# **Exploration on Teaching Reform of Professional Courses under the Mode of Vocational Education**

Hongqiang Zhao<sup>1</sup>, Li Li<sup>1,\*</sup>, Weiling Li<sup>1</sup>, Yan Cao<sup>2</sup>, Kun Li<sup>1</sup>, Min Liu<sup>1</sup>

<sup>1</sup>Naval Aviation University Qingdao Branch, Qingdao, China <sup>2</sup>Political theory teaching and Research Office of 91206 Army \*Corresponding author:qdxqlixia@163.com

#### ABSTRACT

The focus of vocational education is to train professional talents under the guidance of post holding ability. At the same time, with the goal of improving students' post holding ability, we should scientifically reform the curriculum, teaching content, teaching methods and assessment methods. Aviation material storage management is an important main course for aviation material management specialty. Combined with the characteristics of wide range of knowledge, large amount of information and strong theory of the course, this paper has reformed and studied the teaching content, teaching mode, practical teaching and evaluation methods respectively. Practice has proved that the teaching reform measures are feasible, which not only stimulate the students' learning interest, but also enhance the teaching effect and greatly improve the students' post holding ability.

Keywords: Teaching reform; Post holding; Aviation material management

#### **1. INTRODUCTION**

As the main content of education and teaching in military colleges and universities, post education is the inevitable choice for military education to adapt to the new military reform under the new historical conditions. We deepened the reform of vocational education and teaching, further improved the quality of talent training in military colleges and universities, and laid a solid foundation for a large number of high-quality new military talents. The purpose of vocational education is to enable students to have more knowledge and ability required by their posts within limited training time. Therefore, vocational training should take cultivating students' post holding ability and meeting the needs of the army as the starting point and foothold of college training. Compared with academic education, vocational education has its own characteristics and laws. To study and grasp the characteristics and laws of vocational education and improve the pertinence and effectiveness of teaching is of great significance to promote the transformation of military education and the teaching reform of colleges and universities, and improve the **ove**rall quality and level of running a school<sup>[1]</sup>.

# 2. SPECIFIC MEASURES FOR TEACHING REFORM OF PROFESSIONAL COURSES

Aviation material warehouse management is a course set up according to the talent training scheme of aviation material management specialty, the requirements of aviation material regulations and post requirements, and the principle of "highlighting the management ability of aviation material warehouse and meeting the job requirements". The design idea of this course is: Taking "improving warehouse management ability" as the main line to select the content and build the system. Taking strengthening the professional level of the post as the starting point, while mastering the basic knowledge, we can achieve the purpose of cultivating professional ability with the help of teaching, scientific research, experimental practice and other activities. The teaching quality of this course determines whether the students of this major can quickly adapt to the post of aviation material assistant in the army after graduation. In order to make a real breakthrough in curriculum teaching reform, we must go deep into all links of the whole teaching process from teaching content to practical teaching, from teaching mode to evaluation mode, and carry out the reform comprehensively and systematically.



# 2.1. Optimize Teaching Content

The teaching goal of vocational education is based on the cultivation of post holding ability. In the past, the practice of emphasizing knowledge over ability, emphasizing theoretical teaching over practical experience from books to books must be completely abandoned. In the teaching process, it must be based on the optimization of content, the improvement of quality and the focus on ability students, so that students can verify theory in practical exploration, transform ability in rich and diverse teaching activities. Therefore, teaching content must be advanced, targeted and practical<sup>[2]</sup>. According to the post requirements of students as aviation material assistant after graduation, take "theoretical knowledge - management skills - job ability" as the idea, take the generation of students' post ability as the foothold, scientifically arrange the teaching content, combine the foundation and application, theory and practice, knowledge and skills, and increase the proportion of practical content in the teaching time, focus on cultivating students' ability to manage warehouse, equipment and reservoir area.

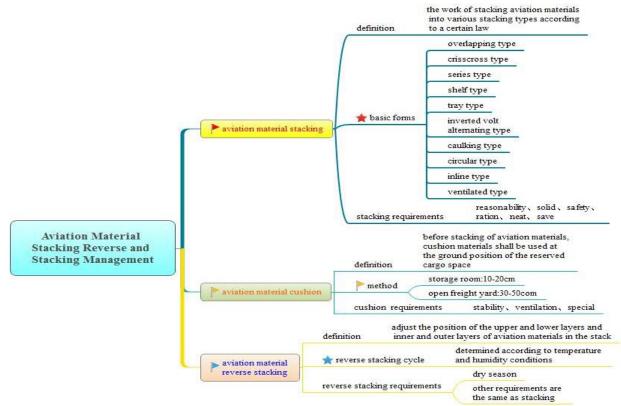
Based on the above teaching ideas, this course has five knowledge modules. The "management knowledge" module requires students to master the theories related to aviation material warehouse management, which is the theoretical basis of this course. The "information management" and "coastal warehouse" modules require students to master the coastal warehouse management knowledge and information management knowledge necessary for their posts, which is the embodiment of their professional ability. The "post responsibility" module requires students to master the legal knowledge of aviation material warehouse management, which is the expansion of the legal knowledge of "usual aviation material warehouse management" and the cultivation of students' legal awareness. The "storage method" module requires students to master and discuss the storage methods of inventory flying spare parts, airborne equipment and general equipment, which is the reserve of aviation material storage knowledge for students' subsequent learning.

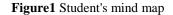
# 2.2. Innovative Teaching Mode

Network teaching uses advanced network technology and multimedia technology to build an interactive, independent and open learning environment, turning static into dynamic, intangible into tangible, and abstract into concrete. It breaks the traditional plane teaching mode of blackboard and picture with a clear, vivid and perceptible image, and realizes threedimensional classroom teaching, it greatly improves the teaching effect of post education. The network teaching mode can change the traditional teaching mode from teacher centered to student-centered. It provides an open learning environment for students' active learning and personalized learning. Following the principles of feasibility and practicality, we have constructed a network-based teaching mode of "demand-learninganswer-cooperation-assessment". Its design idea is to develop a teaching platform with simple operation, friendly interface, clear navigation and flexible expansion based on the "network teaching application system of military colleges" and with the help of advanced network technology and the integration of multimedia information resources. The new networkbased teaching mode is no longer limited by time and space. All teaching contents (electronic courseware, network teaching materials, reference materials, afterschool exercises) can be obtained from the Internet. All teaching activities (announcements, lectures, assignments, discussions, answering questions, exams, etc.) can be carried out through the Internet, which can meet the needs of personalized post education to the greatest extent.

Cooperative learning is a learning method between collective teaching and individual learning. The online cooperative learning platform creates an environment for students to negotiate, discuss and explore learning. Cooperative learning model has many advantages, such as the discussion and exchange among students can produce the exchange and collision of various views, and the cooperative learning of students can cultivate the cooperative spirit of unity and cooperation. Therefore, it has been widely used in post education and training. For example, when we talked about the teaching content of "stacking form and stacking cycle of aviation materials in the warehouse", we adopted the teaching mode of students' cooperative learning. Firstly, the trainees are grouped according to the main types of warehouses (mechanical warehouse, airborne equipment warehouse and material warehouse) according to the different research contents; Secondly, arrange students to go deep into the off campus practice base for field investigation, and discuss and summarize in combination with the interior pictures of naval warehouses provided online, so as to deeply understand and master the teaching content; Finally, each group will assign student representatives with their own mind map to explain how different warehouse contents are stacked according to the packaging weight, quantity and performance of aviation materials(Figure 1). In order to reduce the difference in the performance of aviation materials and prevent the aviation materials at the bottom and inside the stack and their packaging from moisture, failure, corrosion and mildew, how the inventory aviation materials are stacked. After the communication is completed, the teacher refines and summarizes the teaching content, and requires the students to upload the summary report to the network teaching platform for mutual reference and learning. Through this way of cooperative learning, the students share learning responsibilities and

information resources, mobilize their learning enthusiasm and initiative, and develop their advanced cognitive ability, it is conducive to the formation of students' healthy emotions <sup>[3-4]</sup>.





Teaching practice has proved that the network-based teaching mode not only solves the problems faced by the course, such as messy knowledge points and boring theoretical teaching, but also solves the problems existing in traditional teaching, such as simple teaching methods and lagging teaching means. In class teaching and extracurricular teaching have been enriched and strengthened, and the dynamic renewal of course teaching content, flexible and diverse teaching methods have been realized. The advanced and effective teaching means and the convenient and fast communication between teachers and students make the course teaching full of vitality, and greatly enhance the attraction and appeal of the course. This research will be of great significance for optimizing the post education structure system and cultivating high-quality post qualified talents.

# 2.3. Strengthen Practical Teaching

The remarkable feature of vocational education is to cultivate students' practical operation ability. The teaching in vocational education is no longer aimed at cultivating students with high theoretical level, but at cultivating students with strong post holding ability. The essence of practical teaching is to put teaching in various practical activities, let students apply what they have learned, transform knowledge into ability, cultivate innovative spirit and ability, and finally realize the seamless connection between training objectives and post practice. Therefore, strengthening practical teaching and cultivating students' post ability has become the top priority of teaching<sup>[5-6]</sup>.

Aviation material warehouse management is a highly practical course, such as warehouse plan management, warehouse equipment management, warehouse safety management and warehouse temperature and humidity management. Because the on-campus laboratory cannot fully meet the teaching needs, some contents must be completed with the use of off-campus practice base. As an aviation material assistant, in order to effectively and comprehensively guide various warehouse management activities, a variety of plans need to be prepared in the work. Therefore, after the teaching of "warehouse plan management" theory, we divided the students into groups to prepare the air material storage plan, air material large-scale collection and distribution plan, warehouse equipment maintenance and renewal plan, annual warehouse clearance and inventory plan, air material application plan, etc. according to different tasks, and arranged the students to conduct research in nearby air material units, carry out on-site learning with the aviation material personnel of the army, and ensure the scientificity and feasibility of the plan under their help and guidance.



### 2.4. Reform The Evaluation Method

The key link to test and ensure the quality of post education is assessment and evaluation. The evaluation of students' learning effect will eventually be fed back to the whole process evaluation of various links, such as the design and development of online courses, the design and implementation of teaching strategies, answering questions and guidance of course content, course homework and periodic tests. Among them, the application of network assessment system is not only conducive to tracking students' learning progress, but also convenient for students to test their learning effect, so as to promote students to study purposefully, so as to improve learning interest and learning effect. Therefore, we have reformed the assessment method of the course, and the assessment method mainly adopts peacetime performance, theoretical assessment and practical skill assessment. (1) Usual performance. A learning file shall be established for each student, which shall be recorded by the instructor according to the "evaluation content" (such as classroom performance, attendance, etc.), and the relevant materials (such as internship report, scientific and technological paper, etc.) shall be put into the file. This part accounts for 20% of the total score. (2) Theoretical assessment. Theoretical assessment is mainly to assess the mastery of basic concepts and basic principles, focusing on understanding and application, in the form of closed book. This part accounts for 50% of the total score. (3) Practical skills assessment. The practical skill assessment is mainly to check the mastery of students' basic professional ability, and select topics by drawing lots. This part accounts for 30% of the total score. This diversified assessment method not only enhances the students' learning enthusiasm in practical teaching, but also objectively reflects the students' comprehensive quality. It is worth popularizing and applying in the later teaching implementation process.

#### **3. CONCLUSIONS**

Aviation material storage management is a main course combining theory with practice. This course plays an important supporting role in the cultivation of qualified talents in this major. Through the reform of teaching content, teaching mode, practical teaching and evaluation methods, the enthusiasm and initiative of students have been mobilized, the teaching quality and teaching effect have been improved, and the post holding ability of students has been greatly improved.

### REFERENCES

- [1] Wei Jin, Yihong Li, Weimin Jia, et al. Exploration on teaching reform of telemetry system series courses for on-thejob training in military academy[J]. Education and Teaching Forum, 2018 (11): 118-119.
- [2] Yan Tang, Chunzhou Yang, Sen Shen. Exploration on teaching reform of military Vocational Education[J]. Continuing education, 2018 (10): 86-88.
- [3] Juan Kang, Feng Chen. Exploration on teaching reform of management information system course for management specialty[J]. Educational modernization, 2020 (1): 57-58.
- [4] Jing Li. Teaching reform and practice of practical courses of logistics management specialty in Higher Vocational Colleges[J]. Logistics technology, 2018 (9): 159-161.
- [5] Wenyan Zhang. Research on practical teaching mode of Logistics Specialty in Higher Vocational Colleges[J]. Logistics engineering and management, 2017, 39 (3): 177-188.
- [6] Lei Wang, Huiping Xu. Discussion on practical teaching reform of Logistics Specialty in Higher Vocational Colleges[J]. Henan agriculture, 2017 (18): 23-24.