Preliminary Exploration on Ideological and Political Teaching of Experimental Courses in Universities from the Perspective of Craftsman Spirit

Hai-Feng YANG\textsuperscript{1,2,a}, Wei-Jia ZHOU\textsuperscript{2,b}, Li ZHOU\textsuperscript{1,2,*}, Fa LIU\textsuperscript{2,c} and Hong-Yun ZHAO\textsuperscript{1,2,d}

\textsuperscript{1}Key Laboratory of Special Welding Technology Shandong Province, Harbin Institute of Technology, Weihai, Weihai 264209, China
\textsuperscript{2}School of Materials Science and Engineering, Harbin Institute of Technology, Weihai, Weihai 264209, China
\textsuperscript{a}yanghaifeng10@163.com, \textsuperscript{b}646267356@qq.com, \textsuperscript{*}4344037@qq.com, \textsuperscript{c}158405568@qq.com
\textsuperscript{d}hy_zhao66@163.com

Keywords: Craftsman spirit; Experimental courses; Ideological and political teaching; Mode innovation.

Abstract. The experimental course is an indispensable teaching link in the teaching activities of colleges and universities, which is conducive to cultivating students' practical innovation ability. With the rapid development of market economy, the teaching mode of colleges and universities is facing more opportunities and challenges. It also needs to take experimental courses more seriously. From the perspective of craftsman spirit, this paper discusses the importance of craftsman spirit to students' development and the development status of craftsman spirit in the current experimental courses, as well as how to integrate the craftsman spirit into the ideological and political teaching of experimental courses, so as to provide some help for improving the quality of experimental courses.

Introduction

Experimental courses help to stimulate students' subjective initiative so as to carry out the re-creation process of scientific research. Compared with theoretical teaching, experimental courses are more intuitive, practical and creative, which can effectively train students to master basic knowledge and scientific research methods and improve their practical ability. Combined with the future development of the society will be more need to have a strong ability to practice innovation and international competitiveness of compound talents, strengthen the experimental curriculum is very necessary. Therefore, the "spirit of craftsman" is integrated into the experimental courses of colleges and universities to cultivate students' spirit of excellence and pursuit of perfection, which will be conducive to the long-term development of students after they set foot in the society in the future. Therefore, the author will explore the development of experimental courses in universities under the guidance of "craftsman spirit" and improve the quality of experimental courses in universities.

Importance of Craftsman Spirit

Craftsman spirit refers to the professionalism, preciseness, focus, persistence, excellence and other work qualities of workers in various industries. Colleges and universities are the cradle of cultivating talents for social development. The purpose of running colleges and universities is to cultivate excellent technical talents for the society, market economy and institutions. It can be said that the quality of college students is directly related to the quality of social development \cite{1,2,3}. Therefore, colleges and universities must shoulder the responsibility of cultivating the quality of the new generation of youth, which requires colleges and universities to attach importance to and make scientific use of the spirit of craftsmen and integrate it into the society. The whole process of students'
teaching, comprehensively improving students' work quality, and providing talent support for the realization of China's rapid development.

When students go out of school and enter the society for the first time, they will face various difficulties. In particular, the hardships experienced in the early stage without working experience will be very hard, so how to train students to actively overcome difficulties? This requires teachers to let students understand the "craftsman spirit." The important spirit of "craftsman spirit" is "the spirit of dedication and selfless dedication." It will be beneficial to cultivate students' engagement to infiltrate such craftsman spirit into the ideological and political teaching of experimental courses in Colleges and universities. Engagement in the society is the key factor to determine success or failure. In the process of students' engagement in the society, they need to maintain a continuous stream of energy and dedication. If we improve the degree of students' engagement, it will help students to persist and find solutions when facing difficulties and setbacks [4, 5].

In addition, when college students enter the society, they will learn a lot of knowledge. In the future, they also need to constantly learn and improve their own ability, so that they can go further and better on the road of work, which requires students to have strong learning ability. The spirit of craftsman requires: "the diamond spirit of perseverance, good at learning and diligent in tackling problems." This is the work quality that students want to have for long-term development in the future.

Therefore, in the ideological and political teaching of experimental courses, such "craftsman spirit" should be infiltrated. Through five forms of initial learning, experiential learning, imitation learning, search and insight learning, grafting learning, students' ability of social learning should be strengthened, so that students can obtain basic social knowledge and enhance their comprehensive ability.

Current Situation and Problems of Cultivating Students' Craftsman Spirit in Experimental Courses in Colleges

Absence of Craftsman Spirit in Teaching Objectives

To cultivate the craftsman spirit of college students, help them set up the right learning goals, let them correct learning attitude, is conducive to their better growth and success. Experimental course is the backbone of higher education, its teaching goal is to improve students' practical ability and practical ability, and to cultivate students' good knowledge reserve ability in practice. For experimental teaching at present stage, most schools will focus on promote students' practical ability, ignore the cultivation of students spirit, to a certain extent, not laying match the students grow and learn spirit culture, appraisal system, spirit and thought that means to cultivate students of colleges and universities craftsmen toughness enough attention. Emphasis on training students in the education environment pale spirit, students can't really read spirit connotation, easy to cause their misunderstanding of spirit, reduce the effect of experiment teaching, has caused many college students after entering the society to appear not carefully, do not work straight the manner, is not conducive to their growth and success. The reason is that the experimental courses are not systematic, the teaching objectives lack the due craftsman spirit, the comprehensive quality of students cannot meet the needs of practical work, and the effect of talent training is not ideal.

Absence of Craftsman Spirit in the Process of Education

The devotion to work and the pursuit of excellence in product quality embodied in the spirit of craftsman are the qualities that every student should have in work practice. No matter what students will do in the future, what social services. All of them should have a rigorous working attitude and pay attention to every detail, which is also the basic ability required by university talents to achieve the healthy and sustainable development of society and market economy. In the experimental course, the cultivation of craftsman spirit should be increased to give full play to the appeal of craftsman spirit, deepen students' awareness of craftsman spirit, and correctly understand the importance of craftsman spirit in the growth and development of themselves, society and market economy.
It takes a long time to cultivate students' craftsman spirit, and colleges and universities must implement efficient measures in the process of education if they want to achieve good results. However, in practical education, the school does not integrate the spirit of craftsman into the teaching goal and talent training system, and there are few courses specifically aimed at cultivating students' craftsman spirit in the talent training goal system. Most colleges and universities tend to choose the form of ideological education to cultivate students' craftsman spirit. The teaching content is relatively simple, limited to the level of theoretical teaching, and the practical operation design of craftsman spirit is less.

The Way of Cultivating Students' Craftsman Spirit in Colleges

Integrate Cultivation of Craftsman Spirit into Objectives of Experimental Course

With the development of society, vocational and technical personnel training mode and experimental course objectives in colleges and universities are bound to change. Modern society and market economy require technical personnel to have the basic quality is the spirit of craftsman embodied in the dedication to work, the spirit of innovation for excellence. Colleges should keep up with the Times development pace, based on the current education and teaching practice, accurate orientation of running a school idea, the spirit into the training goal of the students, cultivate students' practice ability and improve its toughness, spirit and thought craftsmen deliver more for the society with high toughness builders spirit and thought in the field of professional talents. Therefore, colleges and universities should build and constantly optimize the system of running a school, in the construction of campus culture in the process of increasing content of craftsmen, dig deep spirit in the process of college students cultivate meaning, optimize the mode of education management, outstanding craftsman spirit on the curriculum, build strong spirit education environment, improving the quality of education service, help students to correctly understand and practice spirit.

Infiltrate Cultivation of Craftsman Spirit into Training Link

After long-term talent training practice teaching, the talent training system of colleges and universities has basically taken shape. To increase the content of craftsman spirit, colleges and universities need to build project courses in line with students' learning majors based on the working process, and optimize the student training system of colleges and universities through scientific and effective measures. In the process of classroom teaching, college teachers should constantly strengthen the essence of spirit and connotation, guides the student to combine their own actual situation, improve their professional consciousness constantly improve their practice ability, and can regulate their own behavior according to the spirit connotation, build the comprehensive builders toughness, spirit and thought sublime their own ideological and moral cognition and behavior. When making teaching plans, teachers should correctly view the importance of craftsman spirit in teaching, reasonably design the proportion of craftsman spirit in classroom teaching objectives, and urge students to pay attention to craftsman spirit. In the process of practical teaching, university teachers should promote the professional attitude contained in the spirit of craftsman, encourage students to deepen their understanding of the spirit of craftsman, and encourage students to continuously practice and inherit the spirit of craftsman in their study and future work. Teachers in colleges and universities can carry out education and teaching activities to cultivate students' craftsman spirit from the aspects of students' practical ability, craftsman spirit and ideological toughness, combine theory with practice, and purposefully improve students' craftsman spirit awareness, so as to increase the weight for students to apply for jobs.

Open Course Contents to Train Students' Thinking

As a practical subject, experimental course is bound to introduce and analyze corresponding teaching contents through experiments. In order to stimulate students' creativity and enthusiasm in the learning process, cultivate students to constantly polish the experimental results and strive to innovate the excellent thinking in the experimental process. In experimental course, teachers should adjust
classroom content targeted, textbooks and related experiment into the teaching, the teacher divided the students into different groups, to let them through independent operation to explore and complete a study of the knowledge, so that students in the experimental process will need to make their own independent thinking, to find a solution.

Teachers should conduct detailed and in-depth research on the experimental process, so as to properly adjust the difficulty of the experiment and control the progress of the experiment accurately. Students should be marked with different levels of evaluation according to their abilities. For example, for students with poor abilities, we can lower their requirements, slow down the teaching progress, step by step, and take them along with us. For the ability of ordinary students to pay attention to the accumulation of their personal knowledge, to pay attention to observe their further every small step; for students with excellent abilities, it is necessary to constantly improve their personal quality and comprehensive ability in intensive learning. In practical teaching, teachers should combine the characteristics of students for training. The spirit of the craftsman requires the patience of the worker to be persistent and the character of the carver. Completion is the goal that needs to be considered first, and then the results.

Summary

The experimental course is the cultivation of students' personal ability. In this process, teachers should not only focus on the improvement of students' skills, but also pay attention to the development of students' personal qualities. Under the background of the new social development and construction, university experiment teaching faces more challenges, to satisfy these requirements, colleges and universities need to strengthen not only attaches importance to experimental teaching activities, also need through exploring experimental teaching mode, into the spirit, strengthen the training of the students' spiritual means to improve students' learning enthusiasm, strengthen the experiment teaching actual effect, thus lay a foundation for improving students' comprehensive practice exploration ability.

Acknowledgement

This research was financially supported by “virtual experimental teaching research-oriented by innovative practical talents cultivation of welding technology and engineering specialty” in the general subject of "13th Five-Year plan" of education science in Shandong province, subject No.: YC2019346.

References


