

New Pattern of Creative Talents Aggregation Training through Constructing Creative School District

--Take National Maker Space of Chengdu University

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Abstract: The rapid development of China's cultural and creative industries has prompted the rapid rise of young creative strata. Creative parks realize the rapid gathering of creative talents through the gathering of creative resources. In 2016, the National Creative Park began to upgrade from a production-oriented one to a smart park. This paper points out that, as an important position for the cultivation of creative talents, the dominant difference in the allocation of creative resources in colleges and universities makes it difficult to form an aggregate cultivation of creative talents. This study takes the national creative space as an example to construct a Creative School District. Through resource mining and optimizing resource allocation in the platform-based crowd-creating space, an effective aggregation training model for new creative talents of "Talents training + maker space" has been established. Through the interaction of two major spaces and three circle layers, a high-quality dual-creation ecological circle with "creative, innovative and entrepreneurial" as the core of creative resource allocation will be built.

1. Introduction

Creative industry is the product of integration of economy, culture and science and technology. It has shown the characteristics of high creativity, high added value, high relevance, high geographical clustering and high synergy. More and more, it has become one of the important symbols to measure the comprehensive innovation ability, economic vitality and overall competitiveness of a country or region. According to statistics, the added value of culture and related industries in 2017 was 342.2 billion yuan, accounting for 4.2% of Gross Domestic Product's total, and it continued to move towards the pillar industry of the national economy. The overall scale of financing for the cultural industry continues to expand. The rapid development of Cultural and Creative Industry Park will inevitably bring about a blowout in the demand for creative talents.

Creative industry belongs to the category of cultural industry. The degree to which creative youth gather indicates the degree to which creative industries are developed in a region. The so-called creative talents refer to. Talents with independent intellectual property rights as the core and unique creativity, technology and management capabilities in the creative industry chain. The key to developing creative industries is to achieve the accumulation of creative talents. Usually the formation of creative youth gathering is mainly based on the aggregation effect of creative industrial parks.

According to statistics, as of the end of 2016, there are 2,506 existing cultural and creative bases and parks in the country, covering an area of more than 341.25 million square meters [2][3]. In 2017, the growth rate of creative industries accounted for 4.2% of GDP, which is an increase from 2015. The added value of the creation, production and dissemination of core content in culture and related industries accounted for 62.7% of the total growth of the cultural industry, and it has become a major growth area. However, the substantial increase in space and output value has not brought about an effective supply of creative talents, and the total proportion of creative industry employees in the employment population is only about 2%. China is still facing an obvious structural

contradiction that creative talents do not match the development needs of creative industries, especially those with core creative ability of creative industries.

2. Traditional cultivation system restricts creative resources to achieve on-demand configuration

Individual creativity needs the collaboration and cooperation of groups in an organization to form the transformation of creative achievements. The more adaptable the creator and the organizational environment are, the smoother the creation of creativity, the organization of creativity and the transformation of creative achievements are in the organization. Organizational environment has three-dimensional attributes, which are composed of educational system, practice platform and industrial environment. Educational system and innovative practice platform constitute the vertical and horizontal coordinates of creative personnel training respectively. In this paper, education system and practice platform are collectively called creative resources. The core problem of creative talents training is to solve the problem of the ratio of creative resources and the adaptability of industrial environment.

We divide the presentation of creative resources into four regions, as shown in Figure 1. Zone I: Innovative education and creative practice are highly matched with industry. In this region, curriculum design and practice platforms are closely integrated with industry needs. Creative talents can obtain sufficient educational resources and opportunities to enter relevant industries for practical training at the University stage. Creative talents can not only achieve high-quality employment in relevant enterprises, but also acquire the accumulation of resources that can start a business in the future. Zone II: The matching degree between creative practice and industry is high, but the matching degree between innovative education and industry is insufficient. There are some problems in talent training programs, such as emphasizing practice and neglecting curriculum. Students usually have skilled skills, but due to the weak theoretical basis, the comprehensive ability is insufficient. It leads to the lack of growth power of students after employment, which makes it difficult to achieve sustainable development. Zone III: Innovative education and entrepreneurial practice are matched with the industry. The construction of innovative education and practice platform is obviously not consistent with the development of the industry. It is difficult for students to enter the industry, and the employment rate and occupational stability are very poor. Zone IV: Innovation education has a high degree of matching with industry, but creative practice has a low degree of matching with industry. Contrary to the problems with Zone II, such problems are often manifested in the emphasis on classroom teaching and light practice. Innovators often have certain innovative thinking, but due to lack of hands-on ability, it is difficult to complete the process of creative product production, and creative results cannot be transformed.

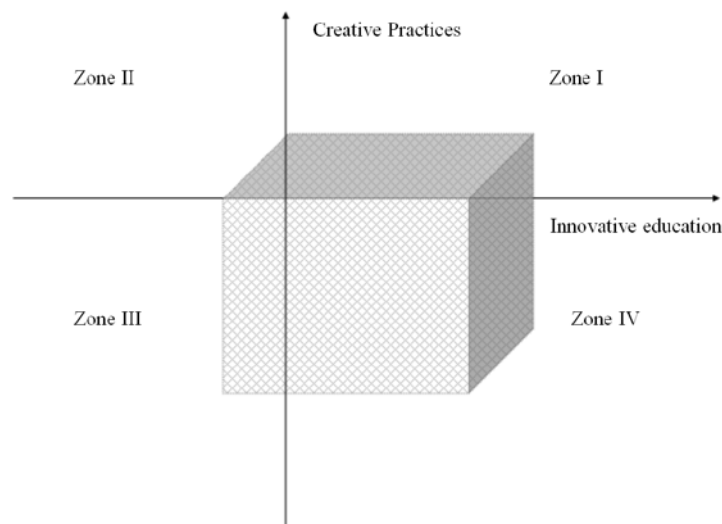


Fig. 1 Four-quadrant division map of creative resources and industrial environment matching

However, there has been a long delay in the relevant curriculum setting in colleges and universities. The lack of creative training has directly led to the problem of structural contradiction in the supply of creative talents. The creative resources and industrial environment are mainly concentrated in Zone III rather than Zone I, which is not able to achieve reasonable creative resources configuration. The allocation of creative resources is the core link in the cultivation of creative talents. Optimizing the allocation of creative resources can solve key problems in the cultivation of creative talents and realize a new mode of creative talent training.

3. Create a " Creative School District " to achieve ecological optimization of the creative park

3.1 "Creative School District", a new form of creative park with three innovations

According to the formation and development mode of creative parks, creative parks can be divided into three categories. First, the type of government-led construction, which mainly focuses on the transformation of old space and old industry. Secondly, the spontaneous aggregation model which based on intellectual capital and spontaneous formation of creative population. Third, the business multi-cooperation model is the combination of urban economic resources and new urban innovation space.

The "school district" originally intended to be an administrative area based on the concentration of educational resources. The " Creative School District " [5] is different in nature from the industrial clusters and creative parks in the ordinary sense. Through the construction of " Creative School District " of "talent training + maker space ", we will promote the innovation of innovative creative talents.

"Creative School District" refers to the superposition of "creative" as the core through innovative education, creative incubation, and innovative practice space. It promote creative people to establish a new industrial synergy and innovation relationship in an ecological environment of "high efficiency, freedom, sharing, openness and synergy". Through the mechanism of resource mining, we can improve the ratio of resource allocation on demand. Improve the utilization rate of resources through the independent choice of creators. Through the joint layout of the industrial chain, we can improve the conversion rate of creative achievements. "Creative School District" will become the best incubation space for creative talents, which has the best knowledge structure, the strongest innovative practical ability and the most significant talent aggregation effect.

3.2 The innovative space framework of the "Creative School District"

In order to achieve the accumulation of creative talents, it is necessary to achieve a high concentration of creative resources. Creative talents need a rich technical reserve and a tolerant organizational environment. In an ideal creative park, creatives are free to choose creative resources in the creative park. Creative parks provide creatives with the necessary production technology and hardware facilities to enable creative artists to produce creative products. However, in reality, there are widespread problems in the industry such as the end of the market, the homogenization, and the vague positioning. The problem directly lead to the idle and waste of a large number of creative resources in the creative park. The exchange rate of physical space between creative turnover rate of talents and creative park is too high, and the effect of creative talents gathering cannot be formed. To improve the use efficiency of creative resources, we need to create an ecological environment. Through the interactive adjustment of physical and virtual space, creative resources can be matched on demand in a dynamic environment. Based on this, this paper constructs the " Creative School District " creative talents gathering ecological circle, as shown in Figure 2.

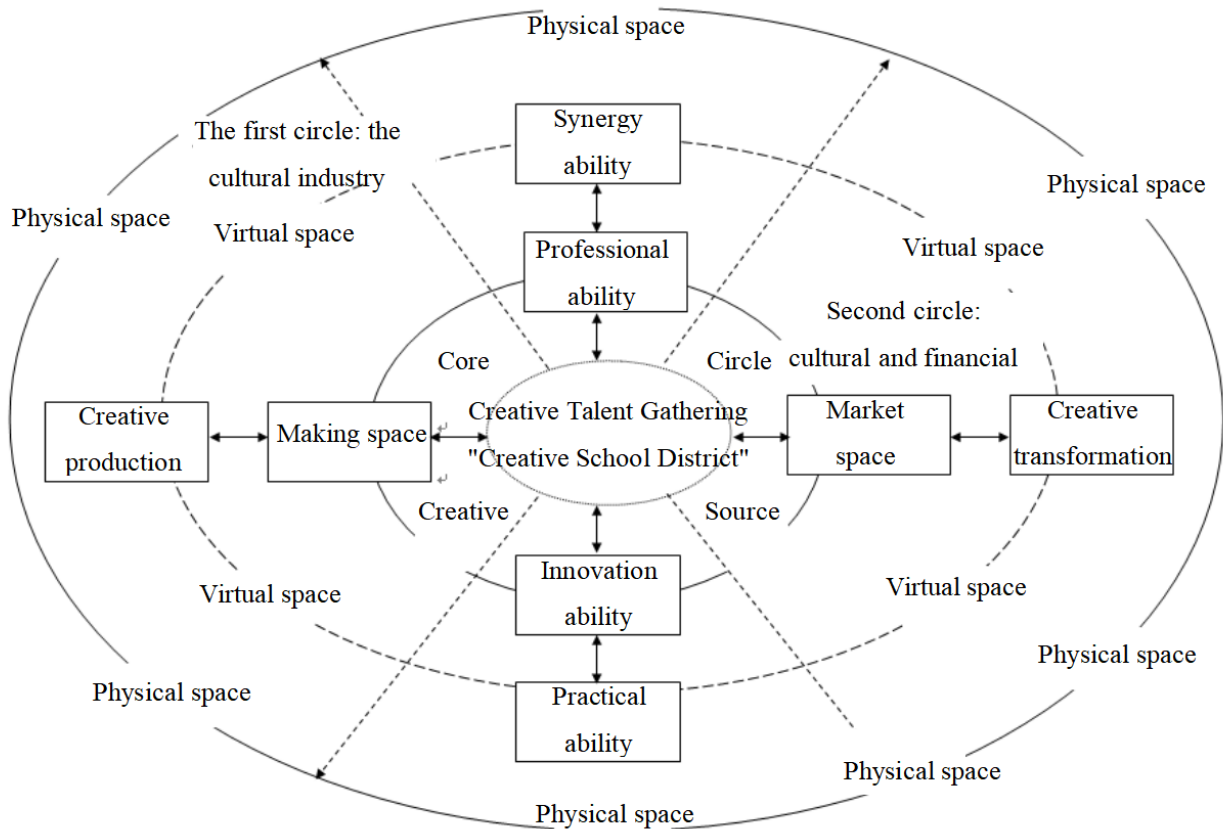


Fig. 2 "Creative School District" creative talent gathering ecosystem

3.3 Two major space construction

The "Creative School District" consists of two major spaces and three circle layers. The two spaces refer to physical space and virtual space respectively. The physical space is mainly planned according to the process required for creative production. It mainly involves: the physical space where creative activities occur, such as creative space, production space, gathering space, trading space, and landscape space. The design, manufacture, trading and promotion of creative products are mainly done in physical space. Creatives create free creation and information exchange in a creative environment. The Park introduces or cultivates creative teams according to the requirements of the creative industry chain. Creative teams in the park can rely on each other, interact with each other, and form effective interaction. The construction of virtual space mainly relies on information network to form a wisdom park. The Park provides course information, training information, business information and realizes the transaction of creative products on the network platform through the intelligent park network system. The dual co-construction of physical space and virtual space widens the boundary of creative park. Better to enable creative content production, product processing, creative management of these three categories of talents to quickly grasp the basic skills needed in all aspects of the creative industry chain, to achieve an effective gathering of creative talents.

3.4 Three-layer layout

3.4.1 The first circle: the creative industry chain layer

The formation of the industrial chain affects the organizational environment of the creative park. The industrial chain is the relationship between supply and demand based on industrial linkages between enterprises. The creative industry chain includes two major parts of production and distribution, involving creativity, production, consumption, communication, and management. According to the principle of "value sharing and division of labor and cooperation", each enterprise in the creative park has formed a relatively stable cooperative relationship in the industrial chain.

Industrial agglomeration, through the aggregation of physical space, shortens and reduces transaction costs, and promotes more frequent social capital flows.

Creative industry chain constitutes the first circle of "Creative School District", which creates a good peripheral space for the gathering of creative talents. Creative enterprises gather in the periphery of "Creative School District", which is conducive to the free circulation of creative products and the provision of creative services for creative talents according to industrial needs.

3.4.2 Second Circle: Creative Capital Circle

Creative capital is the economic attribute of cultural and creative industries, so-called cultural capital or cultural creative capital. It refers to the capital invested in the production and management of various cultural and creative products and multicultural services in the cultural and creative industries. Capital can be divided into four parts, namely, monetary capital, human capital, constant production capital, and commodity capital. Among them, cultural and creative enterprises are mainly based on human capital. Creative capital exists in the creative industry chain. By combining with different carriers, multiple economic performances have been produced, and the high added value of the industry has been enhanced. Only creative capital can effectively reduce the cost of cultural and creative products' dissemination channels and promotion risks through agglomeration, so as to improve the utilization rate of cultural and creative "hard facilities" and reduce its operating costs, so as to truly form a "soft facility" which is conducive to enhancing the creativity and influence of cultural and creative industry park. Thus, we can achieve the effect of increasing returns to scale.

3.4.3 The third circle: "creative source" circle

Creativity is the essential requirement of the cultural and creative industry, and stimulating the creative consciousness of creative people is the key to the cultivation of creative talents. Creativity is generated on the basis of industrial needs and inspiration, and the final idea of incubation is brewing. The third circle emphasizes the formation of "creative sources" with creative people as the core. Creative source is the core circle of "Creative School District", which is mainly constructed through systematic creativity and innovative curriculum group, cultivate students' creative thinking, creative thinking training, and transform creative thinking into creative works.

3.5 "Creative School District", a new type of innovation space

The "Creative School District" is an innovation and upgrade in the traditional innovation space, which compares it with the traditional innovation space. "Creative School District" is different from "Creative Space" in the general sense. It emphasizes the transformation and upgrading of innovation space from comprehensive to professional, from economic to educational, from orientation to autonomy, from unity to multidisciplinary characteristics. It is embodied in: First, whether it can form an effective relationship between the innovative teams that have settled in, and help creative young people to obtain social resources. Second, whether information can be freely shared in space. Third, whether there is a close relationship between independent innovation and production transformation. The artistic atmosphere and innovation ratio of the park are the core of the quality of innovation space. Whether the park can effectively assist the team to interact with related industries, lead the team to enter the industry quickly, and realize the commercialization process of creative industry marks the maturity of a park. Construct a new creative talent ecological space of "education system + cultivation chain + experience grid", and ultimately realize the creative youth gathering, training and innovation in the period of the great development of cultural and creative industries.

4. The Realization and Effect of "Creative School District" in the Construction of National Creative Space

4.1 "Creative School District" Constructs a Cluster of Creative Talents

In 2016, Chengdu University was granted National Public Space. Closely around the cultural and

creative industries, starting with solving the difficulties of cultivating creative talents in Colleges and universities. Relying on the industry, we should establish a design innovation center which integrates production, learning, research, use and creation. The "Creative School District" of Chengdu University emphasizes the core supporting role of talent cultivation for creative park. Through the integrated design of creative space, production space, gathering space (service, road show, business, transaction), exhibition space, landscape space (leisure, seminar). It has formed a whole process solution of creative product operation integrating "talent gathering + product innovation + crowd creating space".

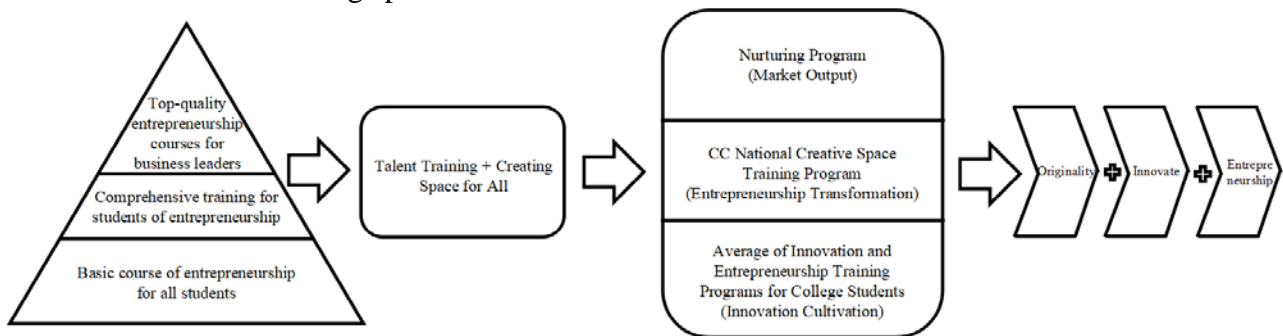


Fig. 3 "Three One Three" Three Creative Integration Talent Cultivation System

The "Creative School District" integrates rich social resources and realizes the docking with the market, skillfully transforms market resources into teaching resources, and organically combines creative talents with Entrepreneurship training. The "three, one, three" and "three innovations" integrated creative talents training system has been established (as shown in Figure 3), which has comprehensively improved the quality of creative talents training [6]. Among them, one core is to cultivate creative talents around the cultural and creative industries with "talent cultivation + creating space for all" as the core. The third level is to establish a tower-type double-creative teaching system, and to carry out double-creative education for students. That is to say, the basic education of entrepreneurship for students, the comprehensive training of entrepreneurship for members of innovative entrepreneurship projects for college students, and the excellent course education for business leaders. The three plans are to establish a project-based development plan to enhance students' practical ability. That is to say, the college students' innovation and entrepreneurship training program plans to cultivate students' innovation awareness through the innovation project, and CC national maker space key cultivation project plan. Entrepreneurial counseling for high-quality innovation projects to achieve project entrepreneurship transformation, Jingrong plan for post-conversion entrepreneurship projects, market-oriented guidance to achieve creative work output market. The three programs form a process of cultivating the chain of creativity, innovation, and entrepreneurship. In the end, the integration of creativity, innovation and entrepreneurship was realized.

Relying on the national maker space to establish a comprehensive platform for entrepreneurial practice - "Creative School District." It integrates creative courses, project development, entrepreneurial competitions, and results into one, gather creative young people to form cultural and creative talents to cultivate a new ecology.

4.2 "Creative School District" creative talents gather and train results

4.2.1 High quality dual platform

The "Creative School District" has been built into three districts, three rooms and one center (creative district, entrepreneurship district, practical training district, creative room, road show room, discussion room, student double creative service center). To provide the "three excellent" ecological space with "the best quality, the best service and the best use" for the co-creation of teachers and students. At the same time, expand the practice field of dual-creation education, and establish the first Taiwan Technology Center of Cultural and creative and Jewelry Design Center. The leading Chengdu enterprises established the first original design center of Chengdu bathroom cabinet

products and settled in the Stanford University Innovation Course R&D Center. Let students enjoy high-quality entrepreneurial resources in the park, quickly integrate into the industry chain, and promote student entrepreneurship practice.

4.2.2 Double innovation education results

The guidance and influence of teachers in talent training is very important [6], and the school has set up a workstation for the Innovation and Entrepreneurship New Economics Academician (Member of the Ministry of Education). The aim is to face the new economy and to connect Chengdu with the construction goal of the Western Cultural Center and serve the localities. Form a well-known think tank in the creative economy, and improve the efficiency of the transformation of creative achievements. A high-quality innovative and entrepreneurial talent training system that closely follows the development of Chengdu's creative economy. Established two centers of HURONG Innovation and Entrepreneurship Education Research Center and New Economic and Creative Curriculum Research and Development Center. We will focus on the experimental study of creativity, innovation and entrepreneurs' behavioral characteristics, and form the leading scientific research achievements in the country. Promoting transformation efficiency and serving Chengdu's economic and social transformation and upgrading.

Establish a resource bank of "industry + specialty" mentors, and introduce high-level profession mentors in all fields and industries. Construction of entrepreneurship micro-curriculum group consisting of entrepreneurship compulsory courses, elective courses, entrepreneurship training, online courses, creative training camps, etc. Provide support for the Tower-type double-venture education system, provide entrepreneurship education for 10,000 students, entrepreneurship training for 1,000 members of University Entrepreneurship projects, and precise counseling for 100 business leaders, to achieve the organic integration of "enterprise development needs, industry promotion transformation, university talent gathering".

4.2.3 Project development results

The "Creative School District" has established a multi-category incubation system for entrepreneurship projects and implemented the project to cultivate creative talents. Creative parks incubate more than 1,000 innovative entrepreneurship projects, of which creative industry projects account for 66%. The enterprises in the incubator industry have achieved an output value of more than 10 million yuan, achieving 100% profit, and opening a "creative economy" with dual innovation. Entrepreneurship training accounted for 63% of the total class hours, and 80% of the instructors came from industry instructors. Realizing the full chain training of students from creativity to entrepreneurship, it also hatched the Panda IP R&D products that are favored by the market [5].

4.2.4 Brand double activity

The "Creative School District" pays attention to the creation of creative culture atmosphere and gives full play to the function of cultural education [6]. It has held regular brand activities such as "CC Space Creator Campus Travel" and "Entrepreneur Tianfu·Jingronghui", and successively held the Chengdu Strait Cross-Strait College Students Innovation and Entrepreneurship Competition, Chengdu International Friendship City University Alliance Student Creative Competition, and realized "Three Innovations". The social attention of "Creative School District" has been increasing. "CC Space Creator Campus Tour" with the theme of "Integration, Innovation, Co-construction and Sharing" has been reported by more than ten network media such as Guangming Online, Sina and West China City Daily.

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Construction and Practice of the Entrepreneurship Education System of National Maker Space for Applied Universities, Education and Teaching Reform Project of Chengdu University (Number:cdjgb2017024).

References

- [1] Ai Media Consulting. 2018-2019 China Cultural and Creative Industry Status and Development Trend Analysis Report [R].2018
- [2] <http://www.chyxx.com/industry/201607/428343.html>
- [3] Wang Youmei, Chen Zan'an. From Innovation to Entrepreneurship: The Mode of Creating Maker Space in American Universities and Its Enlightenment[J], China's Electrified Education 2016, (8)1-6.
- [4] Chen Lie. Based on cultural and creative industries to promote entrepreneurial education for college students [J]. Education and occupation. 2013, (16) 74-75.
- [5] Chen Lie, Pu Shiming. Jingrong College: Towards the "Creative School District" [J]. Xincheng Township. 2017, (11) 30-31.
- [6] Wang Jianxin, Research on Creative Talents Training Model Based on Creative Garden Platform-Taking Yiwu Industrial and Commercial Vocational College as an Example[J]. Vocational Education Forum.2015,(11) 53-56.