

# The Innovation and Entrepreneurship Education in UK and Enlightenment

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**Abstract:** The achievement of innovation and entrepreneurship in Britain depends on the well organized innovation and entrepreneurship education. This paper introduced the British entrepreneurship development and summarized the characteristics of innovation and entrepreneurship educational system. Then, this paper showed some enlightenment to China.

**Keywords:** Innovation; Entrepreneurship; Education; UK; enlightenment

## I. DEVELOPMENT

The origins of entrepreneurship education in the UK can be traced back to the early 1970s. In the 1970s, entrepreneurship education was promoted by isolated individuals. Sometimes despite the interest of their institution rather than with its support. This made it easier for people working in the new university businesses schools to develop new areas of activity. The entrepreneurship development generally languished in polytechnics and colleges. However, this began to change in the 1980s. The 1980s saw the development of the courses (supported by the UK government's Training Agency and related bodies) into a well supported national provision of funded 'outreach' courses for business starters and established but growing firms of all kinds. This brought into academia a variety of people with real-world SME experience to work on these courses. It also provided a rich resource which research-oriented academics could use. Entrepreneurship education in UK has become the mainstream curriculum in 1990s. The early 1990s saw the quasi-privatization of the work of the Training Agency, which supported most UK government provision for entrepreneurship and small business work in the universities through the creation of education. the Training and Enterprise Councils (TECs) and their Scottish equivalent, Local Enterprise Companies (LECs).[1] Students – particularly those on the fast growing business studies courses – were interested in learning about SMEs. Since the mid-1980s there has been a much tougher regime for research funding in higher education. Thus, in an increasing number of institutions, England now have for the first time the necessary pre-conditions for entrepreneurship and SME education to be embedded successfully and securely through the simultaneous existence of education, researches and outreach activity.

## II. CHARACTERISTICS

### A. Government support and social participation

Today, with the increasingly fierce global competition, the innovation and vitality of a country need young entrepreneurs who have the spirit of innovation and can put it into action. As an important way to shape the attitude, skills and culture of the young generation, education plays an important role in the cultivation of innovative enterprise furniture. The British government is aware that the development and growth of the British economy largely depends on the country's knowledge and strength of innovation and entrepreneurship. Therefore, the UK government has always stressed the importance of innovation and entrepreneurship education through various policies and joint organizational mechanisms.

QAA, the UK higher education quality assurance agency, issued a standard document on innovation and entrepreneurship education in January 2018, emphasizing the positive impact of innovation and entrepreneurship education on students' creativity. Since QAA first issued the guidance document on innovation and entrepreneurship education in 2012, national guidance has become a key policy driver for innovation and entrepreneurship education and evaluation. In 2014, a study entitled "education system for entrepreneurs" was carried out under the call of micro and small enterprises; later, David young, British politician and businessman, published "enterprise for all". The fra1 report further provides constructive guidance for the implementation of innovation and entrepreneurship education in primary and secondary schools and universities.

The Council for Science and Technology, CST is the UK government's highest advisory body on major science and technology issues. In their letter to the British Prime Minister in October 2016, they clearly pointed out the importance of science, technology, engineering, mathematics and stem education for undergraduate students in innovation and entrepreneurship education, and believed that having more innovation. Graduates with entrepreneurial skills can encourage the growth of innovative enterprises. The Committee proposes the following six specific actions for the government, universities and other educational institutions. First, universities consider how to integrate innovation and entrepreneurship education into their core courses, especially the undergraduate courses of stem subjects with the lowest participation rate. Second, the National Academy of Sciences should lead the work of innovation and entrepreneurship, provide coordination and guidance for universities on innovation and entrepreneurship education, and combine

education with practice. Third, it is suggested that innovation UK and catapults (two institutions and their business network institutions are more closely linked with local enterprises, providing students with internships and entrepreneurial opportunities; at the same time, entrepreneurs and university teachers should participate in entrepreneurial teaching; and University researchers should also be provided with creative opportunities with business prospects. Fourth, Hesa's statistical data should classify the entrepreneurship and employment situation to obtain more accurate data and better understand the information of the students receiving innovation and entrepreneurship education after graduation.

In 2017, the British government issued the "industrial strategy construction" guide, emphasizing that the government's goal is to support the next generation of entrepreneurs and strengthen their scale, emphasizing the importance of innovation and entrepreneurship for the successful implementation of industrial strategy. Beis, the UK's Department of business energy and industrial strategy, has created the new position of "chief entrepreneur consultant" to increase support for entrepreneurs, introduce international best practices and ensure that business schools benefit more students. Similarly, in 2017, a business and skills strategy committee was established to ensure that Scottish public institutions provide adequate technical support to Scottish youth, universities, colleges, training institutions and businesses.

Due to the guidance and emphasis of the state on innovation and entrepreneurship education at the policy level, the British society has formed a joint force of various organizations to support innovation and entrepreneurship education. The participation of various innovation and entrepreneurship associations, centers, science and technology parks and business incubation centers provides a flexible and broad space for innovation and entrepreneurship education. For example, eeuk (eeuk 4) covers more than 100 higher education institutions in the UK and has about 1400 Educators

And practitioners, whose predecessor was kseo, the UK centre for scientific enterprise, established in 2001. The development of ukseo can not be separated from the scientific enterprise Challenge Fund provided by the UK Department of trade and industry.[2] In 2007, uksec was renamed eeuk. More and more attention has been paid to the importance of innovation in the discipline field. The university has extended the innovation and entrepreneurship education to different discipline fields, student enterprise clubs and community activities. Up to now, eeuk members include vocational and technical education colleges and other organizations with clear responsibilities for innovation and entrepreneurship education. In addition, eeuk also provides research funds and grants to contribute to policy making, and holds an annual International Conference of innovation educators (EEO and NEEA) with the National Center for innovation and Entrepreneurship Education (NCEE). For example, regional development agencies help the government as coordinator

At the same time, it plays a key role in promoting the development of small and medium-sized enterprises in various places, especially in improving their innovative technology capabilities.

### *B. Curriculum*

In the UK, innovation and entrepreneurship education not only trains people's ability to become entrepreneurs, but also is a kind of quality education, which enables people to have a positive attitude towards life and develop strengths and avoid weaknesses. Research data shows that although reading, writing and computing courses accepted by students in school are important, they are not necessarily able to make students succeed. What plays a greater role is the spirit and will of continuous progress. Therefore, the British government and social people have realized the importance of innovation and entrepreneurship education to the cultivation of students' ability, and integrated it into the curriculum system in school education, which plays a key role in the cultivation of students' comprehensive ability.

According to the 2012 national entrepreneurship education standard, innovation and entrepreneurship education is not limited to any specific age group, but should exist in all kinds of innovation and entrepreneurship activities. The best innovation and entrepreneurship education will be student-centered, activity-based, encouraging students to enjoy activities, allowing young people to make their own decisions and solve problems, and paying more and more attention to personal, learning and thinking skills PLTs.[3] For primary school students, innovation and entrepreneurship education encourages originality and personal financial education. At present, a large number of innovation and entrepreneurship elements have been introduced into the curriculum of primary and secondary schools in the UK

Enhancing students' awareness of innovation and entrepreneurship and tapping their potential to become entrepreneurs can also help them to choose University Majors and courses more wisely when they graduate from high school.

According to different resources and needs, UK primary schools carry out various activity courses or business-related programs called. For example, the project "I learn, so do I bank" (yes enables primary school students to understand how school learning is related to their off campus career; "MBN enables students to experience how to operate a bank, etc. Another example is that a primary school in a poor area is actively carrying out innovation and entrepreneurship education. The school organizes pre-school students to sell eggs from their own hens. The first grade students participate in the design of egg packaging. The second grade students account for the cost and benefit of selling eggs. In its assessment of the school, Ofsted pointed out that students' participation in innovative curriculum design and teaching encouraged their enthusiasm and interest in learning. Students also show a good learning attitude, and pay attention to the

skills related to innovation, such as teamwork and curiosity and try new things. Students like the project very much, and the school principal also sees the fun of children's participation in it and the change of students' behavior, and believes that innovation and entrepreneurship education is an integral part of the school culture and curriculum, rather than an additional one-off activity.

A secondary school in the east end of London unites an off campus business team to provide students with practical skills to enhance their confidence in employment. Students can see the relevance between the courses they have learned and their own life and future, and they can learn knowledge more powerfully and faster. In 2013, the British government emphasized the close connection between the subject knowledge education, vocational management and students' future innovation and entrepreneurship in the document of "aspiration vision", pointing out that students need more motivation, which mainly comes from the interaction with future employers, rather than simply giving some career building. For example, a non-profit enterprise has cooperated with school principals and teachers in many regions and cities in the UK to combine the corporate culture and values with the existing subject curriculum of the school and design a curriculum project suitable for students. The enterprise provides suggestions and help for students studying business courses to establish their own company, so that students can learn the subject knowledge and improve practical experience such as interpersonal market research, organizational ability, etc.

The innovation and entrepreneurship education in the field of higher education in the UK has developed from the beginning of the 21st century mainly in some disciplines of business schools to the current interdisciplinary and interdisciplinary. Since its establishment in 2004, the National College entrepreneurship Committee has been committed to promoting the development of entrepreneurship education in universities. According to the relevant documents of UK higher education quality assurance agency, innovation and entrepreneurship education in the field of higher education should focus on three aspects: one is to learn about innovation and entrepreneurship; the other is to prepare for innovation and entrepreneurship; the third is to learn through doing

### *C. Teachers and Teaching*

Third, teachers and teaching British primary and secondary school teachers usually through project-based learning to carry out innovative entrepreneurship education, in practical activities to train students to solve practical problems, enterprising and innovative spirit. Some primary and secondary schools hire corporate consultants for teachers and invite representatives from various industries into the classroom to discuss innovation in the business field with teachers. To promote best teaching practices, the National Entrepreneurship Teacher Award was launched in the UK in 2014. The award, aimed primarily at primary and secondary

school teachers, is a response to the Enterprise for All report, which is run by enterprise villages, an association that supports innovative and entrepreneurial education in schools. The award provides guidance to a teacher who wishes to make a statement, as well as a variety of course materials, case studies or reports for applicants. The teachers of innovative entrepreneurship education in British universities take the teaching staff as the main body, and employ representatives of various industries to guide students.

According to the latest figures published by The Times Higher Education in 2015, UK universities are on the rise for innovation and entrepreneurship. For example, Cambridge University, as the centre of Europe's most dynamic high-tech cluster, is actively involved in innovation and entrepreneurship education, helping students successfully start a company by teaching teams to transform technology achievements and conducting a series of courses to guide them. Imperial College of Technology, ranked second in the 2015 Most Innovative UK Universities Awards, has a dedicated innovation and entrepreneurship division that focuses on innovative business organizations and the process and behavior of the organization. Professors and researchers in the department are both teaching and entrepreneurship mentors, working with companies, start-ups, communities and research institutions around the world, as well as in other areas (e.g. engineering, natural sciences, medicine) projects that provide students with opportunities to exercise and learn, from research to practical education.[4] The teaching methods of innovation and entrepreneurship education in British universities are flexible and varied, on the one hand, determined by the training goal and essence of students of innovation and entrepreneurship education, and on the other hand, because the development of science and technology has brought about technological revolution and teaching advantages, such as education, online lectures, flipping classes and so on. They also use social media, such as Twitter and Facebook, to combine regular innovative entrepreneurship courses with new media technologies to continue to attract venture capital providers such as Udacity and edX. Innovation and entrepreneurship education in the United Kingdom is based on students as the main body, providing students with a platform for display and development, but also attach importance to process assessment, for students to do full preparation for employment and entrepreneurship.

### III. ENLIGHTENMENT

At present, China ranks 22nd in the latest Global Innovation Index and 43rd in the Global Entrepreneurship Index. If we want to narrow the gap between China's innovation and entrepreneurship and developed countries, we must start from analyzing our own advantages and disadvantages, and learn from international advanced experience and measures. Innovation and entrepreneurship education has become an important strategic measure to "build an innovative country" in China, and it is also an important way to solve the employment problem facing our country.

#### *A. To improve the management mechanism, multi-channel cooperation*

Government and the joint forces of social organizations to provide policy guarantee for innovation and entrepreneurship education in the United Kingdom, create platforms and opportunities, and lay the foundation for the implementation of innovation and entrepreneurship education. Therefore, China's colleges and universities should establish a complex three-dimensional multi-party cooperation mechanism, through the establishment of a special innovation and entrepreneurship education management institutions, universities, research and development centers, entrepreneurship centers, intermediaries and other institutions to form an organic and effective unity.[5] At the same time, increase the exchanges and cooperation between universities and governments, social organizations and so on, so as to provide a broader platform and financial support for students' innovation and entrepreneurship. In addition, the management of innovation and entrepreneurship education in primary and secondary schools should also be integrated into the overall management and guidance.

#### *B. To establish a comprehensive curriculum system for innovation and entrepreneurship*

The innovation and entrepreneurship education system in the United Kingdom focuses on the development of "people", integrates innovation and entrepreneurship into all stages of education, cultivates innovation consciousness from an early age, and develops the potential of entrepreneurship. The real significance and social value of innovation and entrepreneurship education is to train innovative talents for the future, who have the innovative spirit and can promote economic and social development.[6]

#### *C. Cultivating a high-level teaching staff*

As innovation and entrepreneurship education matures, it becomes more complex in depth and breadth. This is increasingly demanding high-quality personnel—— both the need for the teachers to have the necessary professional skills, but also to have the corresponding vision and support system, and constantly improve the professional level of teachers.[7]Therefore, the training of high-level teachers needs to pay attention to the professional development planning and continuing education of teachers in innovative

and entrepreneurial education. Only when teachers' ideas change, with students as the center and with the collective strength of a team of experts, can we realize the true meaning of innovation and entrepreneurship education.

#### IV. CONCLUSION

The cultivation of innovative talents is not only in the higher education stage, the youth stage cannot be ignored. Therefore, China can learn from the implementation of innovation and entrepreneurship education in the primary and secondary schools in the United Kingdom, truly grasp the core elements and foundation of innovation and entrepreneurship, from an early age to cultivate innovative thinking, so as to cultivate innovative entrepreneurial talents with entrepreneurial spirit to lay a solid foundation.

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