



Entertainment Design of Elderly Community Oriented to Maker Space in University Libraries

Bin Jiang and Sen Guo^(✉)

Nanjing University of Science and Technology, Nanjing, China
guosenhaoren@sina.com

Abstract. Due to the intensified aging of Chinese population, the ratio of elderly people in China's total population has been increasingly in each year, Elderly community, which has developed into a relatively mature way of old-age care in developed nations such as European countries and the US, is still a relatively new topic in China. Therefore, How to build an entertainment space may be a problem.

The maker space in university library is a “destruction and rebuilding” of the original maker space, it reflects more of the auxiliary role in innovation process, while elderly community is the type of elderly living space integrating elderly care and living into one. The 3D printer and digital creation technology in maker space are a type of technology that quickly transforms thoughts into physical products. While enriching the entertainment activities of elderly community, it is necessary to build certain technological method to enable elderly people to, through simply operations, transform their thoughts into physical products. Such unique maker-space-oriented community space design, and its provided methods for elderly entertainment, or its comprehensive keynote of helping people to exercise their physics and mind, is similar to that of maker culture. The embedded-type maker service that is promoted in maker space of university library is to provide corresponding assistance and help by analyzing readers' innovative thoughts, by integrating such service model into some service models in entertainment space, it could help elderly people to complete their needed creation in the process of entertainment.

So, building the entertainment space in elderly community into an unique maker space model like that that in university libraries and strengthening the external world's physical and psychological stimulation to them could effectively help slowing down elderly people's intelligent degeneration and organ aging rate. This thesis implements detailed survey on elderly community, finds its existing problems and studies the related entertainment methods, meanwhile, detailed analysis is made on the related characteristics of the maker space of library, and such type of innovation method represented by maker space is integrated with the entertainment way of elderly community, and the entertainment space of elderly community is finally created to make arrangement and allocation of its different activities.

Keywords: Maker space · University libraries · Elder · Entertainment design

1 Introduction

The maker space, also known as hacker space or innovation lab, is a platform for people to innovate. Technological production, scientific research and development, creative sharing are all makers' behaviors. Its entity originate from a novel experiment, initiated by that MIT bit and atom research cent in 2001, a micro-assembled laboratory, a micro-factory having almost any product [1]. However, it is advantageous to construct the maker space in the university library. It supports the concept of knowledge exploration and innovation practice, ability standard, eager to learn the staffing, perfect functions and rich resources and a guest space required for the perfect fit, and passenger space at the same time also to the innovation of the library service and the transition has brought new opportunities [2].

With the development of social economy and science and progress, the population "aging" has become a common phenomenon in today's world. For China's national conditions, the policy of "family planning" has been implemented. The proportion of the elderly population in the total population has been increasing year by year. This problem in the economic developed area than many impoverished region is serious, the developed countries are heavier than the developing ones, and the cities are heavier than the rural ones. The idea of an international community of old people has long been proposed. Today, the elderly community service in the United States, Japan, Singapore and other countries is relatively mature [3], the service process and the fixed project have formed a familiar system, in elderly community construction in the United States, for example the elderly residential facilities according to the old age, health status, and intend to roughly divided into Life care community, Nursing center, Nursing home (Personal care housing), Congregate housing, Independent residential (Independent housing). These facilities greatly facilitate the life of the elderly and provide comprehensive protection for the elderly in the home. In the United States, private companies have created two major categories of for-profit geriatric communities and nonprofit geriatric communities.

2 Maker Space in University Library

2.1 The Goal of Setting up the Maker Space of University Library Is Briefly Described

The maker space of university library is different from that of social and public library. Its advantage lies in talent resources, literature resources, innovative development and environmental space. Zhang [4] believes that the research library provides the problem of the maker space service, it is not a question of more space, more equipment and more activities, but the re-establishing the library service model. The university library should combine its own advantages. Explore new technologies, learn new skills, and cultivate the creativity and exploration spirit of people involved in high-fiber library maker space. While providing the relevant facilities, the user's imagination is applied to create the way of observing things.

2.2 Maker Space Equipment Configuration and Corresponding Activities

The university library maker space has a variety of equipment suitable for users' choice, and according to its own needs, it is equipped with excellent choice. The types of equipment that can be selected are: electronic, digital and computer tools, application software, digital manufacturing equipment, machine, tools, manual materials, etc. [5]. The technology of the maker space is changing rapidly, and many devices need to be supervised before the simple operation can be carried out [6]. Through unified assembly or face-to-face teaching mode, the user after mastering the use of the related facilities, through these convenient and complicated facilities equipment, realize their different ideas.

3 The Exploration and Conjecture of the Old Entertainment Mode Guided by Maker Space

Both physically and psychologically, older people are less receptive to new things than young people [7]. Through some forms of entertainment, it can help stimulate the brain thinking ability of the elderly, and can help the elderly to "exercise their muscles and bones" through physical action. A simple amount of activity has some corresponding effects in promoting the reduction of senile dementia. So for the guest space constantly exploring behavior analogy, simplify the design process of complex and changing to adapt to the elderly, convenient to accept and enjoy among them is the final design goal.

3.1 Study on the Behavior of the Elderly in the Fusion Maker Space

In the maker space, the makers create their products through self-creation. After the shape of the product is shaped, it will make some physical model construction through 3d printing, model creation and other manual methods. For the elderly, too complicated a process can be simplified, too much work can be neglected. So for the elderly, hands-on work can be simplified. Give a simple model of woodworking machining process for the ordinary people in some conditions, without having to for the wood processing, but gives an approximate shape work piece, The old people only need to do simple processing according to the arrangement, make the necessary form, and assemble these parts together to make the shape they want. At the same time, imitate the way of 3d printing, convenient to give the old some harmless printing raw material, make its manual knead or put forward some requirements, to explore its forming process, the process involved in the professional operation of building completed ahead of schedule.

In the maker space, communication and presentation are also important. After the old people complete their works, they help to complete their own exhibition space, so that the elderly can set up their own "little world". Integrate some of the things they have experienced and the rich experience of life, and guide them to accept some new space construction methods and new creative ways to inspire their passion for activities in their late years. The guide, is to improve the old people's subjective initiative, active

activities, in their leisure time to help them do some simple movement rather than keep a posture and leading to loss of body physiology.

3.2 A Study on the Thinking Mode of the Old People with Innovative Thinking in the Fusion Maker Space

Brainstorming, this is an open thinking logic discussion. What is indispensable in the process of innovation is researching, discussing and thinking. For the elderly, their life experience is a kind of research result based on the accumulation of years, and many things cause and effect relationship and trend are not difficult for the elderly to control. Therefore, how to activate their thinking and help them to do daily thinking is a question worth discussing. Between the elderly can also through sharing, some demand in the form of interaction and build, the elderly daily entertainment activities, such as simple calculation of poker, etc., all is a reflection of the interaction. For the elderly, their thinking because of the age is relatively slow, in the process of brainstorming, the theme can be more interested in things around their life, such as knitting, a goal kick, etc., to give some thought to guide their discontent, encourages them to take their own stories, and let them take the initiative to think about the meaning of them.

Hearing is also one of the main sources of information received by humans. The be fond of according to the old organization some audio service measures also is a kind of feasible scheme, by reading, reading, and some in the form of music and sound transmission, digital music platform, through the design listening training, let old people make good use of some trivial time. At the same time, listening to music has some effects on some physiological functions of the elderly. Experiments show that some suitable music can help the elderly to relieve gastrointestinal diseases.

4 The Services of the Elderly Community

The embedded maker service advocated in the creative space of university library is to provide corresponding assistance and help by analyzing the readers' innovative ideas. Combining this service mode with some service modes in the entertainment space can assist the elderly to complete their own creations during the entertainment process [8]. Not only in the elderly community, sharing, learning, teaching and creation are the common features of the library and the maker space. Therefore, in order to arouse the old people's mentality of "live and learn", sufficient service is indispensable. By organizing activities to guide the elderly to describe the own experience and through the step-by-step teaching methods to help the elderly operating some equipment belong to their own small products, understand the old man in some similar knitting, unemployed, read newspapers, play chess activities such as China and Germany inconvenience, encouraging its's thinking of a solution, in the process of deepening process of hands and brain, no request in the results, but the creative results is to help protect the rights and interests.

While the maker realization and innovation process in maker space, meaning the demand stage, implementation stage, transformation stage and innovation result, could firstly apply to the action process of elderly entertainment space, in its designed

entertainment space, the intension of active thinking of elderly people could be stimulated in fixed process. This thesis describes the components in related maker space and the innovative products that could be created by such components under the guidance of maker culture, and a horizontal comparison is made with the previously existing but less regarded entertainment items contained in the entertainment center of elderly centers, their similarities and differences are compared, by integrating the physical conditions and physiological needs of elderly people, the related auxiliary tools and entertainment ways that are suitable for them are determined. Meanwhile, those that would be eventually generated by maker could be basically concluded as commodity types. While for elderly people, evaluation could be made on their works through simulated sales inside community or other similar methods.

5 Conclusion

University library in the guest room is a new model of a library to change, it has from the traditional information service and knowledge management to digital support, will be in the traditional sense of the guest room to used to guide people to participate in and encourage the creation of knowledge. The elderly, after a long period of precipitation, will think about many things in nature. Thanks to a falling body function and the ability to think, the elderly daily life activity will gradually decline, this time need some targeted guide to help it maintain a state of relative motion. Introducing the concept of university library and the guest room elderly community, and introduces some of the product processing process, some of the action of analogy and guest at the same time, design the elderly can adapt, acceptable activities, to help its recreation at the same time can also help them preserve one's health. As the proportion of elderly people is increasing, the concern for this group should be deepened.

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