The Design and Practice of Library Maker Service in Shenyang Normal University

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ABSTRACT

Library maker services are a current focus of the industry's theoretical research and practice. With the popularization of the maker movement and the development of "mass entrepreneurship and innovation" in China, the library has been forced to re-examine itself and seek new development opportunities and spaces. Based on the experience of library maker service activities both at home and abroad, this paper explores the design of the library space transformation and the practice of the maker services in Shenyang Normal University. In the face of "mass entrepreneurship and innovation" and the background of education, library maker services have become the main melody, and the construction of makerspaces is the panacea to boost the development of library services. Every qualified library needs to be transformed, insufficient ones need to be reformed, and maker services are not only a development drive of the era, but also the essential path to the future.

KEYWORDS

1. INTRODUCTION

Maker activity first appeared in the United States. "Makers" are a group of people who are enthusiastic about creating, designing and manufacturing. They are willing, energetic, enthusiastic and capable. Maker activities need places, so "makerspace" was born. The *Maker Magazine* in the United States defined makerspace as: "a real physical space, the open and exchange fablab, makelab and techshop with the function of processing workshop and studio. Artists, designers, masters of software and hardware and almost anyone, can use the machine and material to put the idea into reality" (*Hongli Zhang & Fenfang Cao,2015*). The maker activity soon developed into a nationwide maker movement, which is valued by various fields, such as government, schools and enterprises. In 2012, president Obama launched a government program that would allow more than 1,000 U.S. schools over the next four years to create makerspaces with digital manufacturing tools such as 3D printers and laser-cutting machines. In the same year, president Obama signed *the Promotion of Entrepreneurship Financing Act* and *the Employment Act* to promote the emergence of more public financing platforms and provide financial support for mass innovation and creative inventions (*Lili Ma,2014*). Thus, the American maker movement became known to the world.

The introduction of the maker movement magically fits the "mass entrepreneurship and innovation" of the national economic development policy put forward by the Chinese government. In September 2014, Premier Keqiang Li made a clear call for "mass entrepreneurship and innovation". In

February 2015, the State Council Executive Meeting clearly formulated a series of policies to support the development of makerspaces, which created a good policy environment and development platform for innovation and entrepreneurship at the national level. In March 2015, "mass entrepreneurship and innovation" was written into the Chinese government work report. Under the guidance of the national macroeconomic policy, all kinds of makerspaces have sprung up, showing a flourishing developmental trend, which has played a positive role in promoting and leading innovation and supporting entrepreneurship.

2. LIBRARY REFORM UNDER THE BACKGROUND OF "MASS ENTREPRENEURSHIP AND INNOVATION"

2.1 Library and Maker Space

With the development of a new generation of Internet search engines and electronic information, the library is actively responding to many challenges. By rebuilding or creating a makerspace, the library carries out cultural maker activities and enters into a new and positive era. 2015 the US Library Status Report pointed out that makerspaces are becoming an important trend in the continuous development of the library business, and they have broken the traditional concept that the collection of books is the center of a library (*National Library Research Institute, 2015*). Among the six kinds of technologies listed in the New Media Alliance Horizon Report (*2015 library edition*), the "makerspace" is considered the technology that will be adopted in the near future (*New Media Alliance (NMC), 2015*). The founder of the Maker Magazine D. Dougherty says the maker movement has come to the library; it is not a simple introduction of a 3D printer. Its core aim is to bring the creative concept to the library so that each participant is more passionate to learn new skills and new knowledge. The makerspace is essentially a combination of knowledge, practical experience and its derivatives" (*Lei Tao, 2013*).

In 2016, the Ministry of Education of China issued *The 13th Five Year Plan of Educational Informationization* to put forward a clear request and a plan for the innovation of entrepreneurship education in colleges and universities, which has become the responsibility and mission of the library. Accordingly, the library must change their traditional modes of service and a create makerspace. First, it is a significant path towards achieving the transformation of library services. The first and the second generation of library activities centered around the word "book." The future of the third generation library will pay more attention to human needs, accessibility, openness, ecological environment and resource integration, and will be committed to promoting the flow of knowledge, innovation and environments of exchange, while paying attention to multiple elements and stimulating community vitality (*Jianzhong Wu, 2016*). Second, maker spaces are an important way to enhance the core competitiveness of the library. The library carries out the "practice, sharing and innovation" which is the core of the maker service, and an inherent requirement of the library's core mission under the environment of the "mass entrepreneurship and innovation." It is a new mode of knowledge service based on hand-making, knowledge sharing and knowledge creating. Third, makerspaces are an important method to fulfill the library's educational functions; the library carries out the Maker Salon, Creative Seminars, Creative Road Show, Practical Courses, Handcraft, 3D Printing and other activities, which highlights the makers' core qualities of interest-driven and hands-on practice, creative innovation, integration of cross-disciplinary knowledge and STEAM educational concepts. Students can cultivate the spirit of innovation and the practical ability to promote the growth of innovative, entrepreneurial talents.

2.2 Reform of the Library Maker Service

The rapid development of the maker movement has promoted the continuous change of various types of library services, and the public libraries have been influenced first. Shanghai Library took the lead in establishing of a "creative-new space" of the makerspace. The theme is cultural and creative, and

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