Thinking and Exploration on the Construction of Comprehensive Innovation Practice Base of Printing and Packaging

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Abstract. The comprehensive innovation practice base of printing and packaging is an important training center for compound innovation practice talents with the feature of printing and packaging in Beijing institute of graphic communication. In this paper, the construction achievements of the base in teaching practice were introduced, which included the talent cultivating for printing excellent engineering, the innovative practice team creating for packaging design, the orientation of enterprise participation and the improving on practical quality assurance systems. The innovation practice base will be an open practice platform used for innovation and entrepreneurship teaching and practice, and it can effectively show the characteristics of our school.

Introduction

The comprehensive innovation practice base of printing and packaging, established in 2011, faces to six undergraduate major such as printing engineering, packaging engineering, polymer materials and engineering, industry design, art design and digital media art, which is a training center for compound innovation practice talents with the feature of printing and packaging subjectivity, publishing and design art characteristic, covering the whole industry chain [1,2]. Through the construction and development for nearly five years, the base has had remarkable achievements in teaching practice because the investment was increased in manpower and material resources.

Cultivating Industriously Advanced Printing Engineering Talent Having Excellent Engineer Level

In February 2012, printing engineering, an undergraduate major of Beijing Institute of Graphic Communication, was allowed to carry out excellent engineer education and training program (shorted as excellence program) as one of the second batch lists given by Ministry of Education of P.R.China. Bisheng excellence class, the experimental class of excellence program, has owned four class students from the 2011\textsuperscript{th} undergraduate students. The program aims to strengthen the cultivation of innovative practice ability, and make the internal and external practice into a coherent whole [3].

The expansion of students’ vision is the source of the development on their innovation ability [4]. In 2013, the school organized students to participate in some exhibitions and workshops as All in Print in Shanghai, International Cultural & Creative Industry Expo in Beijing, China (Shenzhen) International Cultural Industry Fair, a seminar on digital packaging & printing technology sponsored by Beijing Today Printing Union Company and a seminar on image quality analysis sponsored by Beijing Color-space Printing Technology Co. Ltd.. These students knew much about industry applications and technology research, and they shared the knowledge including industry development trend with their classmates in class.

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The practice base also encouraged students to participate in the Beijing undergraduate entrepreneurship design competition, and some students entered the semi-finals after the preliminaries, which was the first step of our practical training plan for innovation and entrepreneurship. This work has been combined with the idea of national innovation and entrepreneurship, which is close to the development of Beijing cultural and creative industries. Besides, the base also pushed out the Innovation Print solutions contest and carried out relevant practical activities with the goal of product surface treatment and molding. These practical activities based certain projects have been implemented through the combination of materials and printing technology, which provided a platform for students to carry out innovation and entrepreneurship activities. The recent Innovation Print practical activities were cooperatively developed with Beijing Topcent Printing Co., Ltd. and Beijing Shangyi Corporation, and the heads of the two companies introduced the product requirements of the enterprise to the students, and further guided and evaluated the implementation process. Some student works such as New Stone Story, 3D landmark cartoon map, won the gold medal and bronze medal respectively in the 5th undergraduate scientific innovation and patent achievement exhibition.

Furthermore, the practice base actively organized the students to participate in each national printing industry vocational skills competition. The mobilization and training were carefully organized so as to improve the students’ comprehensive theoretical knowledge and practical skills.

In the 4th national printing industry professional skills competition in 2014, eight students won second prize and excellence award respectively in three types of work such as Lithographic pressman, lithographic plate-maker and print finishing worker. In the 5th national printing industry professional skills competition in 2016, five students also achieved good results, so they won the honor for our practice base. In the semifinals of 2016 SINAPSE packaging contest, twenty students entered into the world’s top 110, and among them, eighteen students come from 2013th excellence class and 2013th one, which has confirmed fully the success of the excellent engineer training program [5].

The Orientation of Practice Part and Enterprise Participation

It was the key and characteristic section about the orientation of practice part and enterprise participation. According to the current students’ interest, as well as the restructuring crisis of current printing enterprises and the actual situation of lack on high-quality talent, the 35 students of excellent engineer class were arranged to make practical exercise into certain enterprise for a long time, which wasn’t an appropriate method. How to supervise and control the practice part has needed think deeply.

From the above considerations, three very distinctive practice courses were set up, and they are digital interactive media production, color management, printing technology. The theory characteristics curriculum participated by enterprises were image information processing and the principle and technology of post-press [6].

According to the curriculum named printing professional practice opened for the third grade students, the modular study mode was tried out in 2013th excellence class. During one-year professional practice, students must go through the following four modules professional training and assessment such as operating press, spot color matching, applying SHOTS simulation software, folding and binding in post-press the of the students. Because the courses as printing process and post-press technology were opened in the same period, theory and practice were well combined, and it was good for students to understand and grasp theoretical knowledge, further master their applications [7].

To the curriculum of enterprise special engineering practice for junior students, it improved the previous projects that teacher set clear practice goals and supervised students’ practice behavior in time. At the same time, the process of combining the graduation project with the needs of the enterprise was advanced.

All of these measures have provided students some opportunities to access enterprise and market, so further improved the students’ practical ability.
Creating the Innovative Practice Team Having Strong Packaging Design Abilities

In order to cultivate the innovation abilities for packaging engineering students, the base systematically integrated and explained the packaging major courses including packaging materials, packaging structure, packaging printing, packaging technology, package transportation and packaging regulations in the base of packaging design compulsory course, which could cultivate students’ abilities of applying all kinds of courses. It could not only show the charm of packaging design course, but also improve the students’ abilities of overall design and solving problems. It gradually improved the overall innovation ability of students through the combination of short semester and curriculum, curriculum and dissertation, curriculum and competition, through repeated consolidation.

It can develop students innovative practice abilities at the aspect of the decoration, materials, structures and processes by guiding them to participate in the packaging design competition at home and abroad. Participating in certain competition is not only good for students to apply their knowledge to the practice, but also can well promote training effect, and meanwhile, can consider and design on the whole with the resources of each course [8]. It is possible to improve the students’ understanding on the product and the abilities of solving the actual problems through the in-depth study on the product packaging, which can also provide a good practice opportunity to propose some enterprise product solutions and lay foundation towards the workplace in future. In addition, taking part in the contest can make students experience personal and systematic design training, while the winning design works can be used as some successful cases for students, and they give the inspiration and guidance at design idea, expression and the overall control on material, decoration and structure for new students [9]. What is more, the whole design process should be recorded, and some important initial data, such as the sketch, revised draft and final manuscript, can be used as a typical case for students’ course study.

The method of training creative packaging design team has achieved good results from the achievements of undergraduate innovative practice in the past years. The students who won the honor of packaging design have better performance than other students in the aspects of social practice, employment, postgraduate entrance examination and so on, and they would get more opportunity.

Improving the Practical Quality Assurance Systems and Promoting Students Success through Various Channels

After summer production internship for 2011th and 2012th grade excellence class students, their internship achievements depend on the evaluations from instruction teacher and enterprise tutors and the quality of internship report submitted by the students. The internship monitoring and evaluation of the result represented truly the students’ internship performances.

The school has promoted students to participate in the declaration and research on Beijing municipality college students’ research programs, and participate in various competition such as professional design competition, innovation and entrepreneurship competition and vocational skills competition. It can not only make students get exercise and improvement, but also won the honor for the school [10]. Besides, the school set up Innovation Print professional printing competition so as to guide students to put forward printing design and processing plan using what they learned, and then they can solve the actual problem and accept inspection and evaluation of the professionals.

The school has encouraged and promoted excellence class students to participate in the international competition as Shots printing simulation software. The organizing committee of the contest employed the previous winners to conduct professional training for students, and organized actively the students’ training processes. This international competition could test strictly and appraised the students’ abilities.
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