



Research Article

ISSN : 0975-7384  
CODEN(USA) : JCPRC5

## Entrepreneurial education exploration of pharmaceutical undergraduates based on the practice of department of pharmacy of Shaanxi university of science & technology (SUST)

Chengyuan Liang\*†, Xiangna Chang\*†, Jiaming Yang, Wei Ma, Yu Luo, Chunji Dai, Xuefeng Chen and Weidong Qian\*

Department of Pharmacy, Shaanxi University of Science & Technology, Xi'an, China  
† These two authors contributed equally to this work

---

### ABSTRACT

*Under the ever-increasing employment pressure, entrepreneurial education for college students has attract growing attention of all social circles. Bringing entrepreneurship education into the community support infrastructure poses one of the more important education development issue in the recent years. Based on the practice of Department of Pharmacy, Shaanxi University of Science and Technology, this treatise elaborate the implementation of university entrepreneurship education for pharmaceutical undergraduates to enhance the entrepreneurship and entrepreneurial college level educational methods and approaches. The survey also explored how universities determined what courses constituted a program in entrepreneurship and how they determined the criteria that impact an entrepreneurship program's quality. As part of the new strategy for job creation, entrepreneurship education holds promise as an integral component in a community's venture support system along with incubators, innovation centers, technology transfer offices, science parks, and venture capital operations.*

**Keywords:** Educational policies, Pharmaceutical Undergraduates, Colleges and Universities, Entrepreneurship, Employment

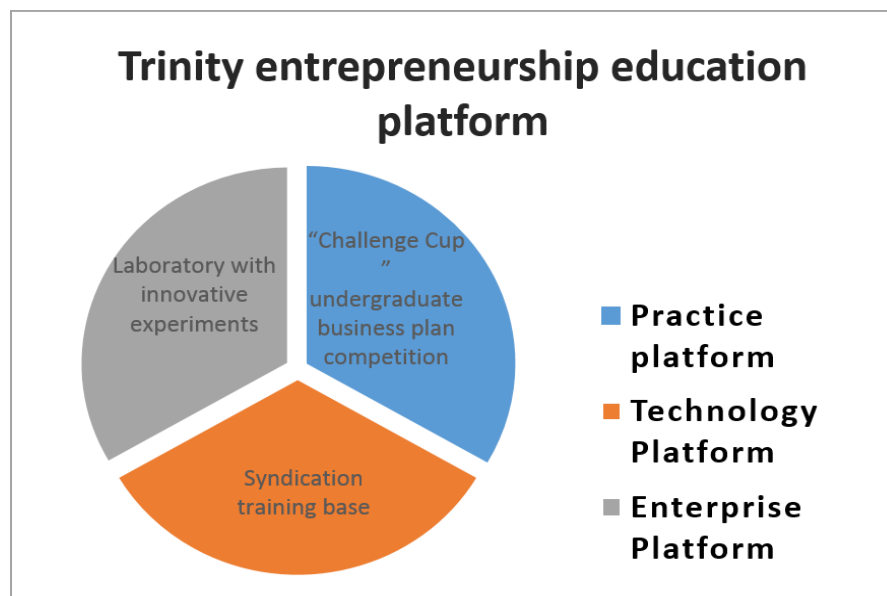
---

### INTRODUCTION

In economics, entrepreneurship is the process of identifying and starting a new business venture and sourcing and organizing the required resources while taking both the risks and rewards associated with the venture [1]. Current along with the coming of the era of knowledge economy, China is undergoing an important period of strategic opportunities and social transformation in the modernization. Since new venture success is foremost a function of entrepreneurial knowledge and know-how, entrepreneurship education may be the most promising of these economic development mechanisms [2]. Unfortunately, it may be the most difficult to implement. In addition career opportunities included positions with newly established firms or as entrepreneurial executives with established firms. While entrepreneurship was recognized as a discipline and a career, business and management education was slow to react. Generally the extent and nature of education required by modern aspiring entrepreneurs is not well understood. Many would see entrepreneurship education as strictly an add-on to current education in management or engineering. Such is the option of minimal use [3]. The real promise or entrepreneurship education will be realized when it is strategically organized for economic development and job creation. This article traces the recent history of entrepreneurship education before proceeding to deal with a number of questions facing those who would use entrepreneurship education as part of a modern economic development strategy [4].

### 1. Entrepreneurship education has been emerged in SUST

In the implementation of quality education and innovation education practice, our school has carried forward the "innovation, entrepreneurship, creates", of which the spirit of up-to-date epoch with a special focus on students' pioneering consciousness of enlightenment, and paid attention to the cultivation of the students entrepreneurial knowledge and skills, put efforts on students' entrepreneurial spirit and the shaping of quality, entrepreneurship education as an important part of higher pharmaceutical education gradually build up to "practice education platform, technical support platform, university-enterprise cooperation platform" three platform as the main body of the college students' entrepreneurship education system.



As mentioned above, Entrepreneurship education has developed along two dimensions: the absolute number of entrepreneurship courses and the degree of integration of the entrepreneurship courses. Using these dimensions, two frameworks are presented. The first framework, a matrix of these two dimensions, identifies four optimal combinations. The second framework is built upon two paths: stages of transition in a firm and a functional approach. As entrepreneurship programs are developed, multiple alternative structures and learning mechanisms are needed to meet the needs of a variety of individuals.

### 2. The "challenge cup" business plan competition was settled as the carrier of the entrepreneurship education platform

A business plan or entrepreneurship plan is a formal statement of a set of business goals, the reasons they are believed attainable, and the plan for reaching those goals [5]. It may also contain background information about the organization or team attempting to reach those goals. Internally focused business plans target intermediate goals required to reach the external goals. They may cover the development of a new product, a new service, a new IT system, a restructuring of finance, the refurbishing of a factory or a restructuring of the organization [6]. An internal business plan is often developed in conjunction with a balanced scorecard or a list of critical success factors. This allows success of the plan to be measured using non-financial measures. Business plans that identify and target internal goals, but provide only general guidance on how they will be met are called strategic plans. Business plans may also target changes in perception and branding by the customer, client, taxpayer, or larger community. When the existing business is to assume a major change or when planning a new venture, a 3 to 5 year business plan is required, since investors will look for their annual return in that timeframe.

Entrepreneurship plans describe the goals of an internal organization, working group or department. Project plans, sometimes known as project frameworks, describe the goals of a particular project. They may also address the project's place within the organization's larger strategic goals [7]. Since 2002, our school have carried out the "challenge cup" business plan competition activities (entrepreneurship competition) on the basis of gradually growth of entrepreneurship groups, supported by business consulting services, with various incentives to ensure business practice service system.

Entrepreneurship groups covered all the required courses and elective courses. Career guidance center and business association has also been set up since 2006 to guide students to start a business, by the means of lectures, reports, workshops, team development and entrepreneurship practice activities. The "Shaanxi University of Science and

Technology Reward Credit System" has also been formulated, it has been clear about the can be granted to those who participate in the challenge cup competition outstanding achievements reward credits, and the recommendation for the aspects such as tilt, give priority to protect research, thus to further mobilize the students to participate in "challenge cup" entrepreneurship competition and other business activities. Such an interlocking, three-dimensional cross entrepreneurship practice service system make entrepreneurship education more rich and concrete.

### **3. The technical support platform combines with an open laboratory and innovative experiments**

In the aspect of training business knowledge and skills of our school in combination with its own advantages and characteristics, not only in the entrepreneurship education advocates "broad", but also emphasizes the "essence", make the cultivation of entrepreneurial talent "focus on pharmaceutical industry" professional advantage. "Open laboratory management method for Shaanxi University of Science & technology" has been established, combined with provincial key laboratory, national key discipline laboratory and experimental teaching center to support student research platform for independent innovation. Shaanxi University of Science & technology as the first batch of pilot colleges and universities, launched the national college students' innovative experiment plan. Innovative pilot scheme for guided by interest, on the basis of professional knowledge of entrepreneurship education provides a good platform. Undergraduates in individual or team under the guidance of tutor, according to the project to carry on the investigative study and experiment method, and the design of the equipment and material, the analysis of experimental data processing, writing summary reports and research papers. In addition, college youth corps committee has undertaken "science and technology innovation festival of college students", food and drug administration in our school closely combining with our school "the Chinese dream, youth and innovation" of science and technology festival theme, driven by department of pharmacy practice innovation ability for college students, innovative consciousness and scientific diathesis.

### **4. School-enterprise cooperation & work-study combination joint platform combining training base of the off campus enterprises**

Taking "the student as the main body, business oriented" as the motto, the new joint between colleges cultivate entrepreneurial talent pattern is the breakthrough in the past, really realize the importance of entrepreneurship education and entrepreneurial practice seamless docking [8]. Our department of pharmacy in recent years, constantly improve and perfect university-enterprise united cultivation, production, complementary cooperation education. Such as Janssen, a Subsidiary of Johnson & Johnson pharmaceutical group located in Xi'an, Li-Jun pharmaceutical company, a domestic enterprise listed in Hong Kong and other well-known entrepreneurial enterprises have set up joint training bases, organizations for undergraduates' joint entrepreneurial training, practice cognition and entrepreneurship innovative practice. After university-enterprise united cultivation practice, on the one hand, students have the certain social experience and work experience, established the certain social relations, the adjustment for their future work and entrepreneurship has laid a solid foundation. On the other hand, students tend to find their knowledge structure and the deficiency of the gap, which according to own actual situation and timely adjust their own learning needed direction, make its have strong ability of job strain and full of innovation enthusiasm, that is fundamentally improve the students' entrepreneurial success probability.

### **5. Modifying entrepreneurship education mode**

Modifying entrepreneurship education model, is to let students by accepting education and ego education, obtain ability to cultivate entrepreneurial spirit. Entrepreneurship is a process of constant learning, as a result of entrepreneurial activity of ambiguity, uncertainty and risk, the beginning need to focus on learning, learning to master the market rules, learning to organize and coordinate entrepreneurship resources, learn the marketing management of production and so on [9]. The purpose of learning is to improve the quality of the business, not only has the ability to deal with the opportunities and challenges, but also according to the entrepreneurial practice timely and correct their own entrepreneurial strategy adjustment.

Studying entrepreneurship education also includes two forms: school education and amateur self-study. Colleges and universities have a perfect management system and consummate teaching facilities, as well as a high-quality teachers, which can provide a good learning environment, students can learn discipline knowledge and entrepreneurial skills [10]. At the same time, college students can cultivate entrepreneurial spirit in the education itself. Due to the limitation of school education, unable to form absorb business knowledge and information, through self-study can learn business related knowledge through a variety of ways: self-study economic management and entrepreneurship courses; Collect business cases and carries on the analysis, draw lessons and experiences of entrepreneurs; Using cold summer social practice understanding, exercise ability.

The pioneering attempt is an important content of education, is also a basic way to improve entrepreneurship education actual effect. Entrepreneurship attempt is of profound significance, can make students form the correct business goals and value orientation, strengthen the organization and management ability, social ability and practical

ability, improve the comprehensive quality of entrepreneurship. College students should try to trying to start a business entrepreneur, after some practice, find the most suitable to business direction and goals. Colleges and universities can make college students by the following way for the entrepreneurial practice.

To begin with, business organization design competition trying to start a business. Borrow found investment operation mode, the participants of race groups of complementary advantages, market prospects of the around a technology product or service concept, complete a business plan, and through a written review and secret defense selects the winner. Additionally, arrange summer and winter vacation work and work-study opportunities, let the students to work in the enterprises, the company is engaged in the production, such as practice, contact and integrated into the social life practice, understand the enterprise management activity, trying to start a business process. Last but not least, Carrying out innovation activities will obtain the scientific and technological achievements to declare the patent achievement transfer through the technology market or other places.

## **6. Experiences and principals for entrepreneurship education**

### **6.1 Awareness the importance of entrepreneurship education**

Self-employment need to all aspects of the knowledge accumulation, but also need social experience and interpersonal ability, and good psychology to bear ability and risk awareness. So before implementation of self-employment, here are some guidelines for students to ready in three aspects: **1**, Establish business direction and goals. Choose to conform to The Times development trend. Meet the demand of target market and closely related to their own professional business goals. **2**, Carry on the feasibility analyzes of the business. Analysis consider policy, the supply of raw materials, consumer psychology, competitors, the influence of market variables such as the production and business operation conditions. **3**, Establish a suitable business enterprise or company or choose partnership, limited liability companies, joint stock limited liability company, which abide by the relevant state laws and regulations, legal management.

### **6.2 Creating the atmosphere of entrepreneurship education.**

Colleges and universities often develop science and technology competition, business communication and entrepreneurship lectures such as rich and colorful activities. Can also be specially held entrepreneurship training, training students' ability and innovative thinking, as far as possible to carry out the entrepreneurship practice, to create their career guidance center and business information services, for college students venture offers help and guidance, let the students learn more about their own businesses should possess the knowledge, ability, skills and related policies. Schools can use the blackboard newspaper, publicity column, radio and other propaganda carrier increase entrepreneurship education propaganda, to create a campus atmosphere of entrepreneurship and entrepreneurial culture organization students into the community, into the factory, the countryside in social practice and investigation, with openness, richness and diversity of activities stimulate students learning interest and desire. Schools in cooperation with the corresponding enterprises, promote communication and exchange of university students and the community and business, to enhance students' understanding of the professional employment, developing entrepreneurial interests. And at the same time promote the work of college students seeking professional counterparts, to make college students can apply their knowledge, have learned to use.

### **6.3 Entrepreneurship education model from childhood**

Entrepreneurship education is often taught and researched at the theoretical level. Generally, most academic and mainstream articles, when discussing entrepreneurship education, approach entrepreneurship education from a secondary education perspective. Very few articles discuss entrepreneurship education with the central focus placed on the primary and secondary level of education. Organizations however, such as the Kauffman Center for Entrepreneurial Leadership, have indicated that more instruction in entrepreneurship education needs to occur at the primary and secondary levels of education (Business Wire, 1999) [11]. An entrepreneurship curriculum, developed at the campus level, can begin to provide in dices of how entrepreneurship can be incorporated into the existing primary and/or secondary education curriculum. Just as students are exposed to the basics at the primary and secondary levels, and exposed to higher concepts built upon basic foundations learned at the primary and secondary levels, entrepreneurship education introduced at the primary and secondary levels can begin to provide basic skills. With this advancement, the university should be able to successfully build on the skills learned at the primary and secondary education levels [12]. With this progress, based on primary and secondary education levels to learn the skills, college students should be able to be more successful entrepreneurial learning and development.

## **7. Deficiencies and improvements on entrepreneurship education**

Entrepreneurship education seeks to provide students with the knowledge, skills and motivation to encourage entrepreneurial success in a variety of settings. Variations of entrepreneurship education are offered at all levels of schooling from primary or secondary schools through graduate university programs. Currently, in our school on the basis of the "three platforms", the entrepreneurial education is still at exploration stage of development and lack of

systemic support from the constrained organization; Additionally, in the concrete implementation process, some classmates and teachers have utilitarian tendency, this restricted the entrepreneurship education function of the play, make teachers and students did not have the entrepreneurial innovation broad vision; Finally, inadequate understanding of entrepreneurship education, the lack of correspondence between various professional disciplines, the mechanism of accommodation not cross complementary and compatible and the atmosphere of the bag, that makes some works institute of gas concentration, results failed to combined with the market and difficult to transfer. Improvement measures as follows were made to conquer these deficiencies 1. To improve long-term working mechanism of entrepreneurship education, further improvement on the incentive mechanism need to blend in entrepreneurial education geared to the needs of all students, professional education and talents cultivation process. 2. To strengthen the construction of entrepreneurship teachers, improvement and training of "mentors' system", improvement of the students' entrepreneurship theory level and practical ability were still under construction. 3. We have to discover and develop their backbones, build up the college students' innovative entrepreneurial teams, provide key support and training, as a role of the demonstration and radiation. We have to set up an actively atmosphere to support entrepreneurship, encourage innovation, integrity, law-abiding, public tolerance of failure.

### CONCLUSION

Entrepreneurship education focuses on realization of opportunity as well as the way to operate existing hierarchies. The most popular one is regular entrepreneurship. Another approach is to promote innovation or introduce new products or services or markets in existing firms. This approach is called corporate entrepreneurship or intrapreneurship.

"The pioneering provoked a dream, achievement future", entrepreneurship education keep pace with times closely, with a strong sense of property and brand of the times. Higher education is further from the essence of education to mass education, and with the increasingly severe employment situation, Higher education should change from passive to active employment entrepreneurship education to meet the development in the open labor market and economic globalization requires of college students. "The Chinese Government Work Report 2010" clearly made to encourage college graduates to start their own businesses, broaden the channels of employment, employment, entrepreneurship, and encourage entrepreneurship to create more jobs. Students' entrepreneurship education in the new historical period has the extremely important significance to promote their businesses. Entrepreneurship is a dynamic process of wealth creation by individuals or groups. On the concept of entrepreneurship education, there are broad sense and narrow sense and broad sense of entrepreneurship education is to point to in order to improve the quality as the basic value orientation of the educates undertaking a kind of education theory and education practice; Entrepreneurship education in its narrow sense refers to the vocational and technical training of educates to strike it rich with seek a profession oneself or entrepreneur need education activities .Entrepreneurship education in schools generally refers to the general entrepreneurship education, education is also called the entrepreneurial qualities. In recent years, the entrepreneurship education of public opinion and test in the field of higher education in China has emerged, each big colleges and universities students entrepreneurial companies around students entrepreneurial teams and swell, and flourish everywhere .But according to the survey after graduating from college students in proportion to the business accounts for only about 4% of the total, indicating that although many universities to carry out the entrepreneurship education, but there are many defects and deficiencies. Therefore actively conduct entrepreneurship education and college students' entrepreneurial activities for the development of social economy and higher education plays an important for usage.

Entrepreneurship has emerged over the last two decades as arguably the most potent economic force the world has ever experienced. With that expansion has come a similar increase in the field of entrepreneurship education. The recent growth and development in the curricula and programs devoted to entrepreneurship and new-venture creation have been remarkable. The number of colleges and universities that offer courses related to entrepreneurship has grown from a handful in the 1970s to over 1,600 in 2005. In the midst of this huge expansion remains the challenge of complete academic legitimacy for entrepreneurship. While it can be argued that some legitimacy has been attained in the current state of entrepreneurship education, there are critical challenges that lie ahead. Universities should improve the college students' employment ability as own duty, increase investment in resources, speed up the system construction, to cultivate entrepreneurial culture, cultivate the student to obtain business practices knowledge, ability and psychological quality, making it to be a personality pioneering talent.

Overall, the study provides empirical evidence to support including exposure to entrepreneurship education as an additional exposure variable in entrepreneurial intentions models, while this article focuses on the trends and challenges in entrepreneurship education for the pharmaceutical undergraduates.

**Acknowledgements**

This work was supported by Natural Science Research Fund of Shaanxi Province (2014JQ4154), Scientific Research Foundation of Shaanxi University of Science and Technology (BJ13-20), and Undergraduate Education Reform Plan of Shaanxi University of Science & Technology.

**REFERENCES**

- [1] Vesper K H, Gartner W B. *Journal of Business venturing*, **1997**, 12(5): 403-421.
- [2] Peterman N E, Kennedy J. *Entrepreneurship theory and practice*, **2003**, 28(2): 129-144.
- [3] Solomon G T, Duffy S, Tarabishy A. *International Journal of Entrepreneurship Education*, **2002**, 1(1): 65-86.
- [4] Kuratko D F. *Entrepreneurship Theory and Practice*, **2005**, 29(5): 577-598.
- [5] McMullan W, Long W A. *Journal of Business Venturing*, **1987**, 2(3): 261-275.
- [6] Gorman G, Hanlon D, King W. *International Small Business Journal*, **1997**, 15(3): 56-77.
- [7] Plaschka G, Welsch H. *Entrepreneurship Theory and Practice*, **1990**, 14(3): 55-71.
- [8] Garavan T N, O'Cinneide B. *Journal of European industrial training*, **1994**, 18(8): 3-12.
- [9] Kirby D A. *Education+ training*, **2004**, 46(8/9): 510-519.
- [10] Gartner W B, Vesper K H. *Journal of business Venturing*, **1994**, 9(3): 179-187.
- [11] Robinson P B, Sexton E A. *Journal of business Venturing*, **1994**, 9(2): 141-156.
- [12] Fayolle A, Gailly B, Lassas-Clerc N. *Journal of European industrial training*, **2006**, 30(9): 701-720.