

Discussion on the Knowledge-Ability-Quality Logic of Higher Education Personnel Training

Haijun Sun, Surong Zhang*^{corresponding author}

Dali University, Dali, Yunnan Province, 671003

Abstract: The key to the Intension Development of higher education is to continuously improve the quality of education and teaching. The new era puts forward higher requirements for the personnel training in colleges and universities, such as innovation, learning, morality, cooperation, quality and so on. Engineering education certification focuses on the quality requirements of graduates from 12 aspects such as "engineering knowledge", which fully embodies the idea of results-oriented education. The concept of engineering education certification, such as people-oriented, output oriented and continuous improvement, is the baton of higher education quality improvement. Guided by the concept of professional certification, knowledge-ability-quality is the logic of certification-oriented personnel training, and it is necessary to cultivate the inverted teaching concept of course teaching-course goal-training goal.

Keywords: Professional Certification Concept; Logic of Personnel Training; Teaching Concept of Curriculum

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According to data from the Development Planning Department of the Ministry of Education of China, as of 2022, the gross enrollment rate of higher education will reach 59.6%, which means that China has not only built the largest higher education system in the world, but also officially entered the stage of popularization of higher education. The key to realize the Intension Development of higher education is to firmly grasp the "key line" of improving quality. In addition, in recent years, the difficult employment of college students has been widely concerned by the society, so how to evaluate and guarantee the quality of higher education and train the talents that the society really needs has become a problem that we must look directly at and pay attention to.

1. The New Era Puts Forward Higher Requirements for the Personnel Training in Colleges and Universities

The new era of "getting rich" to "getting strong" requires higher education to break away from the traditional "Prussian education" model, and shift its educational model from producing mass workers in the past to cultivating innovators in large numbers. The education model has made outstanding contributions to China becoming the world's factory, which "manufactured" a large number of skilled workers to become indispensable "screws" in the process of industrialization. After the 18th National Congress of the Communist Party of China, the more developed areas in China have successively entered the later stage of industrialization. With the improvement of income level and the transformation and upgrading of consumption structure, the gradual transformation of "Made in China" to "Intelligent Manufactured in China" is bound to put forward higher requirements for personnel training.

According to Mycos' recent graduate employment reports, the top skills employers want from graduates tend to be basic skills, social skills and the ability to solve complex problems. More emphasis is placed on basic skills such as learning, communication and team service, and in reality, graduates show a lack of oral communication, troubleshooting and persuasion skills, which affects their career development. Therefore, I think colleges and universities should pay more attention to students' basic abilities such as communication, cooperation, cultivation, diligence and emotional control.

2. The Concept of Professional Certification is the Baton of Professional Quality Construction in Colleges and Universities in the Future

The main international engineering education standards are "European Engineering Education Accreditation System" and "Washington Agreement engineering education standards system". Taking the latter as an example, it puts forward 12 quality requirements for graduates such as engineering knowledge, covering knowledge, ability and accomplishment, etc. On June 21, 2016, Engineers Australia officially announced on the official website that China became the 18th full member of the Washington Agreement, and a number of domestic universities actively applied for engineering education certification under the guidance of the Ministry of Education in order to obtain international recognition and reflect the quality of their education and teaching. Whether to participate in the certification is important, but the more important thing is that colleges and universities continue to improve education and teaching ideas according to the ideas and standards to adapt to the new era of society's higher level of human resources needs.

The concept of engineering education certification can be roughly summarized as "student-oriented, focusing on students' learning output, continuous improvement", and higher education is a results-oriented education. The idea requires universities to take students as the primary object of service and take the satisfaction of employers and students as the ruler to measure the quality of education and teaching. The emphasis should be shifted from input to output. And more attention should be paid to measuring the contribution of input to output and pursuing students' academic achievement. One of the directions of higher education reform in the future is likely to introduce the people-oriented core concept of engineering education certification and return to the essence of education that is mainly not to teach students to do specific things, but to train students to become what kind of people. In other words, the graduates trained by colleges and universities are not mainly oriented to specific jobs, but flexibly oriented to the comprehensive development of people and the comprehensive requirements of society for human resources.

3. Knowledge-ability-quality is the Certification Oriented Logic of Personnel Training

An excellent person who adapts to social development should be an individual with reasonable quality structure. Reasonable quality structure should include basic quality, professional quality and occupational quality. Basic quality mainly refers to ideology and morality, temperament and image, IQ, EQ and AQ, which involves outlook on life world, life, values, aesthetics, mission, and happiness and many other contents. Professional quality mainly refers to the understanding and application of professional knowledge, the grasp of the characteristics and development trend of the professional field, and the grasp and integration of relevant supporting knowledge and methods. Occupational quality mainly refers to the spirit of respecting work, multi-way interpersonal relationship handling principles, cooperative attitude, occupational concept, occupational habits, and the core is attitude. Good basic quality, professional quality and occupational quality can respectively support graduates to build a solid social foundation, become professionals in the field and become managers or ordinary employees who fit in with the organizational culture.

There is no unnecessary interpretation of ability and knowledge here. The logical relationship between knowledge, ability and quality should be to form a relatively complete ability structure through imitation, thinking and training on the basis of mastering professional knowledge and related knowledge, so as to provide support for the formation of a more fundamental quality structure. Rich knowledge is a necessary basis for cultivating ability and forming quality. However, due to the diversification and facilitation of knowledge acquisition channels and means, the task of imparting knowledge in classroom teaching is relatively reduced. Teachers have the condition and need to change their status from "nanny" to "coach". "Being a teacher is about imparting principles and knowledge to students, answering their questions", which is no clear mention of explaining knowledge points one by one. Perhaps the knowledge points in classical education mainly rely on students to learn by themselves, and the teacher focuses on teaching the truth of life and work. In recent years, the State has vigorously advocated such teaching methods as heuristic, case, interactive and flip, which complement the popularization of the Internet and the diversification and facilitation of information access channels. At the same time, the teaching process makes obvious progress in the problem-centered integration and synthesis of relevant knowledge to form a more stable knowledge structure, which is also conducive to improving students' learning effect and sense of gain.

Stable knowledge structure is crucial for students to develop the habit of lifelong learning and improve the efficiency of continuous learning, which is conducive to students to form a more clear "good field". Only knowledge that is stable in a certain structure can be internalized, and only knowledge that is internalized can form power—a power to know and understand things, analyze and solve various problems encountered, and gain the power to achieve a certain goal—the ability. Ability is the application of knowledge and the practical condition for knowledge to play a role. A person's talent, to a certain extent, means that he can comprehensively utilize various

abilities necessary for engaging in a certain activity to achieve good results.

For people, quality has a more fundamental nature, is the background color that a person becomes a person. Most of the content of the quality structure is the internalization or sublimation of the ability. For example, in some literary works, the healers who help the world and the accomplices who poison people have similar abilities, but their qualities are very different. And quality, in turn, has an impact on ability improvement. Quality is the internalization of ability, and ability is the external performance of quality. Good quality will show strong adaptability and creativity in social activities. It is generally believed that if a person has strong ability, correspondingly he has good quality, and if a person has poor ability, correspondingly he has poor quality. But this correspondence is not inevitable. Many times, people with strong ability may not have good quality, such as high-tech criminals with strong ability and poor quality, who poses greater harm to society compared to criminals with weaker abilities. If such people have good quality, it is a blessing to the development of society. Therefore, quality is reflected as the direction of ability application.

Our goal in cultivating talents should be to cultivate students' quality and build a complete and reasonable quality structure. Simply put, it is scholars+capable people+good people. According to the analysis of Mycos' annual report of university graduates mentioned above, society may have higher requirements for graduates' basic quality. If it is the former, it basically means that higher education, even including basic education. And it is quite insufficient that the content oriented to the growth of students and social adaptation in the education and teaching process. If it is the latter, it can be concluded to a large extent that the ability and degree of the socialization of contemporary college students may not be optimistic. In any case, education and teaching with basic quality as the core should be strengthened.

The author believes that we should break out of the framework of teaching content in our concepts and actions to carry out teaching activities. According to the concept of engineering education certification and the logic of knowledge-ability-quality, the backward concept of course teaching-curriculum goal-training goal should be cultivated. From the back to the front, first of all, we have to think about what state students can achieve after graduation, which is reflected in the graduation requirements. Secondly, based on graduation requirements, a reasonable professional training program should be formulated. Thirdly, the whole course teaching process should focus on the course goal and echo the training goal. In addition, "courses for ideological and political education" may also be a powerful tool for us to better improve the quality of education and teaching.

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