Scholar Publishing Group
International Journal of Sports Technology
https://doi.org/ 10.38007/IJST.2020.010301
ISSN 2789-7141 Vol. 1, Issue 3: 1-7

Innovation and Entrepreneurship Teaching Reform outside the Environment and Safety Course

Trini Canals*

County College, USA

**corresponding author*

Keywords: Environment and Security, Innovation and Entrepreneurship, Teaching, Reform Research

Abstract: The collapse of the bipolar system and the globalization process have created a series of problems that are generally considered to be a possible source of domestic and international threats to peace and security. Environmental issues are widely viewed as one of the possible sources of threats. As early as the 1970s, people linked the environment and security to conduct research and produced the term “environment and security”. With the rise of the concept of non-traditional security after the end of the Cold War, the concept of "environment and security" has increasingly attracted widespread attention and has been incorporated into the security strategies of some countries. This article attempts to sort out the evolution and research process of the concept of “environment and security” so that we can better understand and value the important issue of “environment and safety” in the international situation where non-traditional security threats are increasing.

1. Introduction

After the 1970s, people linked the environment and security to conduct research and produced the term “environmental safety”. From the Cold War period to the end of the Cold War, the study of "environmental safety" has gone through four generations. The first three generations of research mainly focused on the linkage between environmental issues and traditional national security factors. The fourth generation after the Cold War was examined from the perspective of non-traditional threats. At present, the concept of "environmental security" still lacks a unified understanding and research continues. However, this concept has gradually been accepted by various countries, the international community, and other non-behaviors, and has formed certain mechanisms and norms. It has even been included in the security strategies of some countries. In the 21st century, the study of "environmental safety" will continue to deepen under the framework of non-traditional security research. The reform of this article is mainly to lead students to go to

large-scale enterprises to conduct practical drills on the spot, to be familiar with some problems in the actual scene, to think through ways to solve problems, and to improve students' ability to use their brains to enrich and expand the knowledge of the course. Students are actively involved in innovation and entrepreneurship.

2. Multiple Interpretations of the Connotation of "Environment and Security"

The emergence of the concept of "environment and security" is one of the important results of environmental and safety research, but there are still differences in the specific understanding of the concept. Due to different research interests and policy orientations, the degree of concern for the environment and safety of scholars, institutions, and organizations from different countries and regions and backgrounds is different, and the understanding and description of the concept of "environment and security" is not the same which making "environment and security" an elusive concept. Despite this, many researchers have not evaded this important issue. They have been trying to give a definition of "environment and security" or to outline the content and scope of the concept.

Considering the traditional concept of security, it emphasizes that the threat posed by environmental issues or interference caused by environmental issues to national security is concentrated in the aspects of force, control, confrontation, and conflict; the other is more macroscopic and broader security. Concepts such as the concept of "environment and security" that are consistent with "common security," "global security," and "human security," include multiple levels of security considerations, treating humanity as a fate community, and emphasizing that environmental degradation will undermine the common well-being of mankind.

Deboreckenou is a mastermind of the above discussion. Based on his previous research, he made a rather authoritative summary of the connotations of "environment and security" in the new century, covering five major areas and the traditional security paradigm ranks from weak to strong:

(1) Security agencies and environmental information monitoring. The supervision of the implementation of environmental information collection and implementation of environmental treaties by security agencies (mainly intelligence agencies) is a concept that minimizes the assumption of the traditional security paradigm. This view gained more support from the bureaucracy after the Cold War. It was manifested by the leadership's drive to institutionalize environmental information collection and treaty monitoring by security agencies.

(2) The harmful consequences of war and security mechanisms. This view points out that military and military operations directly and indirectly affect the environment in many ways. The most obvious one is the environmental consequences of war. In times of peace, military and military facilities are also the main polluters of the environment. Military waste and military activities have potential impacts on the environment. Therefore, this view requires that the military is responsible for the environment or "green military."

(3) The threat of environmental issues to national security (the topic of environmental and conflict linkages is its narrow concern). The school's view is most linguistically attractive. They believe that environmental or environmental problems pose multiple threats to national security. They include domestic conflicts and instability, competition for resources between countries, and environmental migration. Therefore, environmental issues are aspects of national security that need to be considered.

(4) Environmental issues are a path for establishing dialogue, trust, and mediation. Traditional security agencies actively promote such security dialogues and cooperation as a tool to maintain stability, while environmental benefits are generated as a secondary benefit. Since the end of the Cold War, as non-traditional security threats have received more and more attention, this view has also changed and needs to be understood in the context of specific regions.

(5) Ecological security or human security. This is a very macro concept of “environment and security”. The environmental safety goals that have been affected by environmental threats have been expanded to include the international community and the regions, individuals, and ecosystems below the national level. The concept is that environmental threats are not only a real threat but also the ultimate threat to the future of humanity. However, this view is more of a theoretical and rhetorical level, because the broad concept makes the operational level more difficult, mainly as a lack of suitable and effective international mechanisms.

3. Enlightenment from the Research on Innovation and Entrepreneurship in Environment and Safety Curriculum

The school of the future should be a teacher and student as a whole. Teachers and students should be equal and promote each other in the classroom. In addition to investing the energy in textbook research, teaching plans, and teaching and technology studies, the teacher also needs to meet the expectations of the future teachers. It is to use various methods to fully mobilize the students' enthusiasm for learning. In the school of the future, the most important task of the teacher is not to inculcate knowledge on the podium, but to become a designer of learning behaviors, and to be able to make introspections on students’ learning behaviors in time to prevent every child from falling behind. It is precisely because of this that through the study of this teaching reform, some new ideas in the teaching of environment and safety have been summed up.

1) The key content that links part of it with reality, especially the content that will cause important environmental and security impacts, will be explained in the form of on-site observation, return to the class and then focus on discussion. Finally, each student will check the information and write an article. A small paper promotes students' mastery of knowledge, especially key knowledge.

2) Inspire students' creative nature, especially those students who are determined to engage in scientific research. They have developed a keen interest through on-site observation. After returning to the classroom, their learning has greatly changed and they actively participate in all aspects of learning and living. It also ignited students’ enthusiasm for learning, especially for students who had not studied in the past. Through on-the-spot observation and explanation, they had repositioned their boring textbook knowledge, turning from past boredom into affection, and their mental outlook was greatly affected. Through this study, the enthusiasm of students for innovation and entrepreneurship was aroused, so that students truly understood the actual needs of innovation and entrepreneurship and received relatively good application results.

3) At the same time, the course has also attracted unprecedented interest from managers and technicians in the company. Through contact with the middle school students, it also stimulated their passion for innovation and entrepreneurship, and brought this passion to the school. These first-line managers and skilled workers have made their students’ enthusiasm more exciting.

4. Experiment

4.1. Questionnaire design

Questionnaire survey is a basic and commonly used research method to search information through the distribution and recovery of the questionnaire. For the purpose of this study, based on Johnson's language learning cognition and presentation questionnaire, the questionnaire of this paper is formulated. After revision and preliminary test, the questionnaire is determined to be the formal questionnaire supporting this paper. The questionnaire is for 250 students from two universities, and the title is "innovation and entrepreneurship teaching reform after class of environment and safety". 300 questionnaires were distributed and 295 valid questionnaires were

collected, with an effective rate of 98.3%.

4.2. Reliability Test of the Questionnaire

The so-called half-reliability is to divide the questionnaire into two halves, and then calculate their reliability coefficients separately. When the reliability coefficients of the two halves are the same, the Spearman-Brown formula is often used to obtain the reliability coefficient of the entire questionnaire.

$$r_{SB} = 2r_{SH} / (1 + r_{SH}) \tag{1}$$

When the coefficients of the two halves are not the same, the Lulun formula should be used for calculation.

$$r_{Rulon} = 1 - \frac{S_{a-b}^2}{S_t^2} \tag{2}$$

5. Construction and Reform of Extracurricular Innovation and Entrepreneurship in Environment and Safety

Table 1. A survey on the strategies of curriculum reform

	College A	College B
The center carries out secondary management in Colleges and universities	43.9%	52.4%
Establish an experimental teaching steering committee	11.6%	15.2%
Establish a teaching and research team	28.4%	21.7%
Focus on student-centered ability development training	16.1%	15.5%

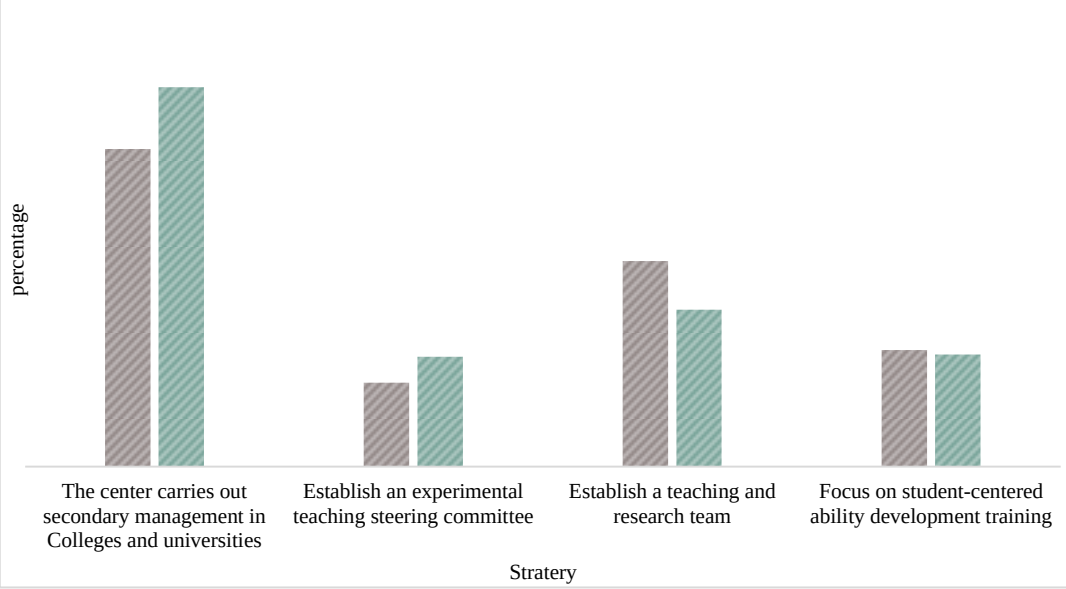

Figure 1. A survey on the strategies of curriculum reform

According to the data obtained from the survey of two colleges and universities, as shown in Table 1 and Figure 1, the innovation and entrepreneurship teaching reform strategies can be summarized as follows.

5.1. Optimize the Center of the Management System

The center implements the second-level management of the university and college. The college of Environment and Safety Engineering is fully responsible for the experimental teaching, scientific research, open experiments, and innovative personnel training related to the environment and safety disciplines. The university is responsible for the specific construction of the center and provides its construction, operation, and maintenance funds. While undertaking the school teaching, scientific research and student professional practice and experimental teaching work, the Center also actively conducts research on the experimental teaching curriculum system, content, theory and technical methods and means, and is responsible for training and providing specialized personnel open service. The full-time laboratory technicians of the environment and safety engineering are responsible for the preparations before the experiment, the organization and management during the experiment, assisting the teacher in guiding the student's experiments, the maintenance of the equipment and the management of the daily work of the laboratory, and also responsible for the laboratory file management. Student records (including student test reports), instrument maintenance records, laboratory logs, instruction manuals for various experimental instruments and equipment, and accounting, cards, and other materials of equipment and equipment are standardized and management is established, and “eight books and one card” management is established. system.

5.2. Improve Quality Assurance Mechanism

(1) Establish an experimental teaching steering committee. In order to promote the reform and development of the center's experimental teaching, ensure the quality and effectiveness of teaching, and at the same time promote the organic integration of teaching, scientific research results and experimental teaching, and continuously inject new contents into experimental teaching, The Center established an experimental teaching steering committee composed of instructional instructors, university business experts and students. The Experimental Teaching Steering Committee regularly convenes relevant personnel of the center to discuss various issues in teaching reform, curriculum construction, and experimental teaching, to review the self-made R&D and purchase of related instruments and equipment in the construction of the laboratory, and to update and reform the proposed experimental content. At the same time, it is recommended that the latest teaching and scientific research results be enriched in experimental teaching content.

(2) Establish a teaching and research team. The center has established a platform teaching and research team, and each team is responsible for project planning, construction, and discussion in related areas, and has promoted continuous deepening of the practice training reform on the platform. In the construction of experimental new projects and commitment projects, strengthen the development and application of self-made experimental equipment devices, expand the content of experimental projects, and improve the quality of practical teaching. Through the introduction, absorption, and innovation, we will continue to improve the teachers' literacy and engineering practice of the center's teaching staff.

(3) Make full use of network resources. Through the establishment of the center's website, it will promptly announce the update of relevant experimental development information, provide a platform for students, teachers, and the society to learn, communicate, interact, and serve, and ensure the full opening of the center.

5.3. The Direction of Environmental and Safety Practice Center Development

Focus on student-centered ability development training. Following the requirements of national engineering education and the development requirements of “New Engineering”, the research and

practice of innovative education is centered on students. In the process of cultivating innovative talents of environment and safety, the theoretical research on innovative education will be adhered to, and innovative talents will be trained. The purpose of the project is to penetrate the construction of the discipline system and the comprehensive training center. According to the principle of "the root of innovation lies in practice", starting from the actual conditions and applications of the project, in the reform of the curriculum system, we will pay attention to the comprehensive training of students' basic engineering knowledge and practical ability, and improve the overall quality of the students through practice. It is planned to establish a three-level training system for basic ability development, comprehensive ability enhancement, and scientific research capacity-building to maximize the students' ability to lay a solid foundation and improve their comprehensive capabilities and scientific research capabilities.

6. Summary

At present, there is still a lack of a unified understanding of the concept of "environment and security". The study in this field is not mature enough, and it has not yet constituted an effective framework of action in practice. However, this concept has been deeply rooted in people's minds. Since the beginning of the 21st century, the international security situation has become more complex and the security threats have become more diversified. The actual and potential threats to environmental issues are still very serious. It will be a long-term strategic issue facing the security sector in this century, and it will address the environment and security. The study will also continue in-depth under the overall framework of non-traditional security research. In this context, this paper comprehensively reviews the evolution and research history of foreign "environment and security" theories, which not only can we further deepen our understanding of this important concept, but it can also provide an important reference and reference for China's "environmental and security" theoretical construction and practice. Its practical significance is self-evident.

Funding

This article is not supported by any foundation.

Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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