Thinking and Exploration of Science Education of the High School Students

Fu Wei, Pengguang Tang, Li Qian, Xie Hao, Fang Jian

Chongqing Internet of Things Engineering Technology Research Center

Key Lab of Network Control Tech.&Ins., Chongqing University of P&T, Chongqing, 400065, China

E-mail: 61677822@gg.com

Keyword: science education; change; innovative

Abstract. In this paper, for reflection and exploration of students' science education, as well as the status of students' science education and the significance. Exploring the science education should change their concepts. And innovative talent training mode. And strengthen practice teaching and strengthen the teaching staff. In order to develop high-quality talent to meet the needs of social development, we should grasp the to focus on innovation and practical ability students quality training.

Introducion

It is universally acknowledged in the worldwide that "Science and technology are primary productive forces". Science plays an increasing significant part in our life and it can be the primary promote in human development while the promotion of scientific knowledge is the only method to achieve that. At present, it bring new opportunities for high school students in science education because of the progress of society, the development of science and technology ,the continuous improvement of people's living standard and the in-depth reform of the education system. We people are exploring how to make full use of these opportunities to vigorously popularize scientific knowledge ,to spread scientific spirit, to improve the science quality of teenagers and train high-quality talent that meet the needs of social development.

Significance Of Science Promotion Education In High School Students

In the continuous development of science and technology in the 21st century, the science and technology works at not only improving the level of material civilization but also promoting the construction of socialist spiritual civilization. The construction of spiritual civilization in high school students plays an important role for the construction of spiritual civilization. What's more, the science promotion education for the high school students plays an important part in their spiritual civilization construction.

- (1) The process of science promotion education means the patriotic education process as well in actual.
- (2) The science promotion education contributes to develop the collective spirit and writing spirit in high school students.
- (3)The science promotion education is beneficial in improving the comprehensive quality in high shool students.
- (4) The science promotion education contributes to the learning and application to the scientific knowledge in high school students.

Status Of Science Promotion Education In High School Students

In recent years, The domestic science promotion cause gains an increasingly development under the great promoting of relative departments in government and the great effort of the science promotion workers which is mainly charactered by the followings:

Building the relative complete science system preliminarily.

The government departments strengthen the science promotion cause via the establishment of some legal system.

Developing a certain number channels for the information-based science promotion education.

However, compared with the developed countries in Europe and the American, there are still some issues in domestic science promotion education cause especially for the high school students.

Firstly, the awareness of the science promotion education is relative weak in our country and the participation of social force in science promotion education is not enough. Now the major investment in science promotion cause comes from the government while the participation of social force is relative weak.

Secondly, the development of science promotion education cause is extremely imbalanced in our country especially for the remote areas. There is a relative gap between the development of science promotion cause and the efforts in urban science promotion.[1]

Furthermore, The science promotion in high school students in China is mainly based on propaganda of scientific knowledge which results in the ignorance of cultivating scientific spirit and scientific practice. Besides, the existing scientific knowledge is less important than the cultivation of science spirit and scientific practice in the future study and work practices for the students.[2]

The Fundamental Way To Change The Status Of Science Promotion Education In High School Students

A. Transition of people's conception

Science promotion workers should mingle the scientific knowledge, the scientific method, the scientific thought and the scientific spirit during the scientific activities as well as science communication to the high school students.

However, from the teenager group perspective, they are anxious about the self enlightenment by the transmission of the scientific thought which demands they to give priority to the dissemination of scientific thought since they are in infancy of the conception of world, the view of life and the sense of worth .On the other hand, High school students have realized that the scientific method can be drawn a lesson from through the study and practice that is the guideline in solving the problems, taking participation in technology practice and other campus activities. And because of this reason, the transmission of the scientific method offer greatest benefit for the high school students during our science promotion dissemination.

We science promotion workers ought to change our conception during the daily science promotion. What we are gonna to achieve is to upgrade the scientific quality besides the ideological and ethical standard quality in high school students. In addition, the innovation spirit is the most valuable spirit in promoting the progress of technology as well as the social development. We shall continuously lead the high school students to digest and establish the innovation spirit gradually which is beneficial to the cultivation for the back-up talent in technology innovation through the dissemination of scientific spirit.

B. The innovation of science education mode

The core of the science promotion education at current world is to change the knowledge system-centered scientific conclusion education into the exploring-centered scientific process education and to stress the process-learning. And which is predictable is that this conception is gonna bring a comprehensive reform in entire education cause.

The ideas, the theories and the methods of exploring-centered scientific education is original from the US which now is highly thought of by the each country in the world depending on the almost 40-year research and practice. The "exploring-centered scientific education" is becoming the mainstream in the international scientific education reform and the developing tendency of scientific education.[3]

As to the majority of science promotion workers, we should keep pace with the times, continuously innovate the scientific education system in China and continuously promote and contribute the development of science promotion work in our country.

In the present, it does not meet the needs of the development anymore if the high school students

are just passively make to accept the non-participatory science learning and activities. Those activities offering the participatory which embodies interactive thought is increasing welcomed by the high school students. But within our campus and the community, we far fail to meet their desire for knowledge and needs in offering the science promotion practice and the study chances.

Great activities should be in various forms, rich content, funny, good at arousing their resonated thoughts and welcomed by the high school students. They may lose interest in the science promotion since some activities are in rigid form, unrealistic and lack of new ideas. Therefore, the desired results are obtained by the dissemination skill in the science promotion and the various forms of activities. We the majority of science promotion workers ought to constantly strive to develop new science promotion chance in the daily science promotion to ensure the students engaged in more various activities, combine the theories with the practice and constantly enhance the technological innovation capability in high school students.[4]

C. Growing and consolidating science team building

We must build a science promotion team that is high-level, multi-layer and combining with full-time and part-time workers as well as a sound science promotion organization network in order to promote the science promotion in our daily life.

(1) stabilize and optimize the professional science team.

It is required to solve the problems of the job titles, duties, treatment and reward for the full-time science promotion workers to guarantee the acknowledge and respect for the science promotion workers in the fruits of labor as well as academic and research results. In addition, it is also demanded to establish the recognition and reward system for the science promotion workers who have made outstanding contributions to the science promotion.

(2) Encourage the community to carry out science promotion work

We should give full play to the role of scientists, science and technology workers ,fully mobilize the enthusiasm of the writers, the artists , the people , the teachers and the journalists in the science promotion work ;What is more, Encouraging entrepreneurs and industrialists to support science promotion cause and making great efforts to build a allied and grand science promotion team combining with the natural sciences and the humanities workers.

(3) Further improve the science promotion network combining with multi-level Association for Science and Technology Organization, Science Promotion Association, The academic Community, Enterprise Association for Science and Technology, Institutions (institutes) Science promotion association and Professional and technical associations in rural areas. Constantly supplement new blood, vigorously improve the quality of personnel. Besides, further unite and organize the volunteer team of science promotion, make full use of the retired scientists and technicians, graduate students and Ph.D candidate in universities and colleges and other social talents who are enthusiastic in science promotion cause to create a favorable social atmosphere in engaging in the glorious science promotion.[5]

Conclusion

We variety of science promotion workers should be aware that the science promotion is not a simple publicity of the significance of the science promotion but to ensure the growing teenagers to establish a correct and scientific view of life as well as sense of worth in the constantly nurture and imperceptible influence during the visible education process. Besides, we need promote the high school students to form the scientific literacy and to increasingly strengthen the scientific quality. In addition, we should continuously increase the science promotion activities in school to enhance the students selves technology level as well as the innovation ability. What is more, it is also required to strengthen the construction of science promotion team, to train the variety of technology teachers in assistance of Technology Counselors Association so as to improve the technology teachers own quality. Also, the final implementation of the results should be forced on the nurture of teenagers creative spirit and the practical ability in order to form an education culture atmosphere which is self-determination, exploration, cooperation and innovation.

Acknowledgment

Popular science series of Internet of things (cstc2012gg-kplB40006), Scientific and technological research project (popular science class) of Chongqing.

Internet of things the interactive experience on the research and development of library science exhibits and teaching aids (cstc2012gg-kplB40005), scientific and technological research project (popular science class) of Chongqing.

IT popular science bases of Chongqing, key science base construction project of Chongqing.

Construction of automation graduate innovation education bases, key project of graduate education innovation of Chongqing University of P&T.

Research and practice of the engineering training center construction (1201019), Chongqing higher education teaching reform research project.

References

- [1] Zhang Zhiwen, An Analysis of the new era in primary school science work [J] Association for Science and Technology Forum 2002.12
- [2] Yang Liu; Lu Yuanqiao, Simple analysis of the existing problems and solution for youth science promotion education [J] Strait science 2012.03
- [3] Ma Suqin; Zhang Xiuju ; Li Suoqi , Science education requires innovation[J]decision and exploration 2001.10
- [4] Ye ping; Li Zhuchao, Large area innovation implementation for science promotion education mode in primary and high school [J]educational review 2001.03
- [5] Zeng Pingying, Reflections on the construction of science education personnel[J]The CAST Forum (second half) 2010.06