



Divergent Teaching Exploration in Experimental Course of Cosmetics and Preparing Skill

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Abstract

The course of cosmetics and preparing skill is the foundation course for the degree in Medical Laboratory Technology for traditional Chinese medical cosmetology orientation, whose experimental course is the practice of the theory course of cosmetics and preparing skill. In the paper, for the purpose of broadening the students' expert mind and consolidating their theoretical foundation, a preparation experiment of mask will be shown to explore the significance of divergent teaching in experimental course of cosmetics and preparing skill.

Keywords: Experimental Course of Cosmetics and Preparing Skill, Divergent Teaching, Teaching Exploration

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Introduction

Cosmetics and blending technology is a comprehensive discipline that studies the basic theories related to cosmetics, as well as the formulation.

composition, process manufacturing, performance evaluation, and safe use of various cosmetics. It mainly uses theories and methods from chemistry and related disciplines to explain the relevant theories and knowledge of cosmetics[1-2].

Essentially, cosmetics and blending technology is a course that focuses on experimentation, and more knowledge is gained through practical experience. This course is basically offered in schools with a medical cosmetology major, and with the accelerated pace of modern life and changes in lifestyle, the characteristics of this course, such as strong applicability and high frequency of practical use, are becoming increasingly prominent. Therefore, strict requirements for all aspects of experimental teaching are necessary.

In the past, in the traditional experimental teaching process, teachers taught and students completed the operation steps one by one, and finally the experiment was completed. During the entire process, students were only operators, not experiment designers, and there was basically no inspiring thinking. In the above situation, students often just experienced the process, but, actually, they mastered very little and achieved little. For example, many students do not know how to build and use experimental equipment, let alone how to scientifically describe the experimental results and write rigorous experimental reports. Based on the above situation, we propose to reform the cosmetics

and blending technology experiment, from the "teaching verification" of mechanical operation to the "student-centered" divergent independent design, so that students can better grasp the key technologies and temperature control conditions in cosmetics blending technology. In addition, they can actively design and analyze experiments, not only limited to the textbook curriculum itself, but also can draw inferences from one instance to others through experimental classes, providing students with design ability, problem-solving ability, and ultimately broadening their horizons and cultivating their active subjective initiative.

The experimental course of cosmetics and blending technology usually takes a long time and is very boring. Therefore, in this teaching reform, we focus on some basic experimental courses and explore the possibility and necessity of a divergent teaching model in the experimental teaching reform of cosmetics and blending technology. We take the common facial mask making experiment as an example to explore the possibility and necessity of a divergent teaching model in the experimental teaching reform of cosmetics and blending technology.

The formula for the facial mask essence for moisturizing: glycerin 5%, propylene glycol 6%, methyl propylene glycol 3%, hexanediol 1%, hyaluronic acid 0.1%, EDTA-2Na 0.05%, carbomer 9410.1%, trehalose 1%, arginine 0.1%, phenylacetoacetone 0.4%, essence 0.01%, and deionized water to 100%.

First, let's think divergently about the functions of each part in the facial mask essence formula. Which are the base materials?

Which are the auxiliary materials? Which are the functional materials? Why are they added in this ratio? What other ingredients can be added?

The essence of a moisturizing facial mask is a liquid with a certain degree of viscosity but a low viscosity. It must have moisturizing and hydrating abilities, and the product shelf life requires that the essence system must have anti-corrosion capabilities. Secondly, in the production process, which raw materials are crucial for dissolution? What are the requirements for temperature control in each step? What kind of operation or mixing sequence can make the raw materials better and easier to dissolve? Finally, let's think about the logic behind the ratio of various raw materials in a divergent way. How to add other raw materials? What factors should be considered?

After the essence is made, how to pack the bag? How to fold the facial mask? How to seal the bag? What is the most efficient order? Develop the ability of students to work together and coordinate.

In this experimental design (Table), we guide students to think, consult literature, and understand the characteristics of each raw material. The teacher only plays a supporting role. During the actual experiment, students discuss the significance of each step, the characteristic and physical properties of each raw material, and actively discuss with the teacher about the rationality of the experimental steps and the standardization of related operations. During the experiment, students are given more time to think independently, which cultivates their ability to question and solve problems in a divergent way.

Table. Divergent Teaching Model Application in Experimental Course of Cosmetics and Preparing Skill

1. Questioning	<ol style="list-style-type: none"> 1) What are the functions of each component in the mask essence formula? 2) How are raw materials added at specific ratios? 3) What other ingredients can be added, and what factors should be considered?
2. Independent Design and Analysis	<ol style="list-style-type: none"> 1) Guide students to think critically, search literature, and understand raw material properties. 2) Teachers play an auxiliary role while students independently design experimental steps. 3) Discuss the significance of experiments, understand the functions and physical properties of raw materials.
3. Experimental Operation and Collaboration	<ol style="list-style-type: none"> 1) Students independently think and solve problems. 2) Cultivate team collaboration skills and coordinate experimental procedures. 3) Learn operational standards to ensure experimental quality.
4. Results Discussion and Reflection	<ol style="list-style-type: none"> 1) Discuss experimental results, analyze the reasons for success and failure. 2) Reflect on experimental design and operations to improve experimental skills. 3) Write experimental reports to document the learning process.
5. Teaching Objectives and Outcomes	<ol style="list-style-type: none"> 1) Improve students' professional thinking and theoretical foundation. 2) Enhance students' practical ability and team collaboration skills. 3) Cultivate innovative and applied cosmetic formulation technology talents that meet the needs of the times.

Discussion

In addition, with the increasing development of the beauty industry, higher requirements have been put forward for cosmetics; in the process of deepening the reform of quality education, the divergent reform of cosmetics and blending technology experiments will be increasingly valued. Through the teaching reform of experimental courses, in addition to laying a solid foundation for teaching quality, it is also beneficial to cultivate innovative applied cosmetics blending technology talents with strong thinking ability, theoretical ability, practical ability, and standardized operation that can adapt to the needs of the times [3-5].

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