

Exploring the Cultivation of Innovation and Entrepreneurial Abilities Among University Students Through the Construction of a Campus-based Green and Healthy Creative Workshop

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Abstract: This study aimed to provide a fresh approach for the cultivation of compound talents in the new era through a green and healthy creative workshop project, which is an integrated platform of innovation, entrepreneurship, learning, scientific research, and practice for both, undergraduates and postgraduates. The creative workshop was meticulously designed as an independent space, comprising of a front counter, a design area, an experience area, a physical therapy area, and an operational room. Various activities and creative products are made available within this confined space. It plays a useful role in promoting the development of a personnel training system for relevant disciplines, spreading excellent traditional medicine culture, and extending the educative and practical modes in Sichuan University.

Keywords: Talent cultivation; Innovation; Entrepreneurship; Creative workshop; Sichuan University (SCU)

Online publication: July 27, 2022

1. Introduction

The success of artemisinin winning the Nobel Prize in physiology and the burgeoning Chinese pharmaceutical sector have both contributed to China's unprecedented strength in promoting and supporting the development of traditional Chinese medicine (TCM). At the same time, more and more people are beginning to recognize the multifarious benefits of traditional Chinese medicine, including its dual role as medicine and food, its pursuit of green healthcare, its various functional forms and distinctive features, its safety and efficacy, as well as its ease in innovation, development, and mastering. Currently, with the "Public Entrepreneurship and Mass Innovation" (PEMI), which is a strategic decision made by the Chinese government in accordance with the country's economic and social development, there has been a national upsurge of innovation and entrepreneurship since 2014. The Ministry of Education is also actively promoting innovation and entrepreneurial activities for undergraduates and postgraduates in universities, which is also regarded as an important practical training means besides classroom education. Based on the aforementioned advantages of TCM, it is convenient and suitable for students' entrepreneurial and innovation activities as an ideal entity. On the other hand, the researchers involved in the teaching work of traditional Chinese medicine for many years have discovered that the sub-health state and daily healthcare of students are becoming a concern under the intense pressure of studies and research. Moreover, despite Sichuan University's strong professional strength in modern medicine (ranking second in China), the

teachers' and students' ability to understand and apply traditional medicine still needs to be strengthened. This asset should be given more attention on the campus. Currently, various emerging methodologies are being embraced under the student-centered education mode [1,2]. The starting point of this project is to understand how to fully utilize the favorable circumstances of the national development of traditional Chinese medicine in the cultivation of professional talents, exercise students' discourse and practical ability for PEMI on campus, as well as realize various functions such as innovation, entrepreneurship, learning, scientific research, and practice through the establishment and implementation of a project in consideration of the limited indoor space. According to a comprehensive investigation and interview, pertinent projects with good novelty, operability, practicality, and wide participation have not been developed in domestic campuses. These projects have the potential to contribute to the development of a personnel training system for relevant disciplines, spread the excellent traditional medicine culture, meet the needs of the campus and the society for PEMI, enrich the talent training modes, and expand the influence of TCM at home and abroad. Hence, these projects are necessary and have significant construction value.

2. Methodology

In order to provide a good platform for PEMI projects, the university has replanned and reformed the original commercial street, which is 0.6 kilometers long in Jiangan Campus of SCU (Shuangliu District, Chengdu, Sichuan Province). Students have access to 3,679 m² of space for entrepreneurial and innovation activities. As a support for the initial stage of entrepreneurship, SCU offers participants a free one-year rent policy with water and electricity. Rent, water, and electricity bills will be partially levied after the first year, and these payments will serve as start-up funds to support new PEMI projects. The green and healthy creative workshop project was meticulously designed as an independent space of nearly 40 square meters, comprising of a front counter, design area, experience area, physical therapy area (2 beds), and an operational room.

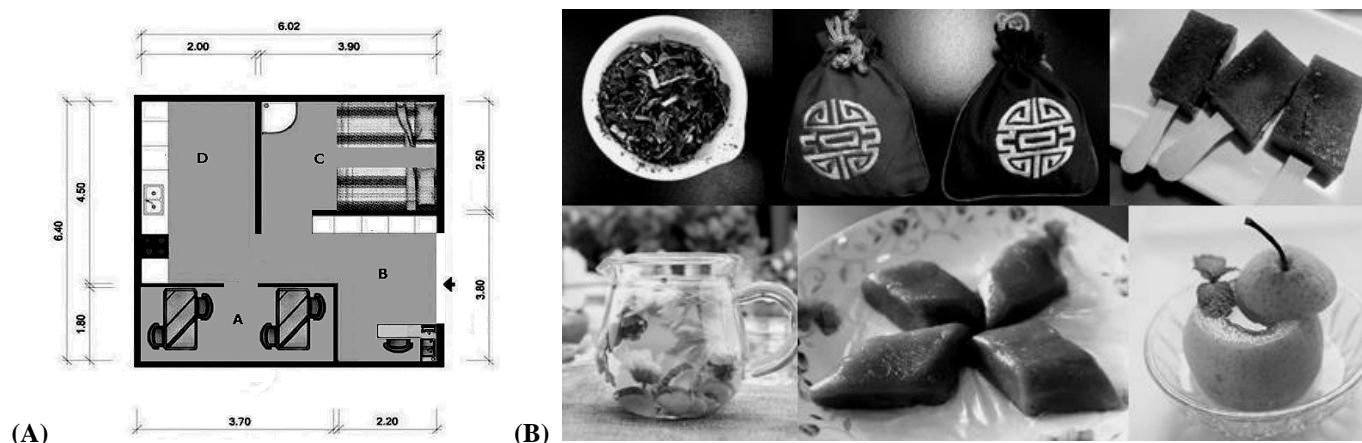


Figure 1. (A) Layout design of the green and healthy creative workshop (A: design area; B: experience area; C: physical therapy area; D: operation room; unit: meter); (B) handmade healthcare products

Figure 1(A) shows the layout design of the areas. Each area is separated by a movable curtain wall so that the area can be readjusted if necessary. The design area, which covers an area of 8 m² and can accommodate 4 personnel, is mainly used for preliminary plotting, appearance conception, computational design, as well as culture and publicity preparation for creative healthcare works (commodities) related to TCM. The experience area covers an area of 10 m² (1-2 personnel) and is mostly used to display the workshop's achievements and finished products, so that students may come to appreciate them there. The physical therapy area covers an area of 10 m² (2 personnel), with two folding beds available for guests.

There are professionals for massage, manipulation, skin care, foot bath, simple debridement, bandaging, and other procedures. The operation room covers an area of 10 m² (4 personnel) and is equipped with special tools and facilities that are used for the production of finished products according to the design scheme and developed procedures through cooking, handmade operations, or other simple processes. The front counter is responsible for reception and finance (1-2 personnel). The details of the personnel are shown in **Table 1**.

Table 1. Personnel information and arrangement in the green and healthy creative workshop

Personnel post	Number of personnel	Training contents	Student group	Professionals
Cashier and receptionist	1-2	Service etiquette, finance, counting	Sophomore/junior	Not limited
Designer, artists, and editors	4	Creativity, conception, and product design of healthcare products; team cooperation	Senior/postgraduates guided by tutors	Two, major in medicine and pharmacy, one in art, and one in design; interdisciplinary talents are needed
Physical therapists and paramedics	2	The ability and skills of health care and health preservation by means of TCM, functional food, or physical therapy	Senior/postgraduates accompanied by physicians	Major in medicine and pharmacy
Facilitator, introducer, and experienter	1-2	Language skills, communication, and presentation skills; etiquette and psychology	Freshman–senior	Not limited
Makers and operators	4	Practical skills, equipment-use skills, transformation skills, and team cooperation; communication and comprehension	Sophomore–senior guided by tutors	Two, major in medicine and pharmacy; the other two are not limited

In the above personnel arrangement, students can take turns when they have no class or activities. More importantly, the student association has access to a remarkable community of workshop volunteers and supporters of TCM who can contribute on-demand services to this initiative. In addition to receiving proper training, participants will also gain material rewards or even dividends, which are valuable to those who are struggling financially.

3. Results and discussion

Within the limited space on the commercial street, the interior decoration for this creative workshop project can be based on traditional culture and Chinese medicine elements, popular science knowledge, as well as functional divisions. The implementation of the project aims to complete the design and preparation process for small inventions related to traditional medicine, daily chemicals, and health food or beverage products together with their packagings. It consists of a series of training activities, including design, experience, production, sales, service, consultation, and other operations. The project allows students to experience and learn about traditional Chinese medicine massage, lavipeditum with herbs, herbal face packs, herbal-based repellent water, Chinese medicine sachets, natural extract soaps, herbal shampoos, herbal masks, herbal candles, functional food and drinks, as well as small-scale handicraft production for various creative products in unique ways that are different from classroom teaching.

More interestingly, the workshop launches seasonal health drinks or food, such as mint tea, chrysanthemum water, hawthorn cake, iced sugar, and pear cup, for promotion and sales, as shown in **Figure 1(B)**. For example, hawthorn, as a typical representative of both, herb and food, helps in digestion, strengthening the spleen and heart, reducing cholesterol levels and blood pressure, as well as preventing arrhythmia. Hence, it can be used in the prevention and treatment of cardiovascular diseases. Fresh hawthorn is usually available in the market when it matures during autumn. After washing, the core of the fruit is removed, and it is boiled with clear water for 10 to 20 minutes. After that, the soften hawthorn is crushed and agitated thoroughly in the homogenizer; the homogenate is then heated and stirred with white sugar following pressed filtration. Finally, the obtained gel is cooled and shaped by using a mold to form the final product – hawthorn cake ^[3]. Under the guidance of teachers, students can explore new preparation methods and optimize the operation conditions through experiments. The feedback from consumers will help them make further improvements. Making these healthcare food products is therefore beneficial to cultivating the participants' innovation and entrepreneurship.

Moreover, the workshop's staff can organize various extracurricular activities on a weekly or monthly basis, where professionals, including doctors and experts, can be invited to demonstrate, provide training and consultations, as well as conduct other activities related to Chinese medicine, such as meditation, tai-chi, qigong, manipulation, acupuncture, first aid, diagnosis, as well as the cultivation, cognition, and processing of traditional Chinese Medicine. On normal days, they can also distribute pamphlets, publicity materials, and small gifts related to healthcare and TCM. Through all these, the project integrates innovation, entrepreneurship, learning, scientific research, practice, and other functions, complements the medical services offered by the school hospital, and achieves the goal of “visiting the hospital when sick, attending workshops for healthcare even without illnesses, and experiencing healthcare in all circumstances.”

Acupoint is an important concept in the field of traditional Chinese medicine. It is closely related to the nervous system, blood vessels, lymphatic vessels, muscles, and other tissues. Acupuncture or massage, point pressing, and moxibustion stimulation of acupoints can be used to treat diseases ^[4]. In total, there are 409 acupoints in the human body, and identifying their locations poses a challenge for amateurs. In order to identify and learn them quickly, an acupoint distribution map is displayed on the wall, and this topic is included in monthly forums. Besides that, innerwear inscribed with the most common acupoints is designed, so that users may readily locate these acupoints based on their positions and names inscribed on the textile surface after putting on the appropriate size of form-fitting innerwear for their body type. In that way, they can easily perform subsequent medical procedures on their own or with the assistance of others.

In addition to disease prevention and health care, the green and healthy creative workshop is also closely associated with traditional Chinese culture. For instance, wearing sachets is one of the traditional customs of the Dragon Boat Festival, for which its market and sales volume is considerable. A sachet is a small bag containing spices, made from colored wrapped silk threads or sewed rags. It is decorative and aromatic; hence, young men and women tend to wear it around their necks or on their belts. As one of the key emblems of traditional Chinese culture, it dates back to ancient China, but it is still cherished by many people in this modern society. The bag is usually filled with some unique Chinese herbal medicines, such as atracylodes, agastache, evodia, wormwood leaf, cinnamon, amomum, realgar, borneol, camphor, and so on. The bag serves as a fragrance, insect repellent, and an aid in the prevention of plagues and diseases. It is also interesting to note that it may also symbolize the love between men and women. It is considered in a highly significant way as a creative cultural and healthcare product because of its easy production method, allowing it to maximize creativity, artistic design, craftsmanship, and hands-on skills.

In order to obtain the feedback from participants and evaluate the achievements of this project, a questionnaire survey was designed, as shown in **Table 2**. The questionnaires were distributed to both the project executors and the experiencers at the same time. The number of people in these two groups had a

ratio of 1:5. Among the respondents, 23% were postgraduates and 77% were undergraduates; 39% of them were from medical- or pharmaceutical-related majors, while 61% were from other majors; 35% of them stated that they will consider traditional Chinese medicine and healthcare as their direction for further studies or entrepreneurship. The team's collective effort resulted in an average score of four stars and the intended achievements. According to the investigation, the main problems include the following: limited workshop space, unavailable staff at times, hectic environment during specific working hours, expandable experience projects, and relatively poor coordination with other departments. These feedback and suggestions provide a good basis for the continuous improvement of the project.

Table 2. Questionnaire for the participants in the project

Questions	
(1) Are you a student of related major? (Undergraduate or postgraduate?)	
(2) Are you a member of the program or an experienter?	
If you are a member, please answer the following:	If you are an experienter, please answer the following:
(3) How long have you worked in this workshop?	(3) How do you know about this workshop and project?
(4) What have you worked as in this workshop?	(4) Which activities have you participated in?
(5) What TCM or healthcare skills have you learned throughout the project?	(5) Do you have a preliminary understanding of healthcare and TCM?
(6) How many types of herbs do you know through the project?	(6) What attracts you most in the workshop?
(7) What is your most satisfying training or works?	(7) What is your most satisfying experience in the workshop?
(8) Do you think the project will affect your studies?	(8) Would you like to join the project team?
(9) Are you satisfied with the instructor? What do you think he/she can do better?	(9) Are you satisfied with the staff? In what ways do you think they can do better?
(10) What do you think is the biggest problem for your team?	(10) What do you think is the biggest problem for the project?
(11) Have you gotten satisfactory income through this project?	(11) What kind of creative products have you bought or used?
(12) Will you consider traditional Chinese medicine and health preservation as your direction for further studies or entrepreneurship?	
(13) Do you have any more specific comments or suggestions?	
(14) Please score this project:	
Very satisfied: ☆☆☆☆☆; Satisfied: ☆☆☆☆; Average: ☆☆☆; Unsatisfied: ☆☆; Very unsatisfied: ☆.	

The initiative has received great support from Sichuan University's innovation and entrepreneurship platform as well as laboratories at all levels. Students can first apply for the undergraduate or postgraduate innovation program and develop their ideas through this workshop. The tutor system provides an intellectual guarantee for the smooth implementation of similar projects^[5], and the university will provide special policies for students who have demonstrated outstanding entrepreneurial achievements. If students need special equipment, both the professional laboratories and the teachers' research laboratories are open to them; they only need to pass the qualification test and safety test for using these laboratories or instruments. More and more creative ideas are emerging, and the educational concept of learning by doing is fully reflected in the development of these activities. As long as teachers agree, the performance of students in these practical activities can be included in their curriculum evaluation. This will ensure that the overall quality appraisal of a student will be more scientific and comprehensive, and the goals of compound talent training will be easier to achieve.

4. Conclusion and prospect

A green and healthy creative workshop was developed through an innovation and entrepreneurship project in SCU, which integrated innovation, entrepreneurship, learning, scientific research, and practice on campus. Within the confined space, small inventions related to traditional medicine, daily chemicals, and health food together with their packagings are becoming a reality. Traditional Chinese culture and the knowledge associated with healthcare are being popularized and disseminated. Various resources in SCU have been effectively integrated and utilized. The intended achievements were obtained as a result of the tremendous effort put in by all the members, and constructive feedback was also gathered, which can further promote continual progress. In conclusion, the project offers a fresh approach to the development of PEMI and compound talents in the new era.

Funding

Personnel Training Quality & Teaching Reform Project of Higher Education in Sichuan Province (2018-2020)

9th “Reform Project of Higher Education in New Century” of Sichuan University (2021)

Disclosure statement

The authors declare no conflict of interest.

Author contributions

S.Y. contributed to the methodology, conceptualization, investigation, and drafting of the initial manuscript; H.S. analyzed the data; W.H. contributed to the investigation; D.L. reviewed and edited the manuscript as well as supervised the entire project.

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