# Exploring the Ways and Methods of STS Education in Zoology Teaching

**Mingyu Yang**
Academy of Life Sciences, Liaoning University, Shenyang, Liaoning, 110036, China

**[Abstract]** STS education is one of the current trends in the reform of biology classroom teaching. The article explains how to infiltrate the content of the development history of the discipline, the introduction of new achievements or research directions, the promotion of sustainable development strategies, and the cultivation of scientific awareness. The necessary exploration of the ways and methods of implementing STS education has been carried out.
**[Keywords]** Zoology; STS education; Exploration of the ways and methods

## 1. Introduction

STS is the English abbreviation for science, technology and society. The basic spirit of STS education is to closely integrate science education with current social life, social production and social development, so that students can deeply understand the interrelationship between science, technology and society. In the teaching of zoology, STS education is implemented for students, which not only stimulates students' interest in learning, but also develops students' scientific thinking, and enhances students' sense of social responsibility and establishes the ideology of learning. They will be gradually cultivated into a new situation of reform and opening up, and will be able to build qualified new people's teachers who have served in China's education. The author explores the ways and methods of STS education in the zoology teaching of the teachers' college from the following four aspects.

## 2. Appropriately Infiltrate Some Aspects of the Development History of the Subject in Teaching

Zoology has a very rich history of discipline development. Scholars who have made outstanding contributions to the development of this subject in history, their life, scientific activities and major academic achievements, etc. are excellent materials for STS education, and this kind of content is infiltrated into teaching. Enhance the appeal of STS education. For example, when teaching about the evolutionary trends of biological evolution, Darwin and the biological evolution he founded are a typical example. You can first introduce Darwin's life and scientific activities, especially his difficult history of writing and publishing the Origin of Species and creating a biological evolution based on natural selection. The goal of educating students' genius stems from the hard work of Superman and encourages them to study hard.[1]

Then, it focuses on the role of Darwin's creation of biological evolution in the development of biological sciences, and the widespread dissemination of the doctrine for destroying various idealistic creations and teleology. The prominent role played in the process of liberating people's minds from religious shackles. Another example is the French paleontological Cuvier. His main academic viewpoint can be described in the section "A brief history of vertebrate geology". Infiltrating this kind of content, students will deepen their understanding of the relationship between scientific progress and the development of human social civilization.

## 3. While Paying Attention to the Teaching of Basic Theory, Students Should Be Introduced to Some of the Latest Achievements or Research Trends of Modern Biotechnology

A common feature of science students is their focus on the latest scientific achievements or new research trends. If teachers can guide this well, it will not only help students learn basic theories, but also open up their horizons, train their ability to think scientifically, and cultivate their spirit of active scientific exploration. For example, in the "Cells" section, when I teach the contents of cell recognition, the author introduces an example: in order to enable patients who need organ transplants to obtain safe, inexpensive donor organs in a timely manner, at present, American scientists use genetic engineering techniques to treat experimental animals such as mice and pigs, so that certain organs of the animal lose their original immunogenicity and deceive the human immune system to avoid rejection. Initial progress has been made in this research, bringing hope to the use of animal organs by humans. While teaching the nuclear-primary relationship of cells, the author introduced the cultivation process of cloned sheep "Dolly" and the development and potential application value of cloning technology. Practice has proved that the above practices are deeply loved by students and the teaching effect is better.

## 4. Combine the Teaching Characteristics of the Subject and Publicize the Sustainable Development Strategy

Sustainability is a long-term strategy for China's economic and social development. It is the responsibility of each teacher to educate students about this strategy and to have a deeper understanding of the strategy. In order to make the publicity and education vivid and persuasive, and to avoid making positive propaganda into a blunt and boring preaching, the author believes that it is necessary to combine the characteristics of the discipline. In zoology teaching, emphasis should be placed on biological resources, especially the conservation and sustainable use of animal resources, as well as the path and practical significance of maintaining a good ecological environment. Work in the form of classroom lectures, special lectures, and special discussions. The author

have talked about the relationship between the growth and decline of offshore fishery resources in China and overfishing; 1998 The relationship between the large floods in the Yangtze River and the man-made destruction of the upstream forest vegetation and the land reclamation in the middle and lower reaches of the lake; The seminars on the history, current situation and protection of biodiversity in China have been given special lectures or organized student-specific discussions, and have received good results.

## 5. Guide Students to Establish a Strong Sense of Consciously Maintaining Scientific Dignity

As we all know, the outstanding characteristics of science, such as seriousness, rigor and normativeness, are inherently related to the dignity of science. Guiding students to establish a sense of consciously maintaining scientific dignity is conducive to improving their scientific quality and optimizing their quality structure as a qualified secondary school biology teacher. In the teaching practice, the author takes the following two methods:

(1) First, educate students with the help of both positive and negative examples to help them recognize the importance of abandoning academic ethics, defying the dangers of scientific dignity, and adhering to rigorous academic study and consciously maintaining scientific dignity. As in the chapter “Making Mammals”, when teaching primates, I told the students about a science scam that lasted for more than eighty years: In 1912, the director of the Animal Museum of the British Museum of Natural History, Martin Holden, and amateur geologist Charles Dyson, pieced together a fake fossil with a part of the modern skull and the lower jaw of the orangutan. The sensational “Piltain’s Great Discovery” was concocted. This scam was not completely exposed until 1996. The scientific community has paid a painful price for this, and the people of Minton and others have also lost their shameful shame. In contrast, I also introduced the famous Chinese scholar Bei-Shizhen, who discovered the phenomenon of cell remodeling in the early 1930s and proposed the theory of cell reconstitution, but re-verified and conducted more in-depth research after 40 years, which initially reveal the tortuous process of cell reconstruction mystery. The living examples have deeply impressed the students and made them have a new understanding of the truth that science cannot be traced.

(2) Second, in the practical class teaching including the experimental class, strengthen the education, management and assessment of students, and strictly require students to carefully observe, carefully operate record and think carefully, and eliminate bad behaviors such as falsification or perfunctory things.

## References

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