

A Study of the Integration of Museum Resources Facing to Knowledge City and Innovation and Entrepreneurship Education of Colleges and Universities

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Abstract—This paper will analyze how the museum resources can be integrated into the mechanism model of innovation and entrepreneurship education in local colleges from the perspective of the Three Levels of Culture by Edgar Schein. Thus, this paper will form a theoretical way of the implementation strategy based on the outcome of the application and research in the colleges and universities in Hubei province.

Keywords—Museum resources; Innovation and entrepreneurship education; Integration; Jing-Chu Culture

I. INTRODUCTION

Museums, with the inclusive history and culture belonging to the entire humans, are the unique carriers of culture with three characteristics of times, non-reproducibility and non-substitutability. Up to 2016, there are 169 science and technology museums in China except the science and technology museums of the communities funded half by the Science and Technology Bureau of the province or city and half by the community. The total number of the museums in China has up to 4, 721 in 2017, let alone not including the theme museums financed by the folk organizations and enterprises, such as Ceramics Museum, Chinese Wine-making Museum, Luyu Tea Culture Museum and Zhang Zhidong Museum, etc. The number of Art Museums also has come to 841 in 2017 which also not includes the art museum funded by the folk organizations [1-2]. Moreover, there are millions of museums sponsored by the enterprises, such as the History Museum of Wuhan Iron and Steel Group Corp. etc., as well as millions of museums hosted by colleges and universities of China, such as the Museum of Chinese National History of South-Central University for Nationalities, the Currency Museum of Zhongnan University of Economics and Law and Geological Museum of China University of Geosciences (Wuhan), etc. Thanks to the affluent collections, scenario-based exhibition area and inactive operating activities with a specific characteristic of image and visualized education, these

museums have held an irreplaceable place compared to other forms of education in China.

II. THE NECESSITY OF THE INTEGRATION OF MUSEUM RESOURCES IN KNOWLEDGE CITY AND INNOVATION AND ENTREPRENEURSHIP EDUCATION IN LOCAL COLLEGES

The museum resources education in foreign countries is prior to that in China. All the museums, originating in Europe and USA with a function as the science and technology museum, advocate the same principle, that is, the visitors can incorporate what they have observed by operating and experiencing into their own knowledge, thus helping them understand a scientific principle. The American Association of Museums declared that “museums should become a university of the people” when it was established in 1906 [3]. A contemporary American museum is not only a center of collections, but also a center of culture, education and academics as well as a leisure place of recreation and entertainment. In 1970s, French scholars Hugues de Varine and Georges Henri Riviere presented the name and concept of ecomuseum and proposed that museums should not merely provide services for the visitors, but also become the media of education of Chinese traditional culture.

Chinese government had gradually issued several documents concerning museums, such as An Announcement of Free Access to National Museums and Memorials in 2008, Opinions about the Implementation of Nationwide Free Access to Art Museums, Public Libraries and Cultural Stations in 2011 and An Announcement of Nationwide Free Access to Science and Technology Museums in 2015 [4]. As a result, the number of visitors to the museums in China has an annual increase. The educational function of these museums, however, is still on the way of improvement. The domestic researches on museum education mostly focus on the variable study of the relationship between a single venue and leaning, especially that of museum and leaning. If “museum” or “education” and “museum

education” are used as the keywords to search in National Database of Academic Journals of Philosophy and Social Sciences of China, the number of concerning papers is 4, 863 and 257 respectively. All these studies have provided a guiding theory and practical foundation for the implementation of museum education [5-6]. It is a pity that these studies haven’t regarded the physical resources of the museums as a kind of important educational resource. Meanwhile, these studies, given the concept of lifelong learning in knowledge city and the tide of the construction of learning society, are particularly scattered and unsystematic, let alone applying museum resources to the practice field of college education. Catering to the pressing need of innovation and entrepreneurship education of colleges and universities, college teachers should learn and study the physical resources by visiting the museums and try to transform the museum resources into the museum wealth, which can not only help the higher education step out of the ivory tower but also extend the second class of the students to the museums so as to construct an ecocampus.

III. THE MECHANISM ANALYSIS OF THE INTEGRATION OF MUSEUM RESOURCES AND INNOVATION AND ENTREPRENEURSHIP EDUCATION OF LOCAL COLLEGES

It is a very important academic work to study the theoretical mechanism and analytic framework of the integration of museum resources and innovation and entrepreneurship education on the basis of a clear-cut importance of the integration of the former and the latter with local culture as the point-cut. As what has mentioned previously, there are large space for the research on how to combine museum resources with innovation and entrepreneurship education in colleges and universities. As a result, this paper, according to a wealth of literature review and reflection of years of teaching, will propose a hypothesis of a basic mechanism model of the integration of museum resources and innovation and entrepreneurship education in colleges and universities (IEECU) from the theory of Three Levels of Corporation Culture by Edgar Schein, which is demonstrated in the following fig 1.

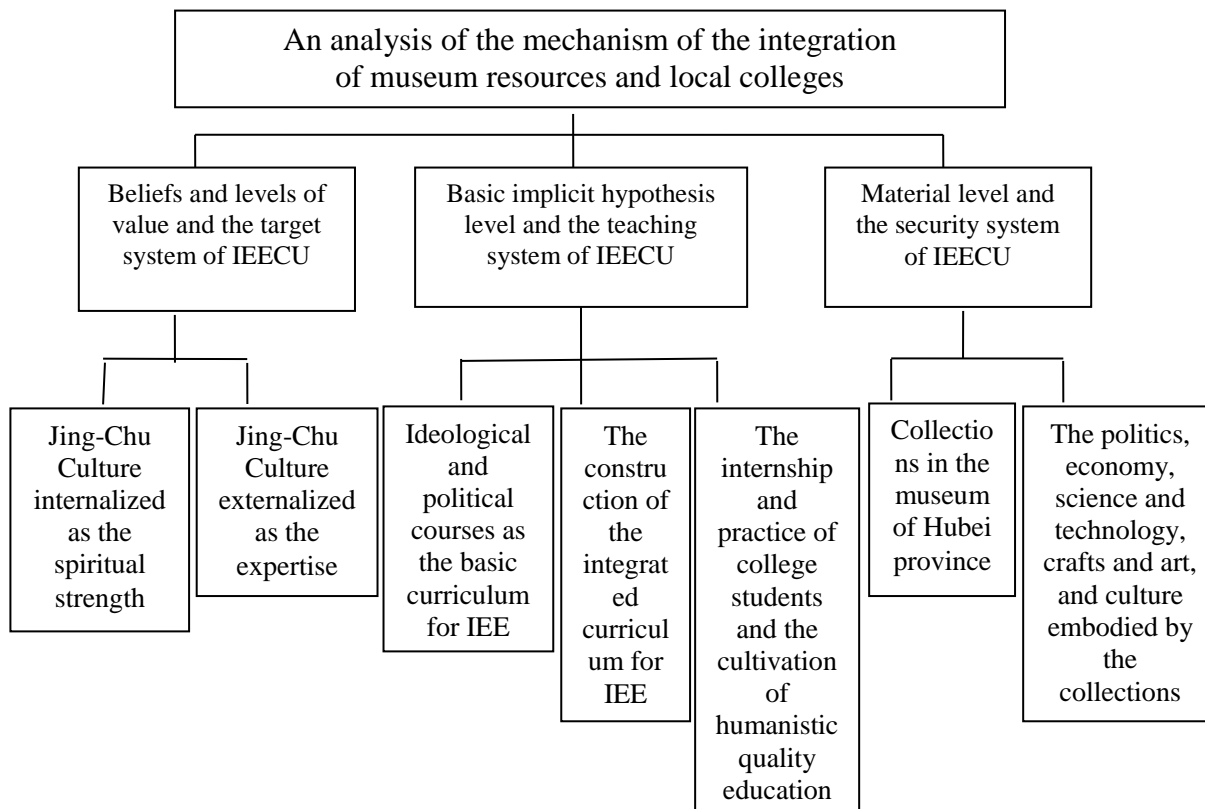


Fig. 1 The basic mechanism of the integration of museum resources and innovation and entrepreneurship education of colleges

First of all, the spirits and values of Chu (Chu was the ancient name of Hubei province) merchants can be taken as the basic core and basis of ideas of the implementation of innovation and entrepreneurship education. These basic core and ideas include the Wuhan spirit, that is, destroying the feudalism, being the pioneer and chasing for excellence embodied in the correlated museums of Wuchang Uprising (in 1911); the open mind and entrepreneurial of learning and

importing the world advanced technology when Zhang Zhidong, who was taking charge of Hubei province during the last years of Qing Dynasty [7], founded the Hanyeping Steel Cooperation, composing of Hanyang (a county of Wuhan) Steel Company, Steel Mineral of Daye(a county of Hubei province) and Coal Mineral of Pingxiang (a county in Jiangxi province); the pioneering spirit represented in the Jiang Hanguan Museum, the old site of Peace Packing Plant and the

starting spot of the Long Route of Tea Transporting, etc. All the collections in these museums tell us a legend of tea transporting in ancient China. Traditionally, the Chu merchants used to buy all kinds of teas of China utilizing the beneficial location of Hubei province with Yangtze River and Han River passing through the region and as the neighbor of nine other provinces in China. Then the teas, after being processed and packed, had been shipped along the Han River up to the North of China. Next, the teas would arrive in Moscow, Russia by land through the Pimao Road (that is the Silk Road in the North of China) of Kiakhta in the Mongolia grassland. Finally, the teas had been distributed to the countries in Europe. Moreover, the ethos, the names, the mottos of the colleges also can be used for reference during the construction of innovation and entrepreneurship education schools in colleges and universities in Hubei province.

Secondly, the basic hypothesis indicates that the museum resources should be incorporated into the core of innovation and entrepreneurship education in local colleges. From the perspective of the integration of museum resources and innovation and entrepreneurship education in colleges and universities, there are several points we have to consider, including the ideological and political course as the basic curriculum and an all-round construction of the blended curriculum for innovation and entrepreneurship education and the cultivation of internship and practice of college students and the humanistic quality education. It is inferred that the students hope to receive a much better education of innovation and entrepreneurship to boost the success ratio of and to obtain a better service to the start of their own business. Take the national treasure, the Bronze Zun and Pan, for example. The Bronze Zun and Pan is one of the exhibitions of Majestic Marquis of the State Zeng in Hubei Provincial Museum. This Bronze Zun and Pan provide a good opportunity to learn about the casting technique of bronze ware in early Warring States Period of China. The lost-wax process, one of the casting techniques embodied in the Bronze Zun and Pan, is a lost foundry technology of ancient China as well as a non-duplicated master piece by modern technology. Therefore, an in-depth research of the lost-wax process is no doubt to spread the national pride and confidence among citizens aroused by the advanced bronze foundry technology and the exquisite craft of ancient China. It is unsurpassed by the empty patriotism education. And this magnificently decorated C with a high craft, its unique feature lies in the elaborate ornament patterns and the special shapes of animals engraved on the Zun and Pan compared with the other bronze wares in the pre-Qin period. There are 164 intricate and gorgeous dragons and interlaced hydras on the Bronze Zun and Pan which can be referred by modern crafts and technology and of great significance to modern mould manufacture and smelting technology. In addition, Zun, as a wine vessel, was used to contain wine while Pan, as a water container matching to the Zun, contained ice in summer to cool the wine or hot water in winter to heat the wine, thus named "ice pan" in literature and documents. The Bronze Zun and Pan explains that Chinese ancestors can utilize ice to cool more than 2, 000 years ago as the life wisdom of ancient idea of unity between human and nature. It is also the representative of Chinese dragon culture. As an imaginary auspicious creature and the typical image of animal idol in

Chinese ancient agricultural society, a dragon can change into the cloud in the sky and create springs on the ground as the controller of wind and rain. Therefore, in the design of modern advertisements, the city logo of Hong Kong combines the sky, grass and the Lion Hill with a flying dragon to create a new image of Hong Kong in the new era. Moreover, the logo of Huaxia Bank also incorporates the image of the Jade Dragon in the Hongshan Culture (an agricultural culture in the North of China about five or six thousand years ago) into the design of modern bank cards. As a result, the documents and studies of this Bronze Zun and Pan in the early Warring States Period can be integrated into the curriculum of majors in college, such as Economics, Business English, Translation, Tourism Management and into the teaching of Culture Industry Management and Art Design, which can help the students to finish the blended curriculum of innovation and entrepreneurship education and get deep insights into Chinese culture, literature, art and cosmology with visual examples and correlated evidence.

Thirdly, norms of behavior (as the physical form) are the explicit part of the integration of museum resources and innovation and entrepreneurship education of local colleges, including the lay-out of the collections, the environment of the museum, the slogans and psychological atmosphere, etc. Hence as for the local colleges in Hubei province, if Jing-Chu culture can be blended into innovation and entrepreneurship education of Hubei province, these outstanding sections not only display as the unique presentation of the culture of innovation and entrepreneurship education but also as a good fusion between Jing-Chu culture and the culture of innovation and entrepreneurship education of local colleges in Hubei province, thus presenting a local characteristic of the province.

IV. ESTABLISHING AND IMPROVING THE TOP-LEVEL DESIGN OF INNOVATION AND ENTREPRENEURSHIP EDUCATION ON THE BASIS OF JING-CHU CULTURE

Jing-Chu culture is a precious spiritual wealth gradually formed and improved in the history of Chinese nation in the hundreds of years along the basin of the Yangtze River and the Han River in Hubei province. Jing-Chu culture as well as other local cultures with regional characteristics undertakes the responsibility to develop, to inherit and to broadcast the local commercial culture, especially the culture of innovation and entrepreneurship. Accordingly, it is of great significance and necessity to incorporate Jing-Chu culture into local colleges, particularly into innovation and entrepreneurship education in colleges which takes the cultivation of applied talents as their targets. Taking literature review, empirical research and scene interviews into account, there are five major strategies on how to integrate the museum resources in Hubei province into innovation and entrepreneurship education of local colleges which are presented as follows.

A. *Establishing and improving the top-level design of innovation and entrepreneurship education on the basis of Jing-Chu culture*

The construction of the culture of innovation and entrepreneurship is a sophisticated systematical project. Because each college or university has its own culture, such as profession culture, culture of artisan spirit, craftsmanship and

the entrepreneurial culture as the combination of local commercial culture and campus culture. However, according to the research and the implementation of the integration of Jing-Chu culture and innovation and entrepreneurship education, Jing-Chu culture has a less impressive impact on the teachers and students in colleges, for there are only 24.4% teachers and 2.2% students having a good command of the culture. The innovation and entrepreneurship education in colleges, at present, attaches more attention to the textbook construction, the designing of talent cultivation plans and the construction of training base, etc., while it is very feeble on the soft strength of Jing-Chu culture, especially how to abstract and carry forward the essence of Jing-Chu culture which is appropriate to the innovation and entrepreneurship education for college students and how to make Jing-Chu culture become the trigger of innovation and entrepreneurship education via the improving of the top-level design. According to the fundamental requirement of the curriculum of innovation and entrepreneurship education, Jing-Chu culture should be combined to the three-level course system containing elementary courses, specialized courses and optional courses in order to blend it into the top-level design of innovation and entrepreneurship education.

Catering to the requirements of innovation and entrepreneurship education in colleges facing to all students and standing out the emphases, as an elementary course, Introduction to the Chu Culture or Stories of Chu Merchants, etc. can be designed to all students. It is an imperative try and an important way to improve teaching skills when Chu culture is blended with the professional courses for innovation and entrepreneurship. For example, the Communication Experience of Contemporary Chu Merchant can be introduced to the students as a professional course to the major of Electronic Business. So does the Silk Road of Chu Merchants to the major of Costume and the Experience of Cross-border Electronic Commerce in Hubei province to the major of International Trade Practice. The experiences and schema of Chu merchants can be accordingly accumulated and then brought into the implementation of innovation and entrepreneurship education. As for the optional course, the curriculum development should be more flexible and pertinent, for example, the on-line courses concerning Chu merchants and Chu culture, etc. can invite excellent businessmen or entrepreneurs born in Hubei province to the lectures, saloons or forums, and so on.

B. Building a faculty for innovation and entrepreneurship with the expertise of Jing-Chu culture and museums

The museum resources of Jing-Chu culture, as an indispensable part, go through the whole process of the combination with innovation and entrepreneurship education in colleges. The core task concerns the design of methods and teaching implementation of talents cultivation. As for the method, the current combination of museum resources and innovation and entrepreneurship education in colleges of Hubei province has more focuses on several points, such as textbook construction, lectures and the building of a college museum, which hasn't become a much perfect and entire driving system. As for the teaching implementation, 86.7% students, at present, are mostly interested in the contests of innovation and entrepreneurship, 73.6% in saloons for Chu merchants and

71.4% in communications between new businessmen of Chu and enterprises and 60.3% in lectures of descendants of Chu merchants. Generally speaking, the students prefer experiencing and interactive teaching method to the theoretical teaching of culture. The students think that the current teaching methods are too simplex and rather boring as an outcome of the weakness of teaching implementation. As a result, it is pretty vital to build and cultivate a faculty with the expertise of Chu commercial culture according to the principle of cross-major and recruiting and cultivation.

Nowadays, although plenty of college tutors of innovation and entrepreneurship have profound theories, most of them don't have an entrepreneurial experience and lack abundant coaching expertise of entrepreneurship because they become a college teacher right after graduation. Hence a "One Teacher, One Company" model can be approached to build a faculty, that is, a tutor of innovation and entrepreneurship is connected to a company or a tutor from a company. Under this circumstance, the colleges can make a plan for the cultivation of tutors for innovation and entrepreneurship with "One Teacher, One Company" model and illustrate specific assignments and performance appraising measures. Accordingly, college teachers can improve their coaching skills of innovation and entrepreneurship by their experience in the enterprise. Meanwhile, tutors from the company can take more participation in the activities of college innovation and entrepreneurship education to obtain win-win. Apparently, during the process of "One Teacher, One Company" project, extramural academic advisor takes priority to the representatives of new Chu merchants.

C. Building and designing a training platform or base on a basis of the cultivation of Jing-Chu culture and museum resources

Taking entrepreneurship into consideration, there is an increasingly intensified need for museums with the improvement of people's spiritual and cultural life. Enterprises need a museum of entrepreneurial history to enhance the cohesion of the staff. A history museum of schools or colleges can help to boost the learning enthusiasm of the students. A science and technology museum of a community can spread knowledge of science and technology. A special museum in a scenic spot can increase the highlights of the region. Most present institutions are temporarily to assemble scholars and other specialized persons of scheme, art, internet, sound, photo-electricity and architecture in order to establish a theme museum. However, there is a huge demand of talents for an all-round talent market to build a museum, which provide an giant opportunity for the colleges to foster the talent for the construction of museums as well as an entrepreneurial chance for the students.

From the perspective of the input of entrepreneurial education, there is no uniformed course and textbooks on culture of museum. Up to now, 64.4% teachers and 83.9% students reckon that the lack of good textbooks and related media is one of the major constraints to the combination of museum resources and entrepreneurial education. It is of top priority to complete the design of uniformed textbooks and curriculum for museum education, such as Copywriting for

Science and Technology Museum, Constructing Management of Science and Technology Museum, the Application of Sound, Light and Electricity in Science and Technology Museum and New Innovative Mode of Science and Technology Museum. Considering a complete survey and research to the demand of students and entrepreneurs and referring to other good design for curriculum and textbooks, the college also can start to set up a Chinese Museum Seminar as both a seminar to the teachers and students and a company to the outsiders so as to provide services for the professional development of the teachers and the internship and practice off the campus for the students. It is the founding of the above entire driving system that can guarantee the result and comprehensiveness of the implementation, except building couples of museums or hanging several photos of famous Chu merchants in the laboratory.

D. Improving the guarantee measures for the integration of museum resources and the innovation and entrepreneurship education in local colleges

According to the statistics of a survey, as much as 62.6% participants believe that there are hardly guarantee measures for the combination of Chu merchant culture with the entrepreneurial education of vocational and technical colleges. For instance, a special researching team for museum culture has not existed, so does a special working group for the integration of museum resources and innovation and entrepreneurship education. And the top-level design is still unsystematic, etc. Therefore there is a long way to go on these aspects. The first method is to provide an organization guarantee. It is advisable for the colleges to establish a leading group to supervise the building of innovation and entrepreneurship education and culture. Under this circumstance, the college leaders and the vice-chancellor (in charge of teaching and learning), etc. should take on the responsibility as the major leaders in the leading group to mobilize all staff and confirm the scheme of cultural

construction and all the tasks so as to form an all-staff working mechanism. The second point is the institutional guarantee. It is suggested that a series of related institutions should be enacted for the combination of museum resources and innovation and entrepreneurship education of local colleges, such as the related documents, Opinions on the Construction of the Museum Seminar of China, Opinions on how to propel Jing-Chu Culture Incorporate into the Innovative and Entrepreneurship Education of Colleges and Opinions on the Construction of the Culture of Chu Merchants Connecting to Campus Culture. All the correlated works can be carried out year by year, step by step. The third piece of advice is the fund guarantee. It is wise to establish special funds for the construction of Chu culture so as to carry forward the implementation of each task.

E. Building the evaluation indicators of the integration of museum resources and innovation and entrepreneurship education in colleges

At present, the integration of museum resources and innovation and entrepreneurship education in colleges is mainly in the form of lectures, parts of teaching process and scene visit, etc. According to the survey of the teaching faculty, 88% teachers hold that the most severe bottleneck of the integration of museum resources and innovation and entrepreneurship education lies in the lack of a perfect and effective validation mechanism. As depicted in talbe II, given the Three Levels of Culture by Edgar Schein, college students of innovation and entrepreneurship education hope to receive a better innovation and entrepreneurship education to boost their success ratio of entrepreneur and to obtain much better entrepreneurial services regarding the basic hypothesis. This indicator system can verify and optimize the practical effect of the integration of museum resources and innovation and entrepreneurship education in colleges via regular assessment of innovation and entrepreneurship education of colleges.

TABLE I EVALUATION INDICATORS OF THE IMPLEMENTATION EFFECT OF INNOVATION AND ENTREPRENEURSHIP EDUCATION (IEE) OF COLLEGES

First Level Indicator	Second Level Indicator
Jing-Chu culture as a guide	The familiarity of the students to the Jing-Chu culture The familiarity of the teachers to the Jing-Chu culture Jing-Chu culture as an indispensable part in the process of IEE Curriculum of Jing-Chu culture facing to all students Building museums of Jing-Chu culture Popularizing the signs and pictures, etc. of Chu merchants and culture on campus Lectures or forums of the culture of Chu merchants Knowledge contest of the culture of Chu merchants
Teaching effect of innovation and entrepreneurship education (IEE)	Popularity of the curriculum of IEE among average students A vast coverage of receivers of the curriculum of IEE A higher evaluation and popularity with students for the tutors of entrepreneurship The activities of the project of "One Teacher, One Company" with a major entrepreneurial group
The ratio of entrepreneurial students and the success ratio of entrepreneurship	The ratio of entrepreneurial students ranging from 5% to 7% The success ratio of entrepreneurship up to more than 80%
The atmosphere of IEE	Stable development of experimental majors for IEE 100% students receiving IEE More than 30% students in IEE class or of experimental majors Various incentive system for IEE favored by the colleges
Contest of innovation and entrepreneurship	Over 80% coverage of innovative and entrepreneurship education Awards of innovation and entrepreneurship contest above the provincial level
The effect of entrepreneurial services	A special authority to provide entrepreneurial services as guidance A series of services to the entrepreneurial students, such as bank services, registration of industry and commerce department and project consultation

V. CONCLUSION

As a supplement and extension of school education in a period, museums have become the trend and goal of higher education as the second class of schooling. Hubei province is a major province of education in China with abundant cultural resources. This article focuses on the research of how to transform the cultural resources into educational resources and the implementing tactics concerning values, education, auxiliary measures and result test.

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