Research on Education of Intellectual Property Knowledge-Based Entrepreneurship in Universities of Science and Engineering

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Keywords: Knowledge-Based Entrepreneurship; Science and Engineering Universities; Intellectual Property; Education

Abstract: The purpose of this paper is to study how to carry out effective intellectual property education to help college students develop knowledge-based entrepreneurship activities. Using the methods of interviews and surveys to collect relevant information, combined with extensive literature reading, on the basis of the predecessors to analyze the weakness of knowledge-based entrepreneurship education in colleges and universities nowadays. After all, knowledge-based entrepreneurship education is inseparable from intellectual property legal education, and the failure of students' entrepreneurship due to lack of legal knowledge occurs from time to time. Based on the analysis of the current situation of students’ knowledge-based entrepreneurship in China, this paper puts forward some improvement measures. The conclusion is that in view of the legal risks that college students are prone to suffer in the process of making entrepreneurship with knowledge, the specific optimized content and the further perfect method of law teaching are given, hoping to provide legal protection for college students to start their own businesses. Through modular learning, college students' awareness of protecting intellectual property rights is enhanced, and their concept of scientific and technological entrepreneurship in accordance with the law is established.

Introduction

The type structure of personnel training is closely related to economic and social development. Knowledge-based society needs knowledge-based entrepreneurial talents. Strengthening the cultivation of knowledge-based entrepreneurial talents is the fundamental need to solve the dilemma of college students' entrepreneurship, the inevitable requirement of higher education reform, and an effective way to promote the development of knowledge society. The training mode of it needs to be reformed from the aspects of concept, training objectives, project system construction, realization path and so on. [1] As an important place for cultivating individuals with innovative spirit, the orientation of developing entrepreneurship education in universities will significantly affect the quality of talent cultivation. And the essence of entrepreneurship education should be to cultivate individuals with innovative spirit, innovative knowledge and ability. [2]
Under the background of the current slowdown of social and economic growth and the transformation of China's economic growth from high-speed to medium-high-speed, the socio-economic industrial structure needs to be optimized and transformed urgently. That is, the focus of developing traditional agriculture and manufacturing industries should be gradually shifted to exploring new undertakings of technological innovation, and the traditional mode of promoting economic development driven by material energy, human resources, and capital investment should be shifted to the track of innovation-driven economic development. With the direction of the transformation of China's economic development mode is "innovation-driven", there is an important relationship between "knowledge-based entrepreneurship" and innovative entrepreneurship education. [3]

Since the concept of "mass entrepreneurship, mass innovation" was put forward in China, innovation and entrepreneurship has attracted wide attention from all walks of life, especially the impact on College students. Faced with such a flourishing upsurge of entrepreneurship, how to guide college students to start their own businesses and how to better carry out knowledge-based entrepreneurship has become an indispensable part of higher education in science and engineering. Creative industry is a sunrise industry in the new century. The level of economic development and the wide application of information technology are the basic conditions, and creative talents are the fundamental driving force for the development of it. At present, the rapid development of creative industry in China can absorb a large number of knowledge-based talents for employment, which provides an important channel for college students to start their own businesses. [4] In the context of the rapid rise of knowledge-intensive industries such as Internet information technology and artificial intelligence, which represent high-tech industries, knowledge-based entrepreneurship has attracted more and more attention from entrepreneurs, and has the trend of developing into the mainstream of the future economy. Knowledge-based entrepreneurship, also known as technology-based entrepreneurship, is a process characterized by knowledge innovation and production, relying on knowledge and technology to establish new enterprises, start innovative undertakings and realize their potential value. [5] Some scholars have given such a definition. The concept of knowledge-based entrepreneurship reflects the process of knowledge capitalization, and it is an important way to spill over tacit knowledge and transform it into explicit knowledge then diffuse it. [6] In the process of knowledge-based entrepreneurship, entrepreneurs often use their accumulated knowledge and experience, develop their thinking, and combine theoretical knowledge with practical application scenarios. Therefore, they either specifically commercialize them on the basis of available technology, or analyze existing technologies according to the social needs and improve and innovate them, so that it can solve problems in reality or improve the efficiency of certain aspects, and achieve the purpose of knowledge mining and diffusion to realize its potential value. Of course, good knowledge-based entrepreneurship needs not only the initiative role of entrepreneurs, but also a good environment to support it. At this stage, China has formed a mature and stable knowledge-based entrepreneurship ecosystem based on scientific research achievements of universities, docking the needs of relevant enterprises and gathering regional science and technology. [7]
Importance of Intellectual Property Rights in Intellectual Entrepreneurship

Firstly, Strengthen the Consciousness of Intellectual Property Protection

Intellectual property is an important wealth and strategic resource in the development of enterprises. And only by strengthening the awareness of intellectual property protection, can we protect the rights and interests of enterprises in the market competition better. [8] Intellectual property rights not only play a strong role in guaranteeing the development and expansion of mature enterprises, but also play an important role for college students who carry out entrepreneurship activities with intellectual and technological innovations. In the initial financing stage of entrepreneurship, patent ownership and related intellectual property achievements are absolute bonuses to help entrepreneurs get favored by investors and succeed in negotiation. In the follow-up stage of entrepreneurship, the core competitiveness of start-up enterprises relies more on the acquisition, application and protection of intellectual property rights. If the implementation of the above work is not in place, entrepreneurs have not been able to take effective measures to safeguard their intellectual property rights in time. After new products and technologies are introduced, they are vulnerable to competitors' duplication and imitation, thus quickly losing their original competitiveness. Therefore, for entrepreneurs, once they lose the awareness of intellectual property protection, knowledge-based entrepreneurship will only "survive in name".

Secondly, Preventing and Resolving Legal Risks

In the process of knowledge-based entrepreneurship, college students will inevitably face some risks, such as capital risk, contract risk, intellectual property risk, labor employment risk, unfair competition and so on. Although there are many kinds of risks throughout the whole activity of knowledge-based entrepreneurship, risks can be predicted and prevented in advance. Through effective legal education, they can reasonably avoid the vast majority of risks in the process of entrepreneurship. Even if they failed to avoid risks early, legal education can also give them confidence and strength in dealing with risks and make them use of reasonable legal means to settle disputes and properly resolve the legal risk problems. Further, regardless of the stage of entrepreneurship, whether entrepreneurs have the ability to guard against and resolve legal risks is an important factor in determining whether enterprises can continue to survive. Only by learning beforehand and improving their ability, can enterprises turn into safety when facing risks and get long term development.

Thirdly, Optimizing the Content System of Intellectual Property Education

A survey shows that less than 5% of the students in Chinese universities have received intellectual property education, while more than 70% of them have not set up special intellectual property education teaching institutions or even have elective courses.[9] From the data, we know that the education of intellectual property law has been neglected in the existing legal education of entrepreneurship in universities, but the importance of intellectual property law is undeniable in practice. Especially in Universities of science and technology, students' entrepreneurship is mainly based on intellectual achievements, they have strong intellectual property knowledge needs in patent applications, product development, software design and other aspects. Therefore, we should strengthen the teaching of it, construct a reasonable teaching module, and create a basic module of intellectual property law and a
variety of menu-based teaching modules, which are chosen by students with different types of entrepreneurship and interests.

Patent law involves the system of patent examination, protection, public notification and international exchange of patent documents. Firstly, entrepreneurs need to make it clear that only creative inventions with novelty, creativity and practicability can be granted patent rights. Secondly, applying for patents is equivalent to publishing technology directly to the world, and patentees only enjoy patent exclusive rights within a certain period of time. Thirdly, the exchange system of patent documents makes patent literature a huge social wealth. When it comes to teaching this section, we can start from three aspects, as the basic legal knowledge of patent, the methods of searching and utilizing patent and the practical operation of it. On the basis of explaining the conditions of patent application, the examination and approval system and the years of protection, we should focus on cultivating students' practical ability, including teaching the writing format and methods of patent application, substantive examination request and patent declaration invalidation request. At the same time, we should pay attention to students’ patent information literacy training, improve their ability of information integration of existing patents, which can eliminate unnecessary repetitive research.

There are many kinds of trademarks, which can be classified according to their composition, function and trademark rights. Through the teaching of teachers, students should make it clear that registered trademarks have the rights of exclusivity, transfer, licensing and inheritance, while non-registered trademarks are not protected by law. Teachers should emphasize the standards of trademark registration to strengthen students' awareness of trademark protection, the use of their own design of trademarks need to register in a timely manner in order to avoid the occurrence of trademark malicious preemption. When using the same or similar trademarks as existing trademarks, they should pay attention to whether they belong to similar goods or services, otherwise they will be treated as infringement. In addition, the infringement and definition of network trademarks are also worthy of attention. Nowadays, the Internet industry is hot, and students' entrepreneurship are mostly linked to it.

Improving the Way of Education

Firstly, Integrating Production, Teaching and Research to Strengthen Practical Teaching

In the process of legal education under the background of knowledge-based entrepreneurship, we should strengthen the integration of schools, scientific research and industry, and make use of their individual advantages to complement each other. [10] Firstly, the school can invite successful entrepreneurs from graduates or renowned entrepreneurial practitioners to give lectures, share entrepreneurial experience, focus on the legal problems encountered in their entrepreneurship and the process how they deal with them. Through living cases, it can promote college students to attach importance to entrepreneurship legal education and learn from their experience. Secondly, the school can also invite professional lawyers, members of the judiciary to serve as school teachers, regularly carry out legal practice knowledge forums, legal skills training conferences, etc., so that to establish a complete legal teaching organizational system to provide students with comprehensive legal guidance. Finally, the school can also dock with enterprises, timely organize students to go inside enterprises, feel
on the spot. Through training simulation, promoting college students to improve the legal risk identification and coping ability in the knowledge-based Entrepreneurship.

Secondly, Making use of the Network Platform to Strengthen the Way of Mobile Learning

Nowadays, with the rapid development of network, schools can use the network platform to assist in the legal teaching of knowledge-based entrepreneurship. Such as setting up a WeChat Public Number, by the school to organize a person to operate, regularly push knowledge tweets related to entrepreneurship law, or share entrepreneurship cases, and comment on the relevant legal decisions of entrepreneurs in the examples, so that students can have a more vivid and intuitive teaching experience. We can also open a special entrepreneurship legal consultation column in the public number. Students are welcome to refer to their own entrepreneurial problems and answer them online. We can also use Weibo, a self-media, regularly publish the topic of entrepreneurial law to allow students to participate in the discussion, with teachers online to answer legal knowledge and so on. In addition, nowadays, the network resources are extremely rich, and the acquisition of shared resources is effortless. MOOC has become a new way of learning. Schools can absolutely screen out some high-quality free business law teaching MOOCs from the vast amount of teaching resources for students' reference learning, or introduce high-quality MOOC network platform to support interested students' paid learning.

In addition to using the above network platform to carry out teaching activities, universities can also organize teachers to record micro-courses of entrepreneurship law teaching with their own characteristics. Then put them into the school's own online learning platform, so that students are not only stuck in the offline classroom, but also have other diversified options for learning. Moreover, strengthen the way of mobile learning that students can use scattered time to supplement legal knowledge and integrate legal education into their daily life.

Thirdly, Creating a Good Campus Cultural Atmosphere

Legal education should not only be embodied in teaching, but also strengthen students' legal consciousness in an imperceptible way. For example, schools themselves should pay more attention to intellectual property rights. They can regularly show students the achievements of themselves intellectual property rights, and post slogans related to laws and regulations in libraries, teaching buildings, entrepreneurial bases, etc. In addition, they can also organize students to participate in legal knowledge competitions, tutor students to carry out legal risk analysis of entrepreneurship and write reports.

In view of college students who have embarked on knowledge-based entrepreneurship, schools should establish a professional legal advisory group, with teachers engaged in legal education such as intellectual property law, contract law and economic law as entrepreneurial legal counsel, and collect students with solid theoretical foundation knowledge of law major as assistants. Visiting school entrepreneurship training base regularly, providing legal consultation and guidance for those students who are starting their own businesses, solving the legal problems they encounter in the process of entrepreneurship. At the same time, building three risk prevention and control systems to deal with legal risks in advance, in the process and afterwards, so as to provide a guarantee for college students to carry out entrepreneurial activities better.
Conclusion

Under the background of "mass entrepreneurship and innovation", entrepreneurial activities have become a new bright spot to drive economic growth, and knowledge-based entrepreneurship of college students has risen in China. It is necessary for colleges to construct knowledge-based entrepreneurship ecosystem education. We should attach importance to the mature and stable entrepreneurship ecosystem that relies on scientific research achievements of universities, meets the needs of relevant enterprises, and integrates all elements of science and technology in the gathering area to provide practical bases for college students' entrepreneurship education. At the same time, it also plays an important supporting role in enhancing the regional economic development, industrial upgrading, technology transformation, and cultivating innovative and entrepreneurial enterprises. In this process, it is particularly crucial to strengthen the intellectual property education of college students with intellectual property law as the core. As the goal is to promote the generation, application and protection of intellectual property rights of college students in knowledge-based entrepreneurship. Through modular learning, college students' awareness of protecting intellectual property rights is enhanced, and their concept of scientific and technological entrepreneurship in accordance with the law is established, so as not to infringe on other people's intellectual property rights, but also to defend themselves knowledge achievements.

Acknowledgement

This research was financially supported by National social science fund education general project "entrepreneurial law education research based on risk control in science and Engineering University ", No. BIA170192

Reference


