

Comprehensive Application Assessment and Evaluation of Unmanned Combat Engineering Major Exploration of Teaching Mode

Gang Wang, Yawei Li, Qiwu Wu *, Weicong Tan

School of Equipment Management and Support, Engineering University of PAP, Xi'an, 710086, China

* Corresponding author: Qiwu Wu (Email: wuqiwu700@163.com)

Abstract: With the rapid development of unmanned combat technology, the teaching of unmanned combat engineering is also facing new challenges and opportunities. This article aims to explore a comprehensive and applied assessment and evaluation teaching model to meet the teaching needs of unmanned combat engineering majors. This model focuses on the combination of theory and practice, emphasizing the cultivation of students' practical abilities and innovative thinking. By constructing a diversified assessment and evaluation system, this article proposes a project-based and task driven teaching method to improve the teaching quality of unmanned combat engineering.

Keywords: Unmanned Combat Engineering; Integrated Application Type; Assessment and Evaluation; Teaching Model.

1. Introduction

As an important component of modern warfare, unmanned combat technology has attracted widespread attention from various countries. With the continuous development of technologies such as artificial intelligence, big data, and cloud computing, the performance and application scope of unmanned combat systems are also constantly expanding. Therefore, it is particularly important to cultivate unmanned combat engineering professionals with innovative spirit and practical ability. However, traditional teaching methods often focus on imparting theoretical knowledge, while neglecting the cultivation of students' practical abilities and innovative thinking. In order to adapt to the development trend of unmanned combat technology, this article proposes a comprehensive and applied assessment and evaluation teaching mode, aiming to improve the teaching quality of unmanned combat engineering.

2. The Connotation of the Comprehensive Application Based Assessment and Evaluation Teaching Mode

The comprehensive application based assessment and evaluation teaching model is a project-based and task driven teaching method. It emphasizes the combination of theory and practice, and focuses on cultivating students' operational and problem-solving abilities in practical projects. This model comprehensively evaluates students' knowledge mastery, skill application, teamwork, innovative thinking, and other aspects by constructing a diversified assessment and evaluation system.

2.1. Project Orientation

Project orientation is the core of the comprehensive application based assessment and evaluation teaching model. It requires instructors to use actual projects as a background during the teaching process, guiding students to apply their learned knowledge to solve practical problems. Through the

implementation of the project, students can gain a deeper understanding of the principles, components, applications, and development trends of unmanned combat systems, thereby enhancing their understanding and mastery of professional knowledge.

2.2. Task Driven

Task driven is an important means of comprehensive application based assessment and evaluation teaching mode. It requires instructors to set a series of challenging tasks during project implementation based on project requirements and the actual situation of students. By completing these tasks, students can gradually master the operational skills and application methods of unmanned combat systems, improve their practical abilities and innovative thinking.

2.3. Diversified Assessment and Evaluation System

The diversified assessment and evaluation system is the key to the comprehensive applied assessment and evaluation teaching mode. It requires instructors to not only focus on students' knowledge mastery during the assessment and evaluation process, but also pay attention to their performance in skills application, teamwork, innovative thinking, and other aspects. By constructing an assessment and evaluation system that includes classroom performance, project reports, practical operations, team collaboration, innovative thinking, and other aspects, it can comprehensively reflect the learning outcomes and comprehensive qualities of students.

3. Implementation Strategy of Comprehensive Application Based Assessment and Evaluation Teaching Mode

3.1. Optimize the Curriculum System

In order to meet the needs of the comprehensive application based assessment and evaluation teaching mode, we need to optimize the curriculum system of the unmanned combat

engineering major. Firstly, it is necessary to increase practical courses related to unmanned combat technology, such as unmanned aerial vehicle control, unmanned combat system simulation, etc. Secondly, it is necessary to strengthen the connection and integration between courses, and avoid the repetition and disconnection of course content. Finally, it is necessary to introduce cutting-edge industry technologies and case studies to make the course content more closely aligned with practical needs.

3.2. Strengthen the Practical Teaching Process

The practical teaching process is an important component of the comprehensive applied assessment and evaluation teaching model. To strengthen the practical teaching process, we can take the following measures: firstly, establish an unmanned combat system laboratory to provide students with a good practical environment; The second is to carry out school enterprise cooperation, allowing students to participate in practical projects of enterprises and improve their practical abilities; Thirdly, organize various skill competitions and innovative activities to stimulate students' innovative spirit and teamwork ability.

3.3. Building a Diversified Assessment and Evaluation System

In order to build a diversified assessment and evaluation system, we need to take the following measures: firstly, establish clear assessment standards and requirements to ensure the fairness and objectivity of the assessment; The second is to introduce various assessment methods, such as classroom performance evaluation, project report evaluation, practical operation evaluation, etc., to comprehensively reflect the learning outcomes of students; The third is to focus on the combination of process evaluation and summative evaluation, paying attention to both the learning process and the learning outcomes of students.

3.4. Cultivate an Innovative Teaching Staff

An innovative teaching staff is an important guarantee for implementing a comprehensive application based assessment and evaluation teaching model. In order to cultivate an innovative teaching staff, we can take the following measures: firstly, strengthen the training and further education of teachers, improve their professional competence and teaching ability; Secondly, encourage teachers to participate in scientific research projects and industry practices, enhancing their practical experience and innovative abilities; Thirdly, establish incentive mechanisms to commend and reward teachers who have achieved outstanding results in teaching and research.

4. Case Analysis of Comprehensive Application Based Assessment and Evaluation Teaching Mode

The following is a case study on the comprehensive application assessment and evaluation teaching mode of unmanned combat engineering major.

4.1. Case Background

In order to improve the practical ability and innovative thinking of students in the unmanned combat engineering major of a certain university, a comprehensive application based assessment and evaluation teaching mode has been

adopted. This model is project oriented and task driven, and constructs a diversified assessment and evaluation system.

4.2. Case Implementation Process

Optimize the curriculum system: The university has optimized the curriculum system of the unmanned combat engineering major, adding practical courses such as unmanned aerial vehicle control and unmanned combat system simulation, and strengthening the connection and integration between courses.

Strengthen practical teaching: The university has established an unmanned combat system laboratory and carried out school enterprise cooperation, allowing students to participate in actual projects of the enterprise. At the same time, various skill competitions and innovative activities have been organized to stimulate students' innovative spirit and teamwork ability.

Building a diversified assessment and evaluation system: The university has established clear assessment standards and requirements, and introduced various assessment methods such as classroom performance evaluation, project report evaluation, and practical operation evaluation. At the same time, emphasis is placed on the combination of process evaluation and summative evaluation.

Cultivate an innovative teaching staff: The university has strengthened the training and further education of teachers, and encouraged them to participate in scientific research projects and industry practices. At the same time, an incentive mechanism has been established to commend and reward teachers who have achieved outstanding results in teaching and research.

4.3. Case Effect Analysis

By implementing a comprehensive application based assessment and evaluation teaching model, the unmanned combat engineering major at this university has achieved significant teaching results. The practical ability and innovative thinking of the students have been significantly improved, and their teamwork ability has also been strengthened. At the same time, this model also promotes teaching reform and innovation among teachers, improving the quality of teaching.

5. Conclusion

The comprehensive application based assessment and evaluation teaching mode is an effective method that meets the teaching needs of unmanned combat engineering majors. It emphasizes the combination of theory and practice, and focuses on cultivating students' practical abilities and innovative thinking. By constructing a diversified assessment and evaluation system, this model can comprehensively reflect the learning outcomes and comprehensive qualities of students. Practice has proven that this model can significantly improve students' practical abilities and innovative thinking, and promote teaching reform and innovation among teachers.

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