Advances in Social Science, Education and Humanities Research, volume 505
6th International Conference on Social Science and Higher Education (ICSSHE 2020)

Ways to Enhance the Quality of Training Legal Characteristic Talents in Science and Engineering Colleges

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ABSTRACT
Science and engineering colleges are the natural basis for cultivating professional and diversified legal talents. However, judging from the current status of legal personnel training in these universities, many problems still need to be resolved. Therefore, this article starts with the unique standards of legal talents, combines the advantages of cultivating characteristic talents in science and engineering colleges, analyzes the problems systematically, and proposes practical suggestions from different angles. On the road of cultivating professional legal persons in the new era, science and engineering colleges should give full play to their teaching advantages, strengthen discipline integration, and continuously create a new situation in the era of innovation in legal education.
***Keywords**: Science and engineering colleges, legal characteristic talents, law education, discipline integration*

1. INTRODUCING

At present, according to incomplete statistics, 611 universities and colleges in China have law majors, while science and engineering colleges account for about one-third. This data means that law education in science and engineering colleges is playing an increasingly important role and is an essential promoter of law. Society needs complex legal talents who must be combined with science and technology to meet the challenges of the new century. Science and engineering colleges provide excellent places for the integration of law and science. Under these circumstances, most universities have begun to shift their goals to the training of talents with unique characteristics in law, combining law with dominant disciplines, reforming and innovating based on the traditional law education model, and working hard to specialize and professionalize the training of legal talents, and creating their characteristics. Now, the training of law talents in China's science and engineering colleges is very prosperous, but the future is not very clear. Due to the lack of school running experience and a clear understanding of the training of law talents, they cannot do well enough. Compared with political and law schools and comprehensive universities, there are severe deficiencies in the cultivation of ideas, faculty, books and materials, and teaching management models. It is difficult for legal talents to compete with talents of traditional political and legal colleges or comprehensive universities. Therefore, science and engineering colleges are generally faced with the problem of how to improve the cultivation of talents with unique characteristics in law, and how to truly cultivate complex legal talents with both basic legal knowledge and scientific literacy.

2. STANDARDS

2.1. Combination of liberal arts and science

The intersection of liberal arts and science is a characteristic of training law talents in science and engineering colleges. The law discipline requires two types of basic knowledge: one is humanistic knowledge. Only when you understand humanities do you know how to treat parties when you are engaged in legal work; the other is scientific literacy. Humanistic literacy can be cultivated in literature. However, the cultivation of scientific literacy cannot be separated from mathematics, physics, and chemistry. The discipline of law requires the integration of liberal arts and science, and the talents of law need the balance of liberal arts and science. The knowledge reserve of law talents cultivated in science and engineering colleges is comprehensive. They can integrate the knowledge of the liberal arts and sciences and use the two-way thinking mode to solve legal problems, and it is a compound legal talent with knowledge of economics and law, technology and law, energy, and law. For example, in the real estate property management disputes, the loss may be caused by property management, or it may be due to the quality problems of the housing construction. The legal

talents can play their professional expertise and make correct judgments and judgments according to the knowledge of science and engineering such as the quality of construction projects, building light blocking, and so on, to solve the legal disputes fairly and relatively [1].

2.2. Equal emphasis on theory and practice

The major of law is a highly integrated subject of theory and practice, which emphasizes the cultivation of talents with legal characteristics with both theoretical and practical abilities. In the new Science and engineering colleges break away from the previous elite education, strengthen practical teaching, and set up a large number of useful teaching links, such as legal consultation, mock courts, legal clinics, legal aid. At the same time, these universities implement the teaching method of combining theory and practice and train legal talents who have a solid legal discipline foundation, profound legal theory skills, and a strong ability to analyze and solve practical legal problems. They can use professional technical principles to explore problems at the intersection of disciplines. Under the dual background knowledge of law and technology, they can better solve legal cases such as intellectual property, construction engineering, information technology, and other legal issues.

2.3. Services to speciality professions

In recent years, significant changes have taken place in the legal service industry. The development of society and the emergence of new industries have continued to broaden the professional scope of legal services, and new legal businesses have continued to emerge. Legal services have expanded from mere litigation to economic management, intellectual property, construction industry, and many other fields, especially in emerging industries in the market economy, such as individual artificial intelligence and the Internet require special legal services. Some law companies have set up service desks specifically for specific areas, involving energy, transportation, food, environment. and many companies prefer to cooperate with legal advisers who involve a variety of businesses [2]. In the primary education of law, science and engineering colleges expand science and technology knowledge around the law, permeates law with science and technology knowledge, and cultivate talents with unique characteristics in law. It is not only a few new people with in-depth knowledge of numbers, information, and network experts in technology but law experts, serving speciality specialities and meeting the needs of social development in the new era.

3. ADVANTAGE

3.1. The advantage in discipline compatibility

In an information society, the development of law science lies in the intersection of disciplines and the fusion of knowledge. Science and engineering colleges can closely combine law education with good disciplines, so that law and these science and technology disciplines can form a benign interaction, effectively expand the field of law teaching, and determine the teaching directly from the combination and intersection of different disciplines, and highlighting its school characteristics. Such a disciplinary compatibility mode can not only train legal characteristics talents with legal theoretical foundations and practical professional abilities but also avoid waste of educational resources.

3.2. The advantage in thinking Interactive

In the scientific atmosphere of science and engineering colleges, science thinking that emphasizes strict logic and innovation can be introduced into legal education, which can be integrated with liberal arts thinking, internalized in law, and learn from each other to solve technical problems by using technical thinking, legal thinking paradigm, and methodological thinking. The two ways of thinking interact to form a new way of thinking and comprehensive ability. This kind of thinking interaction is significance to the study of law and also to the practical application of the law.

3.3. The advantage in social demand

With the continuous expansion of legal service, it has become an inevitable requirement of social development to cultivate law talents with science and technology background. Law needs to integrate with modern science and technology, promote the in-depth application of modern science and technology such as the Internet, cloud computing, big data, and A.I. in the practice of the rule of law, and continue to explore new cross-cutting legal fields such as Internet law, smart transportation law, science, and technology law [3]. Colleges of Science and engineering can make use of a solid scientific knowledge base and advanced science and technology background to cultivate more and more comprehensive and distinctive legal talents that meet the needs of social development.

4. PROBLEM

4.1. Inaccurate positioning of talent training goals

Supply over demand is the main feature of the current law talent market. This oversupply is a structural imbalance of supply and demand, which is not a real quantitative imbalance. There is a certain degree of deviation between the target orientation of talent training in colleges and universities and the actual demand of the talent market. Through the analysis of the talent training goals of comprehensive universities and political and legal colleges, they specifically include vocational education, general education, academic education, and primary education. However, in science and engineering colleges, the training goals are mostly oriented to primary education [4].
What is more, most science and engineering colleges have a late start to law majors. The training objectives adopted by universities at different levels and in different fields are the same, which leads to the unclear orientation of legal personnel training objectives and serious homogenization problems.

4.2. Inadequate talent training g models

The development of law majors in science and engineering colleges is relatively short, and the compound talent training model has not been fully penetrated and applied in the teaching of law majors in science and engineering colleges. Most science and engineering colleges adopt the "one size fits all" method, and think that the establishment of law discipline only has a service function for science and engineering colleges. In the training of law talents, they are often influenced and restricted by the traditional science and engineering courses. In the aspect of law education and teaching, we still use the traditional education model, adopt the discipline-based training mode, lack of pertinence and novelty, ignore the law of development of law itself, and carry out law education and teaching under the guidance of complete science and engineering thinking mode. This backward training mode has failed to achieve good results in the training of law talents in colleges of science and engineering.

4.3. Incomplete curriculum systems

On the one hand, for the training of legal professionals, the Ministry of education has determined the "10 + X" classification setting mode. Some colleges of science and engineering entirely copy the curriculum model, ignoring the combination of their advantages, resulting in large-scale homogenization and similarity of curriculum arrangement. The interdisciplinary nature is not enough, and the content of the curriculum system is out of touch with social needs. On the other hand, the proportion of practical courses is relatively low, and the practical courses that have been offered are formalized. For students of different grades applying the same practical curriculum system, the theoretical basis of law and practical ability requirements do not match well, and the practical training effect of the practical curriculum cannot be better exerted.

4.4. Incomplete teaching staff

The teaching level of law teachers in most science and engineering colleges is currently limited. Firstly, affected by the traditional college-style education concept, it shows an education concept that focuses more on elaboration, conceptual interpretation, and theoretical analysis. The law education concept is relatively lagging, The training of students' ability to analyze and solve problems is not enough, and it is not time for students to use their knowledge to deal with practical problems, ignoring the nature of law practice and application [5]. Secondly, teachers' weak scientific research ability and lack of practical experience in law cannot use professional characteristics to carry out innovative research projects. As a result, students' basic legal knowledge and literacy fail to meet the requirements, and legal practice is not stable enough.

5. MEASURE

5.1. Specialization of legal talent training goals

The goal of law education is to meet the needs of society, the basic orientation of the training goal of law talents in science and engineering colleges is to cultivate compound talents who are familiar with law and science and technology knowledge. Legal talents should master not only the basic knowledge of the law but also master the professional and technical knowledge, especially the technical knowledge in the emerging scientific and technological fields. Therefore, polytechnics should accurately position the training goals of legal talents and keep pace with the times. In terms of discipline design, the emphasis is placed on the integration of law and its superior disciplines. At the same time, attach importance to the cultivation of compound law talents and give full play to the advantages of the law education model of science and engineering colleges. On the other hand, science and engineering colleges and universities should cultivate high-level talents who understand both law and technology, strive to create legal talents with multiple knowledge structures and multiple abilities, and build a good platform for training compound legal talents.
Different types of science and technology colleges should be appropriately positioned according to their situation, such as petroleum, mining, chemistry, and other professional colleges and universities. They should aim at the law professional education corresponding to their

speciality, and devote themselves to training law talents in the field of this industry. However, we should not neglect the most fundamental legal professional quality and knowledge and skills training that legal talents need. We should avoid the extreme and pursue diversification and characteristics in the training objectives of legal talents.

5.2. Specialization of the legal curriculum system

Suppose science and engineering universities want to change their position in the competition of law talent training. In that case, they must rely on their excellent disciplines to add science and engineering-related courses and set up a scientific and characteristic legal education curriculum system. The improvement of the characteristic curriculum system must be carried out through two dimensions: theoretical curriculum system and practical curriculum system, based on ensuring that students can receive the necessary legal professional quality and knowledge and skills training, and conform to the basic rules of law talent training.

One is to set up an open theoretical curriculum system that breaks through the traditional professional scope and reserves a broader knowledge base for students. We should strengthen the characteristic interdisciplinary of law and science and technology, and increase the principle courses and elective courses in line with our characteristics. For example, starting from the connection between law and architecture, we can excavate relevant legal issues in the field of architecture. Such as legal protection in construction, intellectual property protection in construction, legal factors in joint contracting, legal responsibility of project supervision, development responsibility after project completion and delivery, and legal issues related to construction safety, all these should be the characteristics of law curriculum system in science and engineering colleges [6]. Two is to set up a practical curriculum system. Turn the practical training courses such as the legal clinic, trial practice, law practice, simulated court, and non- litigation procedure to the professional fields of science and engineering, such as energy law, construction law, transportation law, to form the advantages of professional knowledge and application ability in the field of industry and technology.

In the practical curriculum system, law students at different stages should be matched with different practical courses. For example, for newly enrolled law students, some practical courses with simple contents should be added at the same time as learning theoretical courses, such as organizing students to attend the trial of cases in the court, to enhance their sensitivity to law and legal awareness. For students who have studied theoretical knowledge in school and have a legal foundation, they can conduct some in-depth practical courses under the guidance of teachers, such as social practice, social investigation, and mock court. They can also start the practice of graduation thesis, exercise their legal and logical thinking abilities, and further improve their legal literacy.

5.3. Specialization of legal education training methods

Legal education training methods should start from both on-campus and off-campus directions to strengthen and innovate practical teaching.

On-campus, we should attach importance to and strengthen the practicality of legal education training, increases the investment of capital, workforce, and material resources in practical teaching. According to the particularity of the training target of law talents in science and engineering colleges, we should learn from the experience of laboratory teaching in science and engineering, and innovate the teaching mode of law experiment. In order to adapt to the current development boom of artificial intelligence, we should make full use of the computer science teaching model of the polytechnics, and combine legal education with more basic courses such as programming languages and data mining to develop artificial intelligence models. To better train law students to operate artificial intelligence systems and develop legal application skills.

Out campus, science and engineering colleges should broaden cooperation channels, break the convention of universities as a single subject of education. They can effectively integrate the educational resources of universities, law-related enterprises, and judicial practice departments to develop off-campus legal talent training bases, especially jointly build the practice teaching and practice base with the enterprises in the related industries of the school's good science [7]. After completing the construction of the base, organize students with a foundation in law to practice and establish a diversified training mechanism for legal talents.

5.4. Specialization of legal education teachers

The construction of teaching staff is the foundation and key to discipline construction and development. To cultivate high-quality talents with legal characteristics, we must have an all-round development of high-quality teachers. Only first-class teachers can bring out first-class students. In the situation that the development of law in science and engineering colleges started late and the level is low, to reflect the characteristics of talent training, it is necessary to rely on the construction of compound teaching staff and the characteristics of teachers.

First of all, we should strengthen the construction of teaching staff, update the concept of legal education, improve the system of teacher selection and appointment, pay attention to the professional background of teachers, and select teachers with rich practical experience and interdisciplinary knowledge structure, and can continue to learn, acquire new knowledge and optimize the knowledge

structure. Relevant policies should be issued to encourage professional teachers to participate in various legal and other social practice activities and to encourage teachers to engage in interdisciplinary research. At the same time, we should set up interdisciplinary teaching and research institutions around the significant issues of the combination and intersection of law and science and engineering, to provide academic support for the establishment of interdisciplinary courses.

Secondly, we should establish long-term cooperation with the judicial system, law firms, enterprises and institutions, social organizations and other practical departments, and establish a stable and experienced team of practical experts from the judicial system, law firms, enterprises and institutions, social organizations and other practical departments. To change the current imbalance of law, teachers in colleges and universities that they are too theoretical but not practical.

Finally, from the aspect of improving the structure of teachers, we can better reflect the characteristics and advantages of law teaching in science and engineering colleges. While introducing legal education talents, we should encourage teachers to make a professional turn, organically combine the introduction and going out, and build a professional and multi-disciplinary teaching team.

6. CONCLUSION

In a word, we usually attribute the law major to the category of human society. Compared with comprehensive or liberal arts colleges, the persuasive and influential power of law majors in science and engineering colleges is relatively inferior. Therefore, law education in science and engineering colleges must have their characteristics and find a way to cultivate talents with legal characteristics in science and engineering colleges. The cultivation of interdisciplinary talents with legal characteristics is an inevitable trend in the implementation of law teaching in science and engineering colleges, and the goal orientation of promoting the teaching development of science and engineering colleges is to meet the actual needs of society. In order to cultivate talents with legal characteristics, science and engineering colleges must first clarify the purpose of talent training, innovate the training methods of legal education and the construction of legal education teachers, and further optimize the training methods of science and legal talents. As a result, the quality of training talents with legal characteristics in science and engineering colleges should be improved, reflecting the new, efficient and scientific nature of legal education and teaching.

REFERENCES

[1] Feng. Q. Y. On the training mode of legal talents under the background of interdisciplinary theory. Research on Higher Education in Heilongjiang Province. 2004, No.12, PP.150-151. (In Chinese)

[2] Heringa. A.W. legal education. China-EU Law Journal, Vol.3, 2014, No.1-2, pp. 1-12.

[3] Zhou. Y. Y. The Disciplinary Needs and Thoughts on the Development of Law Education in the University of Science and Technology under the Background of Double First-Class. People's Rule of Law. 2018, No.2, p.8. (In Chinese)

[4] Jin. J. H. On the Training of Outstanding Legal Talents in Science of Technology. Journal of Jilin Province Institute of Education. 2014, No. 12. p.6. (In Chinese)

[5] Deng. W. W. Collaborative Innovation Training Mechanism for Improving Employment Competitiveness of Law Graduates in Science and engineering colleges. China training. 2016, No.3. pp.5-6. (In Chinese)

[6] Wang. W.X. Problems and Countermeasures of Law Teaching in colleges of science and engineering. Education and Teaching Forum. 2015, No.5. p.2. (In Chinese)