

Exploration of the Journey of Talents Cultivation in Art and Design in Local Colleges Through Integration of Industry and Education

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ABSTRACT

In order to accelerate the concept of integrating industry and education in local colleges, local colleges should carry out in depth studies of basis of integration of industry and education in arts and designs according to local economic and society development, mainly through implementation of comprehensive professional practice, joint scientific and technological research, two-way part times, joint experimental classes, school-enterprise cooperation and integration of industry and education. Due to the practical teaching of Zhang Village campus, the ideas of setting up experimental class for the reformation of art and design has broaden the scope of mind for local colleges to explore the integration of industry and education.

Keywords: Integration of industry and education; cultivating talents in arts and design; innovative entrepreneurship education

1 Introduction

The main task of local undergraduate colleges is to cultivate practical talents in a large number of individuals and promote the development of local economy as well as culture. The "Internet +" action plan was put forward by Premier Li Keqiang at the Twelfth National People's Congress in 2015[1]. In the era of "mass entrepreneurship and innovation", in addition to imparting professional knowledge to students through theoretical teaching and strengthening practical teaching, innovation and entrepreneurship education must also be integrated into the talent cultivation process to produce more practical talents in the local area. A scientific curriculum system should be constructed, reformation of teaching methods promoted, and a diversified practice platform should be built so that students can explore independently, be more daring to take risks, be creative, and learn to tolerate failure, which would enhance their sense of innovation and entrepreneurial ability, as well as improve the standard of talent cultivation, in turn enhancing the ability of the enterprise industry.

In order to promote the organic integration of social industry and education, colleges and universities must reform the existing education mode[2]. The integration of industry and education is the key to improve the quality of practical talents cultivation. In recent years, many college teachers and scholars have conducted extensive and in-depth study on how to effectively carry out school-enterprise cooperation and improve the quality of talent cultivation in local application-orientated colleges. Huang Jia stated that "through the collaboration with industry-education platform, universities have built a school-enterprise cooperative innovation teaching centre, industry solution experience centre and modern enterprise teaching experience centre as new ways of cooperative education." [3]. Song Fei Li thinks that "the vigorous development of the trend where higher educations integrate industry and education is inevitable and is a fundamental evolution." [4]. E. VouÛte, et al. mentioned that "An expansion and strengthening of interdisciplinary collaborations is needed, as well as fostering new connections with all sort of design and stakeholders." [5] Through acquiring STEM, art, and design disciplines cross-translation skills, promoting student engagement and expanding creativity through science, technology, engineering and mathematics learning enhancement, Allina recognized the diversity of student learning [6]. Lastly, Golja, et al. mentioned that "in order to solve complex problems that involve unknown boundaries and new aspects, program participants, academic researchers, and industry partners should come together to work as a team" [7]. From the viewpoints of these scholars, it can be seen that the "school-enterprise cooperation, industry-education integration" model for practical talents cultivation is by strengthening the cooperation between schools and enterprises, realizing the mutual integration of theoretical teaching and production practice, industry-education, and school-enterprise. Schools and enterprises support each other to achieve resources sharing and mutual advantages, so that student's theoretical

study and production practices are closely integrated, and eventually achieve the integration of industry and education so that talents cultivation quality can be improved.

By taking actual college and regional socio-economic development as presupposition, this study uses the talents cultivation in arts and design from Shangluo Undergraduate College as the subject to conduct an in-depth analysis of the practical basis of integration of industry and education in arts and design, and proposes idea of cooperating with Shaanxi Sheng Yu Design company to reform an experimental class of arts and design, to expand new ideas of school-enterprise cooperation.

2 Positioning of Colleges Under Integration of Industry and Education

According to colleges practical needs and socio-economic development, the Outline of China's National Plan for Medium and Long-term Education Reform and Development 2010 –2020 stated that “students’ participation in scientific research are supported and practical teaching links should be strengthened”. In April 2014, the International Forum on Integration of Industry and Education hosted by the Ministry of Education and Practical Technology Universities was held in Henan Province which attracted great attention from relevant departments. Improvement of school-enterprise cooperation and integration of industry and education have become a model of practical talents cultivation that is strongly promoted by local colleges. In 2006, Shangluo Teachers College was upgraded to become Shangluo Undergraduate College, which is an application-oriented local college. It was approved as a university that transformed from application technology to pilot development by the Ministry of Education in Shaanxi Province. During the years of development, the college adheres to the concept of laying equal stress on both quality and characteristics, and has established an internship platform that is able to sustain the development of the college. Hence the formation of the viewpoint “Based in Shangluo, directed to local, serving commoners, cultivating practical talents, and building a multidisciplinary coordinated practical undergraduate college”. In March 2016, the college actively implemented the plan based on enterprise development technological needs to form strong bonds with the local industries. In the same year, Shangluo College was selected as the third batch of Shaanxi Provincial Innovation and Entrepreneurship Practice Platform, which laid a solid foundation for the school-enterprise collaboration to cultivate talents in Art and Design.

3 Practical Platform Under Integration of Industry and Education

The integration of industry-education is an important link for higher education to adapt to the development of the times and improve the quality of talent training[8]. In the latest form of education, art colleges are taking a step in merging art design and local enterprises in Shangluo, building a suitable curriculum system that meet the needs of the regional socio-economical development, keeping the teaching contents up to date, including the teaching process, style, and methods, creating a platform for innovation and entrepreneurship practice, strengthening the motivation and safeguarding agency of innovation and entrepreneurship education, improving both the teaching and learning ability of teachers and students as well as innovation and entrepreneurship skills, and lastly cultivate innovative design talents with strong social adaptability and competitiveness. The main pre-requisites are as follows:

3.1 Plan for Improvement of Process of Talent Cultivation

The plan of talent cultivation is a programmatic process in colleges and universities, which embodies the school's orientation, philosophy, and goals. It is the fundamental requirement for colleges to arrange teaching tasks, organize teaching activities, standardize education process, and implement education management. In order to further intensify the reformation of education, improve the quality of talent cultivation and suit the requirements of regional economic development, the talent in art and design cultivation programme has been revised three times in 2012, 2016 and 2020. Figure 1 shows the changes in the proportion of practical credits in 2012, 2016 and 2020 version of the programme. To gain alliance with the Shaanxi Shengyu Design Company, the art and design majors provide their backbone to solicit the company's opinions during the revision of the programme and invite their design leaders to participate in the programme review meeting as the opinions serve as main bases for the revision of the programme. The 2020 version of the talent cultivation programme highlights the importance of practical talent, professional education and application ability, and actively explores the “Two Four Six” talent cultivation model; focuses on practical teaching and strengthens the integration of industry and education; adhere to classified training and encourage innovation and entrepreneurship; modulate education system, increase credit ratio of elective courses; combine curriculum and co-curriculum, focus on student's self-learning ability. The revision of the talent cultivation

programme, construction of practical curriculum, compilation of practical teaching materials, and regulation of students' standards are established, assessed, and completed.

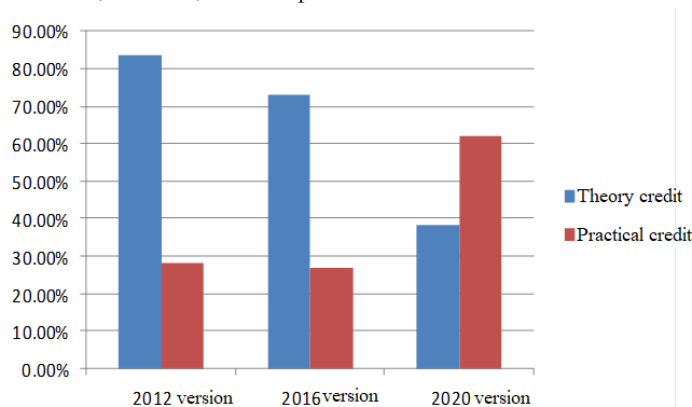


Figure 1: Changes in Proportion of Practical Credits in 2012, 2016 and 2020 Version of Art and Design Talent Cultivation Programme

3.2 Improvement of Innovation and Entrepreneurship Education System

According to the college's orientation of practical talents cultivation, all students will be offered compulsory and elective courses such as research methods, frontier subjects, foundation in entrepreneurship, guidance in employment and entrepreneurship to build a progressive and connected special course for scientific and rational innovation and entrepreneurship. Two compulsory courses are "College Students' Career Development and Employment Guidance" and "Innovation and entrepreneurship Education and Training" are offered for all students, of which "College Students' Career Development and Employment Guidance" consist of 32 hours and 1 credit, and "Innovation and entrepreneurship Education and Training" consists of 7 credits, which is 1 credit for theory and 6 credits for practical. A number of elective courses in innovation and entrepreneurship education are set up, research-based teaching continues to be implemented, examination method reformed and heuristic, discussion-based, participatory and case-based teaching are actively carried out. Students' critical and creative thinking as well as inspiration of innovation and entrepreneurship is a focus of cultivation.

3.3 Strengthen the Construction of Innovation and Entrepreneurship Practice Platform

Figure 2 shows the closely integration of local economy, it focuses on combination of theory and practical, strengthening of course experiments, centralization of curricular and extracurricular practice, strengthening of practical teaching process in terms of cognition, design and technological wise, and focus further on the four aspects of innovation and entrepreneurship training which are professional course experiments, professional practice, curriculum design and technological innovation, achievement of students' academic, and the creation of a systematic and perfect practical teaching system. Due to the college's platform of experimental teaching, open experimental teaching, shared experimental and school-enterprise cooperation, an innovation and entrepreneurship practice for college students can be achieved. Figure 3 shows the innovation and entrepreneurship practice platform for college students that is initially formed. Other than undertaking professional course experiments, it also provides an innovative and entrepreneurship training for teachers and students, various design information that are free of charge, is equipped with special management personnel to meet the needs of students for independent learning.

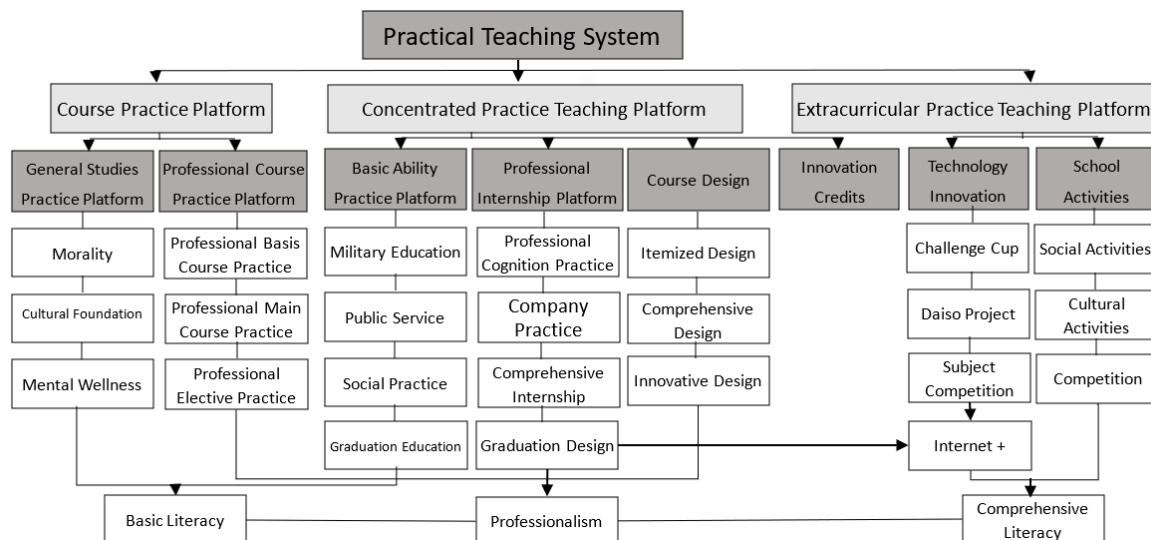


Figure 2: Systematic Practical Teaching

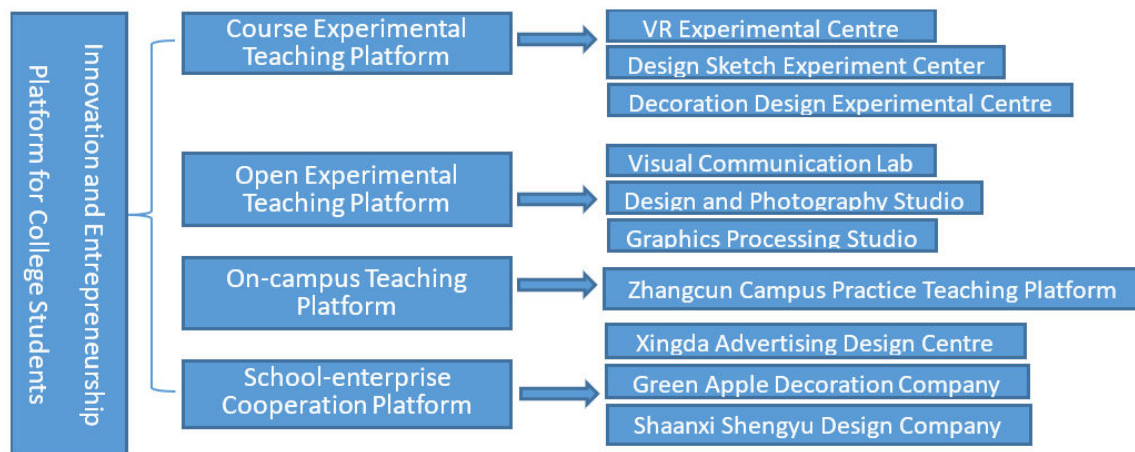


Figure 3: Forms of Practice Platform for Art and Design Innovation and Entrepreneurship

3.4 Exploration of New Pathways to Integrate Industry and Education

Entrepreneurship education is to cultivate students with pioneering and exploratory spirit of education[9]. It is necessary to carry out practical operation exercises in order to test students' mastery of knowledge[10]. The Academy of Arts has cooperated with enterprises and institutions such as Shangluo Xingda Advertising Design Centre, Green Apple Decoration Design Company, and Shaanxi Shengyu Design Company to carry out “professional comprehensive practice”, “graduation design guidance”, “joint scientific research”, “two-way research” and other means to explore new pathways of integrating industry and education.

3.4.1 Cooperation in comprehensive professional practice. Since 2017, there are more than 100 students in art and design who have gone to design companies to carry out cognitive practice and design practice programmes, and every year, around 20 students carry out graduation design work in design companies. During the internship, the company will assign teachers to nourish student’s observation skills, practicality, basic scientific research ability and literature review as well as writing skills. After the student return from the internship, graduation thesis will then be guided by both the teachers from college and company. Students gave high evaluation to the graduation design of enterprise development due to the reason that the graduation design questions are from the actual projects of the company, the graduation design process is supported by the company’s strong technical equipment, and the average score of the graduation design is significantly higher than the average score of the students in school.

3.4.2 School-enterprise cooperation, joint scientific and technological research. Through the integration of industry and education, focus of research and development of new products, examination of forward-looking technologies,

introduction of new products in the market; commercialization, industrialization and marketing of scientific and technological achievements are improved, and new product designs are highly integrated.

3.4.3 Part-time job, resources sharing. The roles of teachers in innovative talents cultivation include theoretical education on innovation and entrepreneurship, holding various entrepreneurial design competitions, guidance on scientific research, entrepreneurial exchanges, conduct seminars or scientific research collaboration, etc. Senior professionals work part-time in this enterprise, serving as chief designer, honorary designer, or director of design department, transform research to enterprises, providing teachers with allowances, subsidies, technology awards and other corporate benefits so that young teachers can understand the actual needs of enterprises, hence enhancing the practical ability of young teachers. Senior designers from enterprises and institutions can also serve as college teachers and lead students to participate in various design activities.

3.2.4 Build a research platform for mutual benefit and common development. In December 2020, the Art College and Shaanxi Shengyu Design Company signed a cooperation contract on the “Art Design Reform Experimental Class” that is establish by the college and the enterprise. It was implemented in the Zhangcun Practice Teaching Platform of Shangluo College. In order to reap the full benefit of art and design talent resources, promote integration of industry and education, and improve the innovation ability and technology quality, the college invested in the construction of two art and design laboratories for locals and promote the development of the local cultural industry in southern Shaanxi, thus boosting the Shangluo cultural construction.

4 Ideas for Art and Design Experimental Class Reformation

At the stage of elite transformation of higher education into popularization and towards popularization, Shaanxi local colleges and universities are facing the problem of how to transform and develop[11]. To cultivate practical talents in the Shangluo locality, an art and design experimental class is reformed based on the combination of economic development of Shangluo region and needs of enterprises, following the requirements for the cultivation of innovative art and design talents and after the previous teaching practice to further strengthen the college-enterprise cooperation with Shaanxi Shengyu Design Company as well as to broaden the college model. The specific ideas for the construction of art and design experimental class are show in Figure 4.

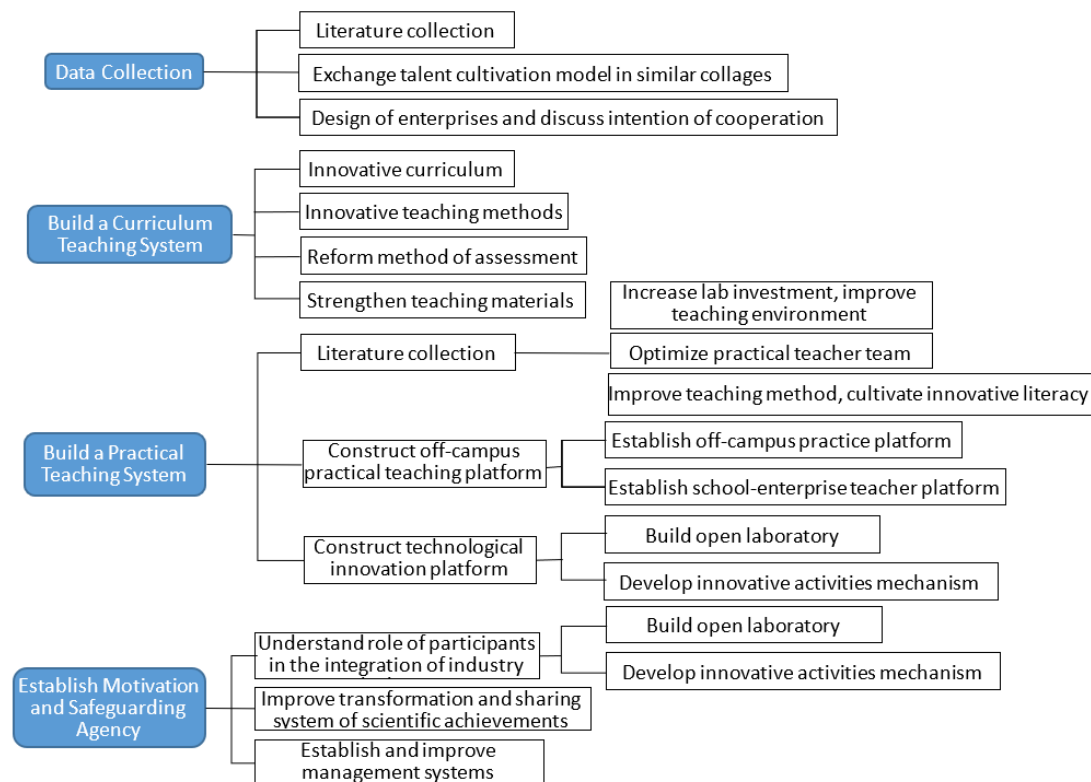


Figure 4: Ideas for art and design experimental class reformation

4.1 Data Collection, Ideas Confirmation

By setting the economy and culture of Shangluo City as the background, data are collected, screened, and optimized to obtain an innovative talent cultivation model in art and design and improve quality of talent training. Due to alliance with Han River Valley University, exchange activities on innovative design talent cultivation models are actively carried out including programmes and operation discussion as well as learning from successful experiences in teaching and training models, hence study exchanges are strengthened. Collaborative education intentions are discussed in depth with companies and enterprises to understand the needs and provide good development platform for “double qualified” teachers, hence eventually contributing to the cultivation of students’ innovation and entrepreneurship ability.

4.2 Build a Curriculum Teaching System

Under the school-enterprise collaborative innovation model, a curriculum system was built for innovative talent training with local specialities. The college and design companies cooperate to complete the comprehensive optimization and reformation of course teaching system while focusing on cultivation of students’ innovative spirit and entrepreneurial ability. In terms of innovative curriculum, not only there is public basic courses, professional basic sources and professional elective courses, but also design thinking and expression courses that promote customer achievement to enhance entrepreneurship awareness and guide students’ understanding of employment and entrepreneurship. In terms of innovative teaching methods, teacher-led and student-centred education as well as the teaching model are improved. The teaching method follows the traditional teacher-centred method for knowledge transfer and innovation, allowing teacher-students interaction and mutual learning with the main goal of mobilizing student’s autonomous learning and stimulating students’ curiosity and creativity. The course assessment method has established a scientific standard evaluation system for innovative and entrepreneurial talents. The purpose of the assessment is to promote the education ability and to achieve quality education, improvement in terms of knowledge, ability and standard.

4.3 Build a Practical Teaching System

In the construction of practical teaching platform in college, investment in laboratories is increased, practical teaching environment is improved, overall planning is made, resources are integrated, experimental platforms opened for the whole college and experimental platform for professional basic courses and experimental platform professional courses are built. High quality practical teaching teams consisting of professional leaders and famous teachers are involved in the cultivation of students. Teaching methods are constantly being reformed to cultivate innovative talents of students. In the construction of off-campus practice teaching platform, students can understand the design frontier and experience working in the field through cognitive practice, social practice, employment practice, internship, and other activities. In the construction of innovative technology entrepreneurship activities platform, open laboratory is conducive to beneficial to the subjective and objective function of students. The number of open laboratories is continuously increasing, research, practice, competitions, and other activities are constantly conducted. Through encouraging policies of innovative technology entrepreneurship activities, a strong atmosphere of it is created.

4.4 Establish Talent Cultivation Motivation and Safeguarding Agency

Firstly, the role of each participant in the school-enterprise cooperation needs to be clarified. Through participation in the talent cultivation programme, design company is able to reflect their own company’s requirement for art and design teaching programme to obtain the talents that they need. In the process of talent cultivation, local colleges and universities are the main active advocates and practices of school-enterprise collaborative education. Secondly, innovative and entrepreneurial teams, student management, and daily management need to be built and improved. Fundamental safeguarding and motivation mechanism is established by the construction of innovative and entrepreneurial team, student management, teaching quality monitoring and evaluation as well as assessment, teacher and student evaluation system, comprehensive utilization of teaching resources for teaching infrastructure construction, organization and management of innovative and entrepreneurial practice activities, capital management, platform management and daily management.

5 Conclusion

The content of design education programmes, meeting the long-term needs of the society, innovative study methods and creative thinking are necessary not only in the work with future designers, but also in the professional development of design pedagogues[12]. In the "Internet +" era, training a large number of innovative and entrepreneurial talents is of great significance to speed up the transformation of the way of economic development, improve our ability of independent innovation and construction of innovative country[13]. College art design major should reform the existing teaching mode to provide a guarantee for the development of students and the whole industry[14]. Art and design is guided by social needs, supported by innovative talent cultivation programme, coordination between multiple resources, and vigorous promotion of the construction of innovative and entrepreneurship platform for integration of industry and education. The art and design of local colleges and universities need to be integrated with Shaanxi Shengyu Design Company to let the company participate in the talent cultivation programme, formulate the target plan for the programme, and coordinate the construction of both theoretical and practical curriculum system, then eventually build an experimental class in art and design to cultivate innovative talents for the industry. In the meantime, due to Zhongcun practice teaching platform, the experimental class of art and design is able to provide cognitive practice, production practice, scientific research, practical creation and other activities for students in art and design, architectural planning, gardening, fine arts, and others. Design, construction, decoration and other special professional practice courses in line with local development have enhanced Shangluo College's ability to serve the local economic development and will definitely promote the construction and development of Shangluo.

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