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Exploration of Teaching Practice and Reform of Emergency Management: Taking the Course of "Emergency Rescue and Disposal of Accidents" as an Example

Jiajie Zhai*

Changchun Institute of Technology, Changchun 130000, China

Corresponding author: Jiajie Zhai, zjj2312354993@163.com

Abstract: In recent years, various types of accidents have occurred frequently, and the situation of emergency management has been grave. Major universities have launched emergency management-related majors, and the teaching quality needs to be enhanced. This paper conducts an exploration of the teaching practice and teaching reform of emergency management by taking the course "Accident Emergency Rescue and Disposal" as an example. Focusing on the training of professional talents in emergency rescue, this paper analyzes the problems existing in the teaching process of this core professional course based on teaching practice and puts forward corresponding suggestions for teaching reform.

Keywords: Emergency rescue; Emergency treatment; College teaching reform

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1. Introduction

Emergency rescue and handling is a compulsory course for undergraduates majoring in emergency technology and management. At present, the emergency management situation is severe, which puts forward higher requirements for the relevant responsible departments in the ability and effect of emergency rescue and disposal of accidents. Taking this course as an example, from the perspective of teaching reform, ways to better adapt the setting of course content to the changes in the environment of emergency management and how to train professional talents to meet the needs of social job responsibilities are the primary issues that need urgent consideration and solution in all universities [1].

"Emergency Rescue and Handling of Accidents" is a professional course with strong practical performance, which is set up based on students having courses on emergency management, disaster risk assessment and management, emergency monitoring and early warning, etc. [2] Through the study of this course, the purpose is to enable students to master the basic theoretical knowledge of emergency rescue and disposal, help students

master the key links of emergency rescue and disposal process, and cultivate students' emergency rescue and disposal ability. Therefore, students majoring in emergency technology and management need to integrate into the classroom through various teaching methods, rich teaching content, active participation and interaction, and gradually master the principles, methods and procedures of emergency rescue and disposal at different types of accident sites through theoretical knowledge learning and practical operations [3].

Through exploration of the teaching practice and teaching reform of this course, it can provide a reference for the front-line teachers of relevant emergency majors in major universities in China to improve the teaching quality of this course.

2. Current teaching practice of the "Emergency Rescue and Disposal of Accidents" course

The establishment of the major in Emergency Technology and Management aims to enable students to understand the relevant guidelines and policies in the field of national emergency technology and management, be familiar with the laws, regulations, and major norms of public safety, ecological environmental protection, disaster prevention and reduction, fire protection, geology and mining, transportation, meteorology and other related industries, and form good professional ethics [4]. Having a solid and broad basic theory of modern public safety and systematic in-depth professional knowledge, mastering the basic theory of natural science, emergency theory, technology and management, engineering and other knowledge can adapt to the job and career development requirements and creatively analyze and solve complex engineering problems in emergency technology and management.

Textbooks and courses are the basis for the development of the subject. At present, the construction of relevant teaching materials and curriculum resources is insufficient, the development efforts are limited, the basic general courses are imperfect, and the construction of practical technical skills courses lacks a high level [5]. The teaching method is relatively simple. Most of them are lecturing and infusing teaching methods, and students have little enthusiasm, difficulty in reflecting interaction, lack of attention, and lack of deep thinking in this traditional teaching classroom. The team of emergency management teachers is faced with the following challenges:

(1) The number of professional teachers is insufficient, which is difficult to meet the requirements of the comprehensive development of the discipline;

(2) Most teachers still have a lot of room to improve their basic and professional knowledge of emergency management;

(3) The connection between teachers' teaching and research and emergency practice needs to be improved, and the application orientation is not strong [6].

3. The cause of the problems in the teaching practice of the "Emergency Rescue and Disposal of Accidents" course

3.1. Scarce teaching resources

This course is a new course and is still in the "initial stage." In order to train emergency management talents and adapt to the complex situation that various types of accidents occur frequently in China, many colleges and universities have opened relevant majors. However, compared with the developed countries, the emergency management talents in Chinese universities are scarce and the number of experts is small. Professional textbooks

and quality courses are limited, Chinese textbooks are mostly translated textbooks, and the content of textbooks is less related to specific accident rescue and disposal. In the teaching process of accident emergency rescue and disposal, the practical equipment is expensive, the procurement fund is insufficient, the existing laboratory is small, the function is single, the facilities are not advanced enough, and it is difficult to play a full role.

3.2. Scattered teaching content

The course of accident emergency rescue and disposal focuses more on the scientific procedures, diversified methods, and optimization of effects of rescue and disposal [7]. The contents of emergency rescue and disposal include: main responsibility, process, principles of disposal, methods of rescue and disposal, etc. At present, in the teaching process, due to the limited number of professional textbooks, teaching can only rely on relevant textbooks of the same discipline as teaching support. However, there are many overlapping knowledge points in the course content, such as emergency monitoring and early warning, emergency management and other contents have been learned, and the content of this course is very limited. In addition, because the teaching content is mostly selected from different reference materials, the teaching content of the course Emergency Rescue and Disposal is scattered and lacks a certain teaching main line. In class, students may learn less systematically and master more scattered knowledge.

3.3. Single teaching method

In traditional higher education, most of the teaching process is lecture-based teaching, and other teaching methods are not fully applied. The interaction between the class and students is limited to asking questions, and students' thinking is not deep enough, and they only memorize some boring theoretical knowledge, which makes it difficult to exercise and improve their ability of independent thinking and problem-solving. The combination with the practical operation of emergency rescue and disposal of accidents is not deep enough [8].

3.4. The training of practical operation ability needs to be improved

Although the course design and experiment links are set up, the practical teaching effect is not significant enough. Under the premise of limited teaching resources and conditions, the accident site can only be simulated by existing equipment, and the division of personnel and rescue and disposal methods of different types of accidents can only be practiced by virtual means [9], which is difficult to truly train students' practical operation ability.

4. The exploration of teaching reform direction of "Emergency Rescue and Disposal of Accidents"

4.1. Improve the construction of the discipline system and focus on interdisciplinary integration

The course of accident emergency rescue and disposal has the characteristics of cross-disciplinary, cross-professional, multi-department and multi-industry cross-integration and cooperation. Given this course, it is important to combine the advantages of this major and the employment needs of graduates to find out the professional development orientation. Colleges and universities with related majors can focus on strengthening the basic and cutting-edge theoretical research of emergency technology and management, and cultivate comprehensive talents of emergency management. The discipline construction opens up a new space for the cross-development of emergency technology and management disciplines and establishes a big safety

and emergency framework. It exerts great importance on the cross-departmental, cross-disciplinary and cross-professional construction, emphasizes intersectionality and integration, and closely links emergency management with disciplines and professions such as law, disaster science, psychology, meteorology, sociology, communication, public health and preventive medicine, public safety and fire safety engineering [10]. In addition, it guides more practical departments to participate in the training of talents in the field of emergency management, forming a three-dimensional discipline knowledge, theory and practice system. The integration can also promote the transformation of public security governance model into pre-prevention, gradually adapt to the rapid development trend of emerging technologies such as information technology and artificial intelligence, exert importance to the empowerment of digital technology, actively promote the application of emerging technological means such as artificial intelligence and big data, and strengthen the correlation, aggregation, mining and analysis of relevant case data in the teaching process of this major. The intersection and integration of emerging disciplines such as emergency technology and management and artificial intelligence should be strengthened to make scientific and technological innovation a new base for the modernization of emergency management and to provide theoretical and technical support for the treatment and rescue of various accidents based on basic research [11].

4.2. Strengthen the construction of supporting teaching resources and build a professional team of teachers

The construction of teaching materials for "Accident Emergency Rescue and Disposal" related professional courses was promoted with practical application orientation as the focus. In the course of teaching, curriculum and teaching materials have always been the cornerstone of the development of the subject, so we should keep pace with the era and constantly update. On the one hand, strengthen the construction of emergency management-related professional courses. At present, accidents are sudden and changeable all over the world, and countries pay more attention to this field, and the breadth and depth of research have also made great progress. Therefore, universities can learn from the experience of some advanced countries in the world, such as the historical background, current situation and existing problems, policies or regulations, case experience and lessons, advanced technology and application of emergency management-related majors are sorted out in combination with the national conditions and the actual situation of major universities to promote the development of several professional courses with high standard, creativity and application [12]. Relevant professional courses and textbooks should be classified and coordinated to ensure that basic general courses, professional theoretical courses and practical courses are more timely, applicable and practical.

The second is to use the Internet platform to maximize the benefit of MOOCs resources. The popularization of the Internet enables the sharing of course resources across the limitations of time and space so that more course resources can be shared. Therefore, the resources of MOOCs should actively be explored and strive to achieve the optimization of the application effect of video open course sharing course. To maximize the audience scope of resource-sharing courses, steps such as vigorously promoting resource platforms of major open courses, and gradually reducing the threshold of use can be carried out. Some high-quality courses and resources can also be used for free, and truly share resources. Through this channel, the platform's popularity and breadth of use can be rapidly expanded.

According to the needs of emergency practice and discipline development, all colleges and universities should attach great importance to the planning and implementation of emergency management teacher team construction with a global vision and strategic thinking, actively build stable and reasonable talent echelons of

old, middle-aged and young people, establish professional and dynamic emergency teacher evaluation standards, and actively innovate teacher introduction and training mechanisms. At the same time, a pool of industry experts should be established to optimize the construction of think tanks. Actively build an "academic and practice two-way exchange" mechanism [13] to promote orderly and effective cross-border exchange of emergency personnel between academic research departments and practical application departments, and promote the full integration of theory and practice in the field of emergency response.

4.3. Explore diverse teaching methods and improve the personnel training system

For the highly practical course of accident emergency rescue and handling, it is necessary to ensure that the teaching methods should be more diversified, such as emergency management scenario simulation and case teaching, practice method, case analysis method, simulation practice method, situational teaching method, group discussion method, etc. to enable students to have immersive classroom experience and fully participate in classroom interaction. In the teaching process, the latest accident emergency rescue and disposal cases in the country and even the world are constantly classified to form a case database. The case experience and lessons can be developed as practical experience to further improve the theoretical level and practical ability of emergency management.

Constant improvement of the talent training system in line with the major layout of colleges and universities, and the curriculum arrangement should focus on strengthening students' emergency rescue and handling ability. It is necessary to continuously optimize the multi-level and multi-type emergency personnel training system, and accelerate the training of composite, innovative and applied talents in the field of emergency management to meet the needs of disciplinary development.

(1) Strengthen degree education

Under some professional institutions or major universities, especially the top schools in the discipline construction of emergency management, it is necessary to play an exemplary role. For example, to carry out the personnel training for academic and professional masters in this field, gradually realize the scientific and reasonable setting of personnel training goals, ensure the orderly promotion of industry-university cooperation and collaborative education, systematically build comprehensive management personnel and professional personnel teams for various professional directions under emergency management, and ensure the continuous improvement of the quality of personnel training [14].

(2) Conduct relevant training

The field of emergency management is wide, and the accidents dealt with are various and complex. Because of this, colleges and universities can adopt efficient and targeted professional training on emergency rescue and handling for students, transform the experience and lessons from the latest accident rescue and handling practical cases into basic theoretical knowledge and practical experience, and quickly disseminate it through short and quick training methods.

(3) Carry out social publicity and education

At present, many festivals can be used as an opportunity to publicize, but the popularity is not high, such as International Day for Natural Disaster Reduction, National Day for Disaster Prevention and Reduction, Work Safety Publicity and Consultation Day, World Work Safety and Health Day, World Safety Day, etc. In the context of big data, colleges and universities can use media and other diversified communication and education channels to publicize knowledge in the field of emergency to students, and can also use AR technology to let students have an immersive experience, to improve students

emergency awareness, professional rescue knowledge and on-site response and accident handling ability.

4.4. Curriculum integration into practical teaching

The "Accident Emergency Rescue and Disposal" course is designed to help students master the emergency management theory, emergency on-site rescue and disposal and other aspects of professional ability, on-site first aid treatment, common natural disaster risk response methods, etc. Therefore, it is necessary to strengthen students' proficiency in handling similar accidents by simulating and practicing the steps of emergency rescue and disposal. A three-dimensional emergency simulation and drill system can be used to define the division of responsibilities, refine the disposal process, dispatch emergency resources, and ensure the disposal effect to help students establish an overall concept in the process of emergency rescue and disposal. Through practical training teaching, simulation exercise, immersion experience and in-depth interaction, the process and key points of emergency rescue and disposal of accidents are mastered and the teaching objectives are achieved [15].

Disclosure statement

The author declares no conflict of interest.

References

[1] Yu Y, Li Z, Zhang S, 2019, The Exploration and Practice of Curriculum Thinking and Politics in the Construction of Professional Curriculum in Colleges and Universities – A Case Study of Accident Emergency Rescue Curriculum. China Emergency Rescue, 24(1): 73–74.

[2] Liu D, Chen L, Zhou X, 2023, Reform of Teaching Mode Based on Diversified Curriculum System. Education and Teaching Forum, 2023(16): 121–122.

[3] Li H, Guo J, An Y, et al., 2019, Exploration on Teaching Reform of Emergency Management Majors. China Technical Equipment, 2019(22): 472–473.

[4] Zhou L, 2022, On the Reform and Practice of Practical Teaching of Emergency Management Course. Journal of Zhejiang University of Science and Technology: Social Science Edition, 48(2): 238–245.

[5] Zhang X, Feng D, Wang J, 2023, Practice of Ideological and Political Teaching Reform in Emergency Management Course. Modern Commerce and Trade Industry, 6(1): 88–89.

[6] Yang X, Li Y, 2015, Exploration on Teaching Practice and Teaching Reform of "On-Site Handling of Emergencies." Reform and Exploration: Yunnan Science and Technology Management, 18: 11–13.

[7] Qian H, 2013, Discussion on Teaching Reform of Emergency Management Skill System Construction from the Perspective of Behavioral Safety. Advances in Safety Science, 23(3): 166–169.

[8] Li H, Guo J, An Y, 2019, Exploration on Ideological and Political Teaching Reform of Emergency Management Majors. China Educational Technology and Equipment, 2019(22): 86–88.

[9] Liu J, 2021, Research on Ideological and Political Practice Paths and Methods of Fire Physical Training Under the Background of "Total Disaster and Great Emergency Response." Fire Protection Today, 6(7): 125–127.

[10] Li X, 2020, Conduct Drills Based on Improving Emergency Response Ability "Close to" Actual Combat. Modern Occupational Safety, 2020(12): 30–33.

[11] Yao J, Liu L, Pan L, 2019, Reform and Practice of Ideological and Political Integration in the Teaching of Safety Engineering Courses from the Perspective of New Engineering – A Case Study of Production Safety Regulations

and Standards. Guangdong Chemical Industry, 47(5): 246–247.

[12] Guo T, Jiang Y, Qin Y, 2021, Research and Practice on Ideological and Political Teaching Reform of Emergency Management Major Curriculum. Heilongjiang Education (Higher Education Research and Evaluation), 2021(7): 88–90.

[13] Wang G, Sun T, 2018, A Brief Discussion on the Construction of National Emergency Rescue Personnel. China Emergency Rescue, 2018(4): 22–25.

[14] Lou S, Ma C, 2021, Focus Objectives, Difficulties and Directions of Curriculum Ideological and Political Construction in the New Era. Journal of Xinjiang Normal University (Philosophy and Social Sciences Edition), 42(5): 96–104.

[15] Jiang Z, Duan P, Wei J, 2022, The Implementation of Curriculum Thinking and Politics in the Course of Emergency Management. University of China, 2022(27): 77–80.