

The “Whole-Process” Education to College Students Based on A Scientific Investigation (HE7234)

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1) INTRODUCTION

The concept of “three-whole” education proposed by the Chinese government has effectively promoted the education reformations in Chinese colleges and universities. However, very limited publications can be found on the positive experiences and how to elevate this activity to a higher level. In the present study, several merits are concluded from a “whole-process” education process, which was based on a scientific study and was taught to graduate and undergraduate students. The results demonstrate that the scientific study is not only an activity that is aimed to teach the students how to carry out scientific researches, but also to provoke the students’ interests on learning and innovation. What is more, the “whole-process” can be efficaciously explored for elevating the students’ ideological or political levels. Certainly, this “whole-process” education can be melt with “whole-staff” education and “whole-range” education during the scientific investigation.

2) The scientific study for teaching the students to conduct scientific researches

These materials include not only those about how to carry out scientific researches and the related theories, but also things can be exploited to provoke the students’ interests on learning and innovation, and positive elements that are precious for elevating the students’ ideological or political thoughts.

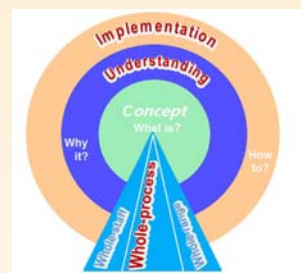


Figure 1 To Implement safe education on graduate and undergraduate students through a systematic combination of classroom lessons, experiments, and final examination.

- 3) The scientific study for provoking the students’ interests on learning and innovation
- 4) The process of scientific study can be utilized for conducting ideological education
- 5) The “whole-process” education of scientific study can be melt with “whole-staff” and “whole-range” education

For consideration of publication of a scientific paper, three elements must be necessary, i.e. fine innovation, enough workload, and fluent reading. Correspondingly, these elements can be useful and process materials for training the students’ spirits such as innovation spirit, diligent spirit and excellence spirit. Science is art and art strives for perfection. This is just also the scientific investigation and the writing of scientific article.

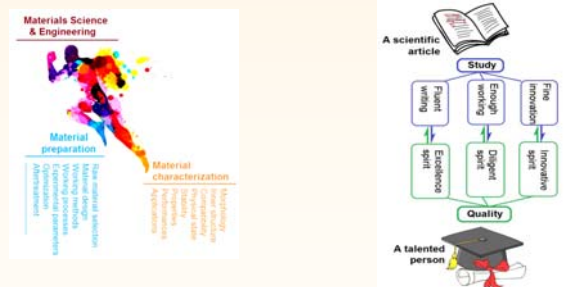


Figure 2 & 3 The analysis methods taught in the classroom and their key elements in safety education.

6) Conclusions

Although the concept of “three-whole” education proposed by the Chinese government is familiar to all the colleges and universities, how to effectively carry out it for fostering talents still puzzles a lot of teachers. In this article, we show that scientific study is very useful for carrying out the “whole-process” education. The scientific study is not only useful for teaching the students how to carry out scientific researches, but also can be explored for provoking the students’ interests on learning and innovation, for implementing the students’ ideological education. Meanwhile, the “whole-process” education of scientific research can be facilely melt with “whole-staff” education and “whole-range” education during the scientific investigation for training the students.



Figure 4 Some characterization experiments that are arranged in the first floor of the building of Materials Science and Engineering.



Figure 5 Some characterization experiments and the preparation of nanofibers that are arranged in the third floor of the building of Materials Science and Engineering.