

Research on the Studio Talent Training Mode with Layered and Multi-dimensional School-Enterprise Collaboration for Liberal Arts

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Abstract: Based on the theory of layered learning and situational teaching, this paper analyzes the "studio talent training mode of layered and multi-dimensional school-enterprise collaboration for liberal arts". It is found that this mode has achieved collaborative development effect in the professional curriculum construction, the dual-qualified teachers training, school-enterprise cooperation, etc. Particularly, it has innovated the talent training mode, enhanced their practical ability and significantly improved the training quality; Meanwhile, it has also obtained practical experience that can be promoted in operation mechanism and implementation plan.

1. Introduction

The "Outline of the National Medium and Long-term Educational Reform and Development Plan (2010-2020)" claims to "innovate talent training mode". Later, there come "Several Opinions of the Ministry of Education on Promoting the Reform and Innovation of Higher Vocational Education and Leading the Scientific Development of Vocational Education" and the "Decisions of the State Council on Accelerating the Development of Modern Vocational Education". Both of the two claim to promote the reform of the talent training mode combining science and literature and school-enterprise collaboration; Besides, it also proposes to "establish studios for famous teachers and skilled masters in schools".[1] It is necessary to "promote vocational colleges and enterprises to jointly build technology and development centers, experimental training platforms, skilled master studios, etc".[2] In 2019, the "Implementation Plan of National Vocational Educational Reform" once again clearly issued policy and financial support to encourage technical skilled masters to establish studios and serve as part-time teachers in vocational colleges. Though the above documents have different perspectives and diction, they all clearly require the reform of the talent training mode and the establishment of school-enterprise collaborative studios. It can be seen that the training mode reform and studio admission is a national push, which is also what vocational colleges should do. Some vocational colleges even combine the two to explore and practice the talent training mode with "studio system".

The so-called talent training mode with "studio system" "takes the 'studio' as platform, practical themes with research and discussing values or project tasks with realistic production values as the main line". "Under the leadership of a tutor or technical expert (master), the front-line technical workers get professional skills and quality through observation, discussion and reflection, and finally become independent producers and explorers."[3] This mode started from the "workshop-style" teaching at the Bauhaus University of Design in Weimar, Germany in 1919. In the past ten years, with the rapid development of vocational art design majors, the "studio system" teaching mode has been introduced into these vocational majors, and has been studied and used by other majors. It has gradually become a talent training mode of school-enterprise collaboration, science-literature integration, namely, the talent training mode with "studio system".

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Some researchers believe that the talent training mode with "studio system" "seems to be only suitable to art design majors". [4] "It has only achieved obvious results in majors of art design, information technology and mechanical equipment maintenance" [5]. However, among schools that implement this mode, Heyuan Polytechnic has implemented the "studio talent training mode of layered and multi-dimensional school-enterprise collaboration for liberal arts" for liberal arts talents and achieved good results.

2. The Mechanism and Connotation of Studio Talent Training Mode of Layered and Multi-dimensional School-Enterprise Collaboration for Liberal Arts

Studio talent training mode of layered and multi-dimensional school-enterprise collaboration for liberal arts is a new talent training mode with "studio system" for liberal arts students. It stratifies students and studios, and student's conduct interactive and collaborative learning in the corresponding "studio" and situations.

2.1 The Theoretical Basis of Layered Learning, Interactive Learning and Situational Teaching

Constructivism believes that learning is "a process in which learners actively deal with new information and construct the meaning of knowledge based on previous knowledge and experience in a certain social and cultural environment". [6] In other words, learners have different levels, even types and perspectives. They "take the previous knowledge and experience as the background to accept learning" and "use their respective backgrounds as the growth point for generating new knowledge." Thus, "teachers must try to create paths that are related to current states of learners, and provide them with paths based on previous knowledge." [6] Namely, based on the actual differences of students, to achieve better learning and talent training effects, students must be trained at different levels to better create and build learning situations and teams that are suitable to the current states and levels of learners.

Constructivism advocates "learning community" and believes that "the teaching of advanced knowledge should advocate apprenticeship and the mutual exchange, discussion and learning between students" [6]. Namely, it advocates interactive and collaborative learning between teachers and students in a "community". Constructivism also "emphasizes the creation of real-world situations related to learning" and "allows them to apply what they have learned in different situations and achieve self-feedback" [6].

The situational teaching theory of constructivism focuses on the reform of classroom teaching and the design of practice field. Besides, there are concepts of "community of practice" and "legal marginal participation" of situational cognition and learning theory of educational anthropology [7]. Its "community of practice" requires not only the team to work for a common task, but more importantly a close connection with society to offer learners legal social roles or real tasks. Its "legal marginal participation" mainly requires that learners are given more and more available community resources for legal use based on their increasing learning experience, and gradually make them become core members. Namely, it makes learners gradually change from novices to experts.

2.2 The Connotation and Composition of Studio Talent Training Mode of Layered and Multi-dimensional School-Enterprise Collaboration for Liberal Arts

Studio talent training mode of layered and multi-dimensional school-enterprise collaboration for liberal arts is based on the constructivism learning theory and the situational cognitive learning theory of educational anthropology. In the training of liberal arts talents, students are taken as the root, productive studios as the platform, school-enterprise collaboration as the mechanism, tasks as the driving force, projects as guidance, and famous teachers, capable teachers or expert of schools, enterprises, industries and governments as tutors and guides. Students are graded according to their interests, development orientations and levels and enter corresponding places for learning and production exercise. Thus, a high-quality technical talent training mode integrating teaching and

"production" is formed, which takes professional working ability, product quality and professional quality as the assessment standards. Its composition and respective connotations are as follows:

The first is "layered" operation. It mainly stratifies students and studios in order to teach students in accordance with their aptitude. Students are divided into levels 1, 2 and 3, and they have different evaluation content and standards in different majors [8]. Studios are also divided into three levels. The first level is college-level studios that are established according to the actual situation of majors; the second is university-level studios selected based on college-level studios; the third is provincial and municipal studios. Students enter studios of different levels for learning according to their levels.

The second is "multi-dimensional" training. The mode consists of five dimensions, including selection of students' interests, places of talent training, phrased goals of talent training, content of skill training, and forms of organization and management. Each one is composed of many factors. The dimension of students' interest selection is that they choose to study in different interest groups according to their own interests and development orientation. Each major has different development directions (interest teams), and supports their cross-disciplinary choices. The dimension of talent training places includes interest groups, college-level studios, university-level studios and provincial and municipal studios. The dimension of phrased goals of talent training is that studios at different levels have their own talent training goals. From low to high, it includes the training of novices, skilled and expert workers. The dimension of skill training content includes "point, line, plane and body". "Point" is to cultivate interests and specialties in interest groups, and "line" is to train professional core skills in university-level studios. "Plane" is to cultivate comprehensive working ability in university-level studios, and "body" is to exercise social service, innovative and entrepreneurial expansion ability in provincial and municipal studios. The dimension of forms of organization and management means the management with teams, simulation companies, quasi companies and production companies.

The third is school-enterprise collaboration. School-enterprise collaboration coordinates the functions and operations between them, and fully mobilizes the enthusiasm and initiative of enterprises to participate in the integration of production and education, so that they can cooperate with each other, promote each other, and train talents orderly together.

3. The Implementation of Studio Talent Training Mode of Layered and Multi-dimensional School-Enterprise Collaboration for Liberal Arts

Liberal arts majors have the characteristics of "culture". During talent training, we should not only enhance professional ethics and lay a good cultural foundation, but also strengthen school-enterprise cooperation and consolidate professional skills; While implementing this talent training mode, Heyuan Polytechnic adopts the "double-line" teaching mode, namely, the parallel of routine teaching and studio teaching; The routine teaching is conducted according to the original three-year teaching plan; The studio teaching after regular classes is conducted based on the "layered and multi-dimensional school-enterprise collaborative talent training mode"; Both lines are included in the management of students' credits and teachers' performance, but they are usually combined into one in the routine practical teaching. The studio teaching focuses on teaching students in accordance with their aptitude, taking them as root and is implemented based on students' current levels, interests and career orientations (interest groups).

In the implementation of the model, students, majors, teachers and studios are integrated to conduct talent training collaboratively. Firstly, each major establishes various interest groups based on its own features, and professional teachers establish school-enterprise collaborative studios at all levels based on their skills and expertise. Though studios only have college, university provincial and municipal levels, the actual places for talent training have four layers. Concerning organization and management, the first layer is interest groups, which mainly complete the single-skill training task assigned by teachers. The second layer is simulation enterprises, which mainly complete the simulation projects and the simpler tasks assigned by teachers; the third layer is quasi enterprises, which mainly complete the productive projects assigned by the cooperative enterprises and

sometimes also undertake social business. The fourth layer is production enterprises, which mainly undertake business, and teacher-student relation becomes bosses and employees. Concerning the learning content, the first and second layers are still limited in the field of professional disciplines, while the third and fourth layers have broken the original professional barriers and even covered many professional contents. What they have trained are not only professional talents of a certain discipline, but also practical professional experts. The fourth layer emphasizes training and testing students' innovative awareness, comprehensive collaborative ability and business ability. Students are responsible for the planning, division of labor and "production" of other projects until all the contents are completed, except some important projects which are led by teachers in studios; Teachers are responsible for supervising, recording, providing necessary help, and also check the work quality and the "degree" of assignment. These four layers of talent training help students realize the transformation of "interested-novice-skilled-expert".

Secondly, teachers are also divided into four types accordingly. The first type is teachers with professional expertise and interests, who are mainly responsible for guiding students in interest groups. The second is professional directors or professional teachers with outstanding skills and educational enthusiasm, who are mainly responsible for maintaining the operation of professional college-level studios and training "novice". The third is "famous teachers" with outstanding professional skills and technical experts in governments, industries, enterprises and institutions, who are responsible for maintaining the operation of university-level studios, training the "skilled", and undertaking tasks assigned by cooperative enterprises and labor production. The fourth is "famous teachers" with outstanding professional skills and good reputation in the field, and "masters" with noble morality and exquisite business in governments, industries, enterprises and institutions, who are responsible for the operation of provincial and municipal studios and the training of "experts", undertaking social business, labor production and labor distribution. It must be noted that for liberal arts majors, technical experts and masters cannot be judged by the standards of science and art majors. It is necessary to comprehensively determine "technical experts" and "masters" based on the professional features, the characteristics of positions, working abilities, reputation and regional influence.

Finally, the students are trained in five steps. The first step is the basic learning stage, which is mainly general basic curriculum education to train students' professional ethics and qualities; the second is the interest training stage. Students choose to enter interest groups set by each major based on their interests and development directions. Its main task is to train interests and exercise special skills; the third is the novice training stage. Students must first pass the level 1 test, then enter "college-level studios", complete special and medium-low difficulty tasks under the guidance of teachers, and develop teamwork and communication skills; the fourth is the skilled training stage. Students who pass the level 2 test will enter "university-level studios" to study, try to undertake medium-and-high-difficulty comprehensive tasks, and develop their planning and leadership abilities; The fifth is the expert training stage. Students who perform well and pass the level 3 test will enter "provincial and municipal studios" to study and exercise their comprehensive collaborative ability, leadership ability, innovative and entrepreneurial ability. In the five-step training method, no matter what level students have reached, they have reached a certain technical level and mastered the corresponding skills, and can be competent for the corresponding posts. Promoted students can graduate after completing high-level training, while students who cannot be promoted can graduate successfully at the corresponding level after completing the basic general education and corresponding special skills training.

4. The Effect of Studio Talent Training Mode of Layered and Multi-dimensional School-Enterprise Collaboration for Liberal Arts

Studio talent training mode of layered and multi-dimensional school-enterprise collaboration for liberal arts in Heyuan Polytechnic has obvious effect on the construction of liberal arts majors and talent training, which is mainly reflected in the following aspects.

4.1 Constructing a Liberal Arts Curriculum System Based on School-Enterprise Collaborative Studios

After years of practice, Heyuan Polytechnic has constructed a liberal arts curriculum system based on school-enterprise collaborative studios in the process of exploration and reform. Compared with the conventional curriculum, the studio project completion is a comprehensive implicit curriculum. This kind of curriculum is implicit but not blind. Besides, it "determines learners' sense of value and dignity to a great degree, and has functions of stimulating interests, guiding cognition, and cultivating emotion, tempering will and regulating behavior." [9] Teachers and students in vocational colleges can acquire tacit knowledge through productive studios. In other words, while contacting and cooperating with school-enterprise business experts and "masters", they are influenced and inspired to acquire the moral quality of experts, like dedication, honesty, law-abiding, hardworking, craftsman spirits and other working experience and knowledge.

4.2 Promoting the Construction of "Dual-qualified" Team

Studio adopts the double-tutor system in teaching, in which enterprise experts and teachers serve as the guidance together. Firstly, entering studios to undertake enterprise projects and guide students is the exercise and test of teachers' professional ability. Secondly, the quality of students' "products" will directly affect the customer satisfaction and the school's teaching evaluation, which will affect the reputation of teachers. Thus, while accumulating teaching experience and production experience, teachers are bound to continuously improve their technical levels and practical guidance ability. Finally, teachers regularly communicate and cooperate with enterprises and their guides, which can further connect with enterprises, understand social needs and learn from experts in industrial enterprises. This will improve teachers' professional skills; professional quality and social service ability, and helps the construction of expert and "dual-qualified" teachers.

4.3 Deepening the School-Enterprise Cooperation

School-enterprise cooperation is the foundation of studios. In order to survive and operate, studios must have real projects provided by enterprises or jointly undertaken by schools and enterprises. Thus, studios must firmly grasp the needs of enterprises, avoid becoming their burdens. While obtaining enterprise projects to train students, they need to create both economic and social values for enterprises, deepen their cooperation. For enterprises, studios have solved the problems of insufficient manpower, long development cycle and high outsourcing cost. Meanwhile, they have trained the corresponding talents for their own enterprises and trained high-quality professional talents for society, which realizes their own economic and social values. This will certainly promote enterprises to actively participate in the integration of production and education, and deepen cooperation through studios, and jointly educate talents.

4.4 Improving the Quality of Talent Training

Studio talent training mode of layered and multi-dimensional school-enterprise collaboration for liberal arts creates a process for students to develop and improve their professional ability. What students learn in studios is not only knowledge and experience, but also the thinking and habits of famous teachers in schools and enterprises to discover and solve problems, as well as their wills, characters, research styles and innovative spirits [3]. As the layer increases, students contact with more and more studio resources, and the requirements for productive work are getting higher and higher, their ability and professional quality are also improved, and the work results are also enriched. For example, our journalism major has produced 9 promotional videos for the school and social organizations relying on the studio. It helps the revitalization of rural areas to produce 5 promotional videos, of which 3 works were awarded provincial second and third grades; besides, it

also undertakes 2 audit businesses and 3 annual WeChat public number operations. Most importantly, students get comprehensive exercise while completing these projects.

5. Conclusion

In recent years, the state has focused on the training of professional talents, requiring vocational colleges to teach students according to their aptitude in a diversified, layered and not limited way. Based on current levels of students, we should give students various choices and train them from multiple directions and angles. Besides, we should give excellent students a higher level of guidance and exercise, and finally present diversified talents and top-notch innovative talents. Studio talent training mode of layered and multi-dimensional school-enterprise collaboration for liberal arts is student-oriented. It sets up many interest groups according to professional features and professional talents development, so that students have different development choices. It respects their interests and personal development, helps to teach students in accordance with their aptitude and tap their potential, and helps to realize the success of everyone and cultivate top-notch talents; Based on the platform of school-enterprise collaborative studios, it classifies students and training places according to their levels, talent training focus and short-term goals. This realizes the goal of layered training and improvement layer by layer, and suits talent growth. As a window for schools to face society, school-enterprise collaborative studios build a bridge between teaching and practice, schools and society [10]. Here, students receive the training of vocational post ability, social communication ability and working method ability, and obtain certain social and working experience, which helps students get employment and entrepreneurship and adapt to the social life after graduation.

In conclusion, the studio talent training mode of layered and multi-dimensional school-enterprise collaboration for liberal arts deepens the school-enterprise cooperation of liberal arts majors, integrates teaching and "production", and has a good theoretical and policy basis. It suits the learning rules of students, the acquisition rules of explicit and tacit knowledge, as well as the development and requirements of industry-education integration, school-enterprise cooperation and science-literature combination; Moreover, it has created a good environment for liberal arts majors in which everyone can be an expert and show their talents. In this way, students can constantly develop and improve in studios, and eventually grow from novice to expert, realize the high integration of vocational skills and professional spirit training. Thus, its mode is universal and can be used to train high-quality technical talents in liberal arts.

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