of opening colleges in the universities. Thus, private universities currently have a competitive advantage over state institutions, since the law does not prohibit them to create structural units following the model of colleges. People who oppose against creation of colleges at state universities, have

justified their view by the fact that the universities almost never engaged in strengthening college facilities, they never paid enough attention to improvement of qualification of engineering and teaching staff, and virtually transformed colleges into their university foundation courses.

On the other hand, the experience of many countries and of some private universities of Kazakhstan shows that with proper management that includes not only a uniformed curriculum and a common ideology, but regular investments in facilities and staff development can turn the “college-university” partnership into an effective educational institution for training highly qualified specialists.

### **As skills requirements change, how do vocational schools partner with employers and society?**

Today, social partnership between educational institutions and employers is becoming a necessary part of the training process. Companies are encouraged to participate in all stages of training, from career guidance and specialists order, to independent certification and employment. Representatives of companies are members of the Board of Trustees and can influence the organization and content of the curriculum and teaching-and-learning process, such as development and harmonization of curricula and academic programmes, organization of professional practices, mentoring and staff internships. As part of such councils (trustees, supervisory, advisory and regional boards), a direct dialogue evolves with the focus on the needs of the economy, the situation and developments in the labor market, and the requirements for professional competence. This dialogue contributes to the timely changes in the training of specialists.

Companies and educational institutions in Kazakhstan, according to the economic situation, regional peculiarities and local capacity, use different forms of cooperation, such as public-private partnerships, dual training, patronage, concession, trust management, privatization, multilateral memoranda and contracts, sponsorship and so on. The most effective form of partnership of colleges and employers is a dual form of education, which provides mutual responsibility in the training of qualified specialists. Currently, 280 colleges of Kazakhstan (with the participation of 3,322 enterprises covering more than 21 thousand students) in varying degrees, introduce components of dual training. However, full promotion of this form of training is hampered by the absence of provisions in the law “On Education”, which allow legalizing all procedures of mutual relations of the institution and enterprise. In the nearest future, it is expected to adopt amendments to the text of the law, including amendments about the concept of “dual training” and regarding a minimum amount of hours of practical training. The next step should be the adoption of the “Rules of the Organization of Dual Training” that will regulate matters of mutual responsibility and will guarantee the rights and obligations of the parties, which participate in the dual form of education.

Besides, the Ministry of Education and Science of Kazakhstan has developed the Terms of Placement of State Order for Specialists Training in the TVET system, where one of the main criteria for the placement of state orders in the college is employment and employment of graduates (not less than 78%). It encourages educational students to have a closer contact with companies and employers.

Career guidance is a good basis for cooperation with employers, educational institutions and society. It usually focuses not only on the early detection of the students abilities in a particular professional field, but also on the students’ understanding of the characteristics of different occupations, possible prospects, and career development, as well as on the formation of a stable interest in vocational and technical education.

An important way to make employers and society influence the educational process in colleges and universities is to provide them with professional standards through industry associations and through the National Chamber of Entrepreneurs. Professional standards developed by industry

associations contain requirements for employees within the industry regarding their competence and qualification levels.

Currently in Kazakhstan, the work on formation of professional standards is actively conducted with the joint efforts of the Ministry of Health and Social Development (formerly, the Ministry of Labour and Social Security), Ministry of Education and Science, National Chamber of Entrepreneurs, and industry associations.

### **How curricula and extra-curricular activities in TVET are developed in order to enhance the competitiveness of graduates and their subsequent employment?**

For colleges, professional standards will be a guideline for the preparation of competitive specialists, and on the base of these standards, the educational standards, relevant curricula, and modules will be formed. The functional card of standards (labor function, competence) will be used in the development of curriculum. Accordingly, employers will track changes in the workplace and in the industry to make timely amendments to the professional standards. Altogether, this will ensure effective cooperation of employer and educational institution: a unified learning plan and specialist's education within the framework of professional practice and in-service training; modernization of learning plans and curriculum; in-service professional development of engineering and teaching staff offered by employer; development of facilities at the expense of the enterprise; participation of the industrial experts in the educational process of colleges.

Thus, in the frame of the Project "Modernization of Vocational and Technical Education" funded by the World Bank and administered by the Ministry of Education and Science, a model of professional standards has been introduced. Based on that model, 147 professional standards were developed for eleven sectors of the economy. They formed the basis for industry associations for the formation of their own professional standards, and the basis for educational institutions for the establishment of practice-oriented educational programs and training modules that meet the needs of employers.

In addition, the qualification requirements incorporated in the professional standards will be the basis for an independent assessment of college graduates by respective certification authorities. Thus, it will ensure the independence of the teaching and assessment process, competitive environment assessment, objective assessment of learning outcomes, and that assessment criteria match the requirements of employers.

### **How technical skills acquired in vocational schools contribute to the development of a student's career development?**

College graduates have the opportunity to develop their career by "working and studying" or by "studying and working". If they choose to "work and study", the college graduates are employed in companies, so they plan their studies at the university taking into account the enterprise's needs in specialists. Already at the first stage of the student's practical training the company selects more capable and talented students according to the fields of operations, and then monitors their further growth.

In the frame of "study and work" programme, a student is accepted to a shortened training program in the universities of Kazakhstan and Russia according to his or her specialty. Those students note that studying at university is easier for them compared to the experiences of high school graduates because the former are more prepared in their specialty and they have skills acquired during the practical training in enterprises.

Practice-based learning aims to teach technical skills to students, which are necessary for entering a labor market. Thus, the modernization of the TVET system aims to introduce new technologies designed for reproduction and implementation of acquired knowledge in practice.

Besides, since 2012, the TVET system has the Joint-Stock Company “Holding Kasipkor” functioning which aims to create the network of innovative colleges of new type taking into account the experience of the best overseas colleges, and to provide their students an opportunity to go through practical training at the best local enterprises in Kazakhstan. Graduates of these colleges will be demanded by the labour market, as the skills acquired by them in practice, will meet the highest requirements of employers.

An important moment in career development of college graduates of Kazakhstan is the fact that in 2014, Kazakhstan became a member of the international organization ‘World Skills International’, which every two years holds the world championship on working specialties. This kind of Olympic Games in TVET preceded by National Championship and regional competitions, which are also held according to international standards and meet the requirements of the world’s leading employers in a particular professional field. Accordingly, the content of educational programmes and the organization of practical trainings by colleges of college students will change for the better, which will undoubtedly affect both the future careers of graduates of the TVET system and the image of the entire system of technical and vocational education as a whole.