

Research on Embedded Information Service Model of University Library under the Environment of Innovation and Entrepreneurship

Xue-Yan CAO^{1,a,*}, Pei-Han LIU^{2,b}, Xiao HU^{1,c}, Teng-Bin DENG^{1,d}

¹University of Electronic Science and Technology, China, 611731

²College of Management Science, Chengdu University of Technology, Chengdu, China, 610059

^acaoxy@uestc.edu.cn, ^b1010667191@qq.com, ^c770441057@qq.com, ^ddtbly10000@uestc.edu.cn

*Corresponding Author

Keywords: Innovation and Entrepreneurship, Library, Information Service, Embedded.

Abstract. In view of the environment of innovation and entrepreneurship, libraries, as literature and information centers and autonomous learning centers of universities, should give more targeted information services. Based on this, this paper proposes that libraries should use abundant literature resources, professional subject librarians and special space resources, embed into the college students' innovation and entrepreneurship with the whole staff, the whole process and all aspects. At the same time, libraries should integrate with other institutions in schools, form cooperative mechanisms, provide more comprehensive services for college students' innovation and entrepreneurship, provide information analysis reports, information consultation, cultural propaganda and literacy training, and play a greater role in the talent training system of colleges and universities.

Introduction

Innovative and entrepreneurial talents are the first resource for economic and social development. Premier Li Keqiang pointed out in his government work report in 2015 that "mass entrepreneurship and innovation" should be transformed into one of the "twin engines" to push China's economy forward. China has put forward the goal of entering into the ranks of the world's innovative countries by 2020, but now there is a serious shortage of innovative and entrepreneurial talents. College students are the most energetic and creative group, which contains enormous creative enthusiasm and entrepreneurial potential. As the base of talent cultivation, colleges and universities should grasp college students' self-consciousness of innovation and entrepreneurship, provide them with basic conditions, implement the development strategy of expanding employment, and promote employment driven by entrepreneurship.

College students lack social experience and entrepreneurial experience, so we must strengthen the understanding of information in the field of entrepreneurship and cultivate entrepreneurial motivation, awareness, information and ability. Library is the knowledge information center of University and the "second classroom" for students. It has unique advantages in innovation and entrepreneurship education [1]. It has the information resources, information acquisition platform, learning space and professional information service personnel of the university. It must undertake the information service for University Students' innovation and entrepreneurship functions, to achieve the "interaction-value-added" function of libraries and college.

Research Status at Home and Abroad

As an important role in the process of College Students' innovation and entrepreneurship, Li Hongyu illustrated with typical cases that university libraries carry out investigation and analysis of University Students' innovation and entrepreneurship projects, the establishment of retrieval archives, personalized services, etc. to support college students' innovation activities [2]. You Mei described the information service practice of Hunan Agricultural University Library for college students' innovation and entrepreneurship education from five aspects of "reading guide service",

"information retrieval course" and "characteristic collection construction" [3]. Based on the analysis of the national strategy background of "Internet +" and innovation and entrepreneurship, Zhao Jun analyzed the necessity of building the information platform for university students' innovation and entrepreneurship under the "Internet +" environment, and put forward the three level architecture based on "cloud platform" [4].

Subject service is an important service direction of the library at present. The service content includes subject liaison, information literacy training, resource construction and other levels, and has developed a rich service model. For example, based on structural hole theory [5], embedded subject librarian mode, etc. [6]. Embedded librarians are not only existing subject librarians, but also successful university students and successful people. This is also the new guidance model for library entrepreneurship [7].

Baisan Business School started its global entrepreneurship management course in 1967, setting up a chair for professors of entrepreneurship [8]. Shumaker, an American scholar, proposed that reference librarians should be put into users and guided by research methods whenever and wherever possible, so as to become a member of the user group[9]. Domestic and foreign libraries also provide information services and practical services for college students' innovation and entrepreneurship through the model of creator space. For example, the creator space service provided by Fayetteville library, Mary Washington University library and other libraries is a good practical exploration of this kind of service [10].

From the above research, we can get that scholars have studied the service content and service mode of Libraries in the new era from different angles. However, from the author's survey results, it has not yet been found that university libraries provide relevant information and information consultation and entrepreneurship project evaluation services for college students' innovation and entrepreneurship, and lack of all-round embedded this services. In view of the lack of business intelligence information and personnel guidance in college students' innovation and entrepreneurship, the author proposes that university libraries can use their own resources, space and personnel advantages to find a more accurate positioning in the upsurge of College Students' innovation and entrepreneurship, and innovate the information service model in an all-round way.

The Embeddedness of Library in College Students' Innovation and Entrepreneurship

The library is the information center of the school. It has the academic resources which are in line with the development of the subject. The library has very symbolic buildings and professional librarians. In the process of College Students' innovation and entrepreneurship, libraries can be embedded by the whole staff, the whole process and all aspects, and become information consultation institutions, subject librarians alliance, entrepreneurship culture highland, information literacy education center, etc.

Intelligence Advisory Body

University libraries have abundant academic resources, such as the library of University of Electronic Science and Technology, which has more than 300 database platforms and more than 14 million copies of electronic resources, including professional resources of various disciplines, patent databases, standard databases and enterprise-related information, etc. They have become professional information consultation organization to service schools, provide market information and enterprise information. Through sorting out and accumulating the relevant enterprises, products and technical information of the university, university libraries set up characteristic databases of each university, and become the important information resources for teachers, students, and alumni.

Information Literacy Education Center

University libraries have always been the main bases for information retrieval courses. The university of electronic science and technology has offered relevant courses for undergraduates and graduates, such as *"Information Retrieval and Utilization"*, *"Use and Analysis of Academic Resources"*, and *"Basic Knowledge of Intellectual Property Rights"*. Through offering information

retrieval courses, the information awareness of college students can be improved. Through providing training on the use of market information database, collecting and analyzing market information for college students, the library can improve their ability to acquire market information, make it become the basic ability of College students, and strengthen their entrepreneurship education.

Creator Center

Libraries are not only information resource centers, but also space service centers. In order to cultivate students' innovative ability and information literacy ability, the University of Electronic Science and Technology has constructed customer-creating space from various channels. For example, in 2014, libraries took the lead in opening the "Library Innovation Laboratory" in domestic colleges and universities, and in 2015, the School of Innovation and Entrepreneurship was established. And in March 2016, the "Internet +" student innovation laboratory was established in teaching building construction. These innovative laboratories can provide advanced equipment such as 3D printing, 3D display, apple computer and other advanced equipment. They are responsible for guiding and cooperating with the student research team to complete the innovation and Entrepreneurship projects, and hold the science and technology competition.

The Embedded Role and Information Service of Library in the University

In view of College Students' innovation and entrepreneurship, libraries can't provide information services in isolation. They must also combine with colleges and functional departments of the university to fully embedding the environment of innovation and entrepreneurship.

Analysis of Innovation and Entrepreneurship Projects of Students in University of Electronic Science and Technology

University of Electronic Science and Technology is a science and engineering school which core specialty are electronic technology, communication and information engineering. Therefore, in the upsurge of college students' innovation and entrepreneurship, students from the Colleges of Electronic Engineering, Photoelectric Information, Information and Software Engineering, Communication and Information Engineering are very enthusiastic to declare relevant projects, as shown in figure 1. Which are of great help to the college's instructors and students in the field of innovation and entrepreneurship research? Teachers and students can use this platform to carry out the initial attempt of innovation and Entrepreneurship with their own specialty.

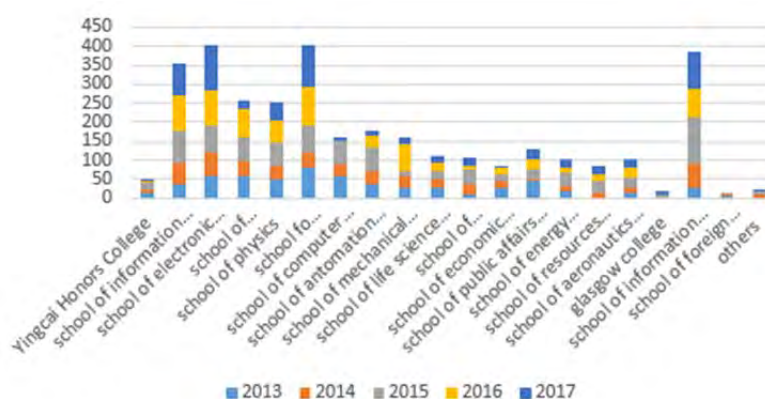


Fig. 1, Innovation and Entrepreneurship Projects in Colleges of University of Electronic Science and Technology in Recent 5 Years

Here is the specific innovation and entrepreneurship projects data for each college, as shown in table 1.

Table 1, The Number of Innovative and Entrepreneurial Projects in Colleges of University of Electronic Science and Technology in Recent 5 Years

SCHOOL	2013	2014	2015	2016	2017
Yingcai Honors College	12	12	17	5	2
school of information and communication engineering	34	58	85	94	85
school of electronic science and engineering	56	63	70	94	121
school of microelectronics	60	39	61	76	20
school of physics	50	35	60	58	49
school of optoelectronic science and engineering	79	41	70	103	111
school of computer science and engineering	60	31	60	0	10
school of antomation engineering	38	35	59	33	13
school of mechanical and electrical engineering	25	31	17	70	18
school of life science and technology	27	23	20	23	19
school of mathematical science	11	27	36	12	21
school of economic and management	28	17	18	19	4
school of public affairs and administration	43	5	28	28	26
school of energy science and engineering	16	16	34	15	19
school of resources and environment	0	14	29	21	19
school of aeronautics and astronautics	14	14	25	26	24
glasgow college	0	0	9	0	7
school of information and software engineering	29	60	123	74	101
school of foreign language	6	2	7	0	0
others	0	11	6	0	2
All	588	534	834	751	671

The Embedded Role of Library in the School

To meet the needs of college students' innovation and entrepreneurship, library, as the document integration centers, knowledge service centers, autonomous learning centers and social and cultural centers, must establish close links with the above-mentioned units, such as colleges, ministries of learning and engineering, educational administration offices, etc. Each unit should establish corresponding cooperation mechanisms, and embedding library in all departments of the university. Fig. 2, closely combined with the cultivation of students' information literacy, students' entrepreneurship, development guidance, employment guidance, etc., can realize the service radiation of library in a wider range and provide accurate information services.

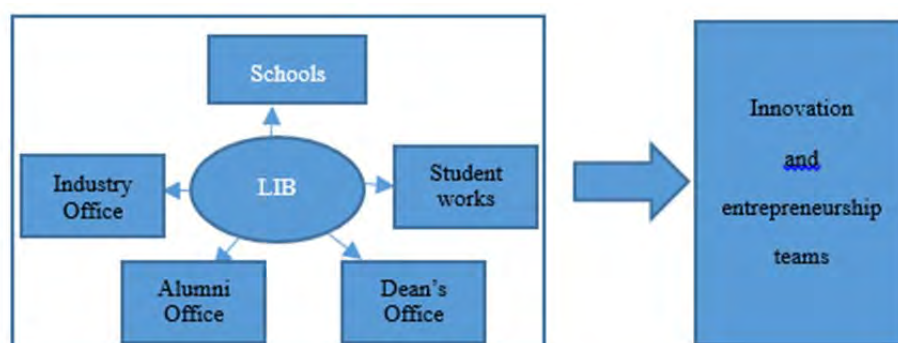


Fig. 2, Embedding of Library in School Institutions

With each college, the library should pay close attention to the trend of discipline development of each college; with the Ministry of Engineering, the library should pay attention to the development of members of innovation and entrepreneurship team; with the Ministry of Administration, the library should pay attention to and participate in relevant innovation and entrepreneurship projects; with the Industry Department, the library should follow up the intellectual property rights and

market situation; with the Alumni Office, the library should establish links with mature alumni enterprises, to provide services for the new start-up team. In this way, when the library provides relevant information services, it will have a more targeted and better effect.

Embedded Information Service Provided by Library

Through embedding the various institutions of the school, the library expands its own functions. Based on the roles of information consulting agencies, subject librarians alliance, entrepreneurship culture highland and information literacy education center, university libraries can provide a complete set of innovative services [11].

Provide Project Novelty Search Report and Project Consultation

Some innovative projects of college students can be evaluated in Libraries after screening by colleges or relevant units. As an objective third party, the library carries out the early analysis of the project, issues a novelty search report on the project, searches all possible innovation points of the project, compares with the existing open literature, proves whether the innovation points are established, and provides project suggestions for the college students' team. At the same time, the library can collect relevant information according to the subject, provide more authoritative search results for college students' entrepreneurship projects, and answer questions and puzzles.

Release Guidelines for Startup Projects

According to the professional characteristics of the school, the library can issue the latest entrepreneurship project guide of the advantageous specialty of the school, which will release the projects and directions of entrepreneurship potential to college students, guide their entrepreneurship direction and ideas, stimulate their thinking, and form more collisions of innovative entrepreneurship ideas.

Information Literacy Courses and Training

University libraries can regularly offer courses and training on entrepreneurial information literacy, train business intelligence analysis ability in the process of entrepreneurship, strengthen the ability of university students to acquire information knowledge, and improve the comprehensive ability of entrepreneurship.

Demonstration of Entrepreneurship Culture

University libraries can combine the characteristics of school entrepreneurship work, create a space to show entrepreneurship culture, provide a display area of entrepreneurship achievements, and create a cultural atmosphere of mass entrepreneurship and innovation.

Summary

As a document center and learning center, library is an indispensable information service institution in the process of college students' innovation and entrepreneurship. By using abundant literature resources, professional subject librarians and special space services, libraries can be embedded into college students' innovation and entrepreneurship in all aspects, including the whole staff, the whole process and all aspects. At the same time, the library should integrate with other institutions of the school to form a cooperative mechanism, which can provide more comprehensive services for college students' innovation and entrepreneurship. Based on this, by providing information analysis reports, information consultation, cultural propaganda and literacy training, libraries participate in the talent training system of colleges and universities, and play a greater role in talent training and innovation and entrepreneurship of college students.

Acknowledgement

This research was financially supported by "Sichuan Information Management and Service

Research Center Project in 2017, Information Service Model of University Library Based on Innovation and Entrepreneurship Training Project for College Students, No SCXX2017ZD01”

References

- [1] SONG Wei-qing. On Library Service Mode at Entrepreneurial Universities: A Case Study of Zhejiang Wanli University [J]. Journal of Zhejiang Wanli University, 2013, 26 (06): 97-100.
- [2] LI Hongyu, ZHANG Baoyu, WANG Xiao. Study and Practice on University Library Supporting Science and Technology Innovation of Students [J]. wen Shanxi Library Journal, 2012 (03): 50-52.
- [3] YOU Mei, HUANG Feng, LU Ye. Practice of Our Library Characteristic Information Service under the Innovation and Entrepreneurship Education Perspective[J]. Journal of Library and Information Science in Agriculture, 2012, 24 (12): 118-119+124.
- [4] Zhao Jun. Research on the Function Construction of Innovation and Entrepreneurship Education Information Platform for College Students [J]. Contemporary Education Practice and Teaching Research, 2015 (09): 147-149.
- [5] Cao Xueyan. Subject Service Mode Based on Structural Hole [J]. Library and information service, 2012, 56 (15): 37-41.
- [6] Chu Jingli. Theoretical Breakthrough of Embedded Library Services [J], journal of academic libraries, 2013, 31 (06): 5-9.
- [7] Liao Minxiu, Jiang Zhiyi. Embedded Librarians: A New Direction for the Development of University Subject Librarians [J], Researchs in library services, 2008 (12): 6-8.
- [8] He Yunjing. Construction of Student's Pioneering-Support System in China by Using Foreign Experience [J]. Theory and Practice of Education, 2006 (04): 7-9.
- [9] Lin Yan. Embedded Librarian-New Concept of Library User Service [J] Researchs in library services, 2010 (01): 71-74.
- [10] Ye Hongxin. People Innovation and Entrepreneurship and University Library Services [J]. library and information, 2015 (01): 134-135+141.
- [11] Deng Tengbin, Cao Xueyan, Li Xuemei. The Role and Function of University Library in College Students' Innovation and Entrepreneurship [J]. Library and information service, 2016, 60 (S1): 19-22.