

Research on the Reform and Innovation of Practical Curriculum Teaching for Undergraduate Majors in Military Academies Guided by Post Ability

Kai Jin¹, Yuan Zhou^{2*}, Haiyan Li³, Haidi Dong⁴, Hanjing Wu⁵

{31726617@qq.com¹, zhouy7901@163.com^{2*}, haiyanli1818@163.com³, donghaidi123@163.com⁴, 1151325890@qq.com⁵}

College of Weapon Engineering, Naval University of Engineering, Wuhan, 430033, China

Abstract: This paper analyzes the current problems in the teaching of practice courses for undergraduate majors in military academies, and on the basis of fully understanding the innovative characteristics of the reform of practice courses in military academies, based on the guidance of post ability cultivation, constructs a teaching mode that meets the needs of military talents in the new era. This has good reference value for the reform and innovation of practice courses in undergraduate majors in military academies.

Key words: post ability; practice courses; teaching reform and innovation

1 Introduction

Practice courses, as the core courses in the undergraduate professional curriculum system of military academies, play a crucial role in cultivating students' post abilities and their long-term development. To meet the needs of future military positions, undergraduate students must be guided by the cultivation of post abilities at three levels: learning ability, practical ability, and innovation ability^[1], and construct a teaching mode that is suitable for the cultivation of new military talents. To carry out reform and innovation in the teaching of practical courses in military academies, we should pay close attention to the prominent contradictions and problems that exist in such courses, actively transform the traditional knowledge-oriented education concept, adhere to the post ability-oriented cultivation, reform and innovate the teaching mode of courses, and make the talent cultivation in military academies adapt to the needs of military construction reform and transformation as soon as possible.

2 The current situation and problems of major practice courses teaching

At present, in the implementation process of undergraduate major courses teaching in military academies, more and more emphasis is placed on practical teaching, and post ability-oriented teaching is gradually being introduced. However, in the actual teaching process, the integration between post ability-oriented and curriculum system is not systematic and perfect enough to meet the requirements of new military talent cultivation goals and teaching reform

and innovation, and the necessity and importance of post ability-oriented teaching is not fully reflected^[2]. This relatively lagging teaching model makes students' learning only focus on achieving results to a certain extent, while neglecting the improvement of post abilities.

2.1 Insufficient emphasis on post ability-oriented in teaching objectives

The teaching of major practical courses only emphasizes the impartation of theoretical knowledge while neglecting the cultivation of post abilities, resulting in students lacking the necessary post abilities, weak practical and innovative abilities, and a significant gap in the quality of talent cultivation from the needs of military positions. The specific manifestation is that the curriculum system design does not take the demand for military personnel as an important basis for teaching objectives, and the talent cultivation objectives do not take the cultivation of post abilities as the main input. The curriculum teaching objectives lack the most important link of post ability objectives, and also violate the principle of knowledge serving practice and professional theory serving post abilities^[3], resulting in a lack of targeted training for students, There is a certain disconnect between the talent cultivation goals and the actual needs of the military.

2.2 Relatively low proportion of practical teaching content closing to post requirements

The course content module setting and class hour allocation did not highlight practical teaching and post ability development. The course content module setting did not take the training needs of military positions as the starting point for teaching, nor did it take the generation of students' post abilities as an important teaching goal, resulting in the practical teaching content in the course content either not being close to the post requirements or occupying a relatively low proportion. When setting up course content modules, there was a lack of proper correspondence between ability points and knowledge points. When determining the attributes of teaching design elements such as class hours, credits, nature, and form of the course content module, it was not entirely based on the degree of correlation between post ability goals and the content module, resulting in unscientific and unreasonable attribute settings for these elements.

2.3 The construction of teaching resources is not closely related to post abilities

On the one hand, the curriculum system attaches great importance to the construction of teaching resources, but on the other hand, it often overlooks the corresponding relationship between teaching resources and post abilities. The teaching of professional practical courses should closely revolve around the teaching concept of "educating students for war", providing students with an environment and learning strategies that are conducive to the development of post abilities^[4]. At present, there is a lack of close integration between the relatively abundant teaching resources and the increasing requirements for post abilities. Classroom teaching and practical teaching develop in parallel, lack intersection, and fail to achieve deep integration of post ability cultivation and curriculum teaching resources, which cannot create good conditions for students to improve their independent abilities and stimulate their enthusiasm for actively cultivating post abilities, Exposed the drawbacks and shortcomings of current teaching resource construction.

2.4 Insufficient emphasis on post ability indicators in the evaluation mechanism

The course evaluation still focuses on knowledge-based summative assessment, while neglecting the process evaluation link of ability development. The current evaluation method is relatively single and one-sided, often only measuring students' understanding and mastery of course content based on their scores, while neglecting the evaluation of students' post abilities and comprehensive abilities such as self-learning, proactive thinking, problem-solving, and innovative practice. It does not truly guide and promote students' efforts to form post abilities. The reason for this is that the curriculum evaluation mechanism for post abilities has not yet been established or is not perfect enough, and the evaluation system lacks scientific and reasonable indicators related to post abilities. It is difficult to accurately evaluate students' comprehensive abilities represented by their post abilities through this evaluation method.

3 Constructing a major practice course teaching model guided by post ability

Post ability refers to the ability to complete post tasks obtained through learning and practice^[5]. Post ability orientation is an essential requirement for the teaching of professional practical courses in military academies. Various new methods and techniques should be fully utilized to enable students to acquire knowledge as needed and cultivate their comprehensive abilities for post positions. In terms of professional practical courses, it is necessary to understand the specific content of students' post qualifications, how to integrate ability cultivation more organically into the curriculum teaching system, how to carry out ability oriented teaching more effectively, and how to assess and evaluate whether the goal of ability cultivation has been achieved. Teaching oriented towards post ability focuses on the cultivation and improvement of post ability, and cultivates students' comprehensive abilities and qualities represented by post ability through teaching design, teaching methods, teaching methods, teaching resources, etc. that are close to the post^[6]. The difference between the ability oriented teaching mode and the traditional knowledge oriented teaching mode is shown in Table 1.

Table 1. The difference between post ability-oriented teaching mode and knowledge-oriented teaching mode

Project	Post ability-oriented	Knowledge-oriented
Teaching objective	Cultivate post abilities	Imparting knowledge
Curriculum system	Post ability system, significant practical training ratio	Subject knowledge system, theoretical significance
teaching method	Combining theory with practice, highlighting the cultivation of post abilities	Theoretical teaching
Teaching strategy	Teacher led, student led	Focusing on teaching
Assessment and evaluation	Knowledge and ability assessment, balancing process and summative assessment	Knowledge mastery level, mainly based on theoretical exams

3.1 Reconstruct teaching objectives and content modules

Based on the demand for new military talents in the new era and situation, comprehensively sort out the spectrum of post abilities, analyze the shortcomings and bottlenecks of the current teaching mode in post ability training, and formulate ability training goals that meet the needs of military positions. Improve the current talent cultivation goals, highlight ability orientation, focus on the cultivation of students' post abilities and comprehensive qualities required for military positions, rebuild a post ability cultivation target system that is suitable for the needs of military talents and matches the curriculum system, and optimize the teaching objectives and content system of the course by constructing a hinge relationship between the post ability spectrum and the curriculum content module^[7]. On the basis of clarifying the competency requirements of military positions, sort out the student competency catalog, analyze the corresponding competency and knowledge points of each competency, and then convert them into course content modules; Then, based on the principles of systematicity, logicity, and integration, the course content modules are reconstructed and optimized; Finally, based on the correlation between ability goals and course content, determine the attributes of teaching design elements such as nature, class hours, and credits, and screen the best online platforms, teaching methods, and learning methods^[8].

3.2 Optimizing teaching methods and means

Focusing on the guidance of post ability development, we aim to innovate curriculum design, optimize resource system, introduce advanced teaching methods and means, and evaluate the overall process of comprehensive ability and quality in various aspects such as top-level teaching design, teaching resource construction, classroom organization and implementation, and post class evaluation. Based on teaching objectives, teaching content, student needs, and teaching characteristics, the selection, combination, and use of teaching methods are selected, combined, and used to enhance the effectiveness of methods, enhance the infectivity of teaching, fully utilize online multimedia resources such as MOOCs and micro courses, make good use of various terminal devices and information technologies, and add various types of big data, cloud technology, and virtual reality technology to teaching to stimulate students' interest in learning, Stimulate students' innovation ability^[9]. Various new teaching methods, such as discussion based teaching, heuristic teaching, exploratory teaching, and participatory teaching, can be adopted to carry out online and offline blended teaching based on network carriers, and its effectiveness can be further explored and fully utilized. By utilizing new media to break through and expand traditional classrooms, we need to continuously explore and try various new teaching methods and means such as O2O, OBE, PBL, CBL, BOPPPS, flipped classroom, and blended teaching.

3.3 Improving the evaluation system and mechanism

Transforming the previous evaluation method mainly based on summative assessment, establishing an evaluation concept centered on process evaluation of ability development, establishing a comprehensive process evaluation system from three aspects of basic ability, core ability, and innovative ability around post abilities, and establishing corresponding evaluation methods^[10]. According to the characteristics of the professional practical courses in military academies, the composition and proportion of evaluation scores should be adjusted appropriately, and the proportion of process assessment should be increased. For example, the

ratio of process assessment scores to final exam scores should be changed from 3:7 or 4:6 to 6:4 or 7:3. Design assessment content based on students' post ability assessment, implement process based assessment of post ability development, and replace traditional knowledge-based assessment. This assessment runs through the entire training process of students during their school years, examining their post abilities as an organic whole. It not only examines students' mastery of professional knowledge, but also examines their post abilities throughout the entire school period. Based on this, accurate evaluations are made of students' comprehensive abilities and qualities^[11].

4 Conclusion

Adhering to the guidance of post abilities to carry out innovative teaching reform and practice of undergraduate practice courses in military academies is the key to the quality of talent cultivation work in military academies. In response to the problems in the teaching of practical courses for undergraduate majors in military academies, starting from the practical needs of cultivating high-quality and specialized new military talents, and on the basis of constructing a teaching model for professional practical courses guided by post abilities, the reform and innovation of post ability-oriented teaching are implemented, which has a good reference value for the reform and innovation of practice course teaching in military academies.

References

- [1] Kai Jin, Dengjian Fang, Haidi Dong et al.(2023) Research of online to offline blended teaching model based on ability-oriented. *China Modern Educational Equipment*, 04 : 77-80. DOI : 10.13492/j.cnki.cmee.2023.07.016
- [2] Chao Li, Peng Xie, Tao Wu et al. (2020)Research on Capability oriented Hybrid Teaching in the "Internet plus" Era .*Computer Education*, 4: 39-42. DOI: 10.16512/j.cnki.jsjy.2020.04.011
- [3] Bin Song, Fan Kong, Wenjun Wang et al.(2019) Exploration of the Teaching Mode Reform of Military Academy Equipment Curriculum Based on Ability Cultivation Orientation. *Journal of Higher Education*, 1: 125-126, 129. DOI: 10.19980/j.cn23-1593/g4.2019.01.043
- [4] Sutee Sermsuk, Chaiwichit Chianchana, Pairote Stirayakorn.(2014) A Study of Model of Vocational Curriculum Development Under Vocational Education Commission Using Cross-impact Analysis. *Procedia - Social and Behavioral Sciences*, 116(C):1896-1901. DOI: 10.1016/j.sbspro.2014.01.491
- [5] Shengzhi Yuan, Yuan Zhou, Shaolei Wang et al.(2021)Research on practical innovation of equipment teaching mode based on system fusion, *Journal of Naval University of Engineering* 9: 38-41. DOI: 10.13678/j.cnki.issn1674-5531.2021.03.010
- [6] Shengzhi Yuan, Jianguo Xu, Haidi Dong. (2021) Research and Practice on the Practical Teaching Mode of Equipment Exercise Course. *University*, 11 : 84-85. DOI : 10.3969/j.issn.1673-7164.2021.11.035
- [7] Ting Huang.(2017) Exploration and Research on Blended Teaching Mode Based on " MOOC " . *Journal of Kaifeng Institute of Education*,37 (4) :90-91. DOI:10.3969/j.issn.1008-9640.2017.04.040
- [8] Bo Tan, Yue Liang, Ping Yan et al.(2021) Research on the Teaching Reform of Ability-oriented Weapon specialty curriculum. *Journal of Higher Education*, 4 : 147-150. DOI : 10.19980/j.cn23-1593/g4.2021.04.036

- [9] Zhongxin Qin, Bingqi Liu, Liyu Dai. (2011)Teaching Reform of Military Management Course Based on Ability-oriented Training. *Journal of Higher Education Research*, 34 (1) : 89-91. DOI: 10.3969/j.issn.1672-8874.2011.01.027
- [10] Hodge Steven, Atkins Liz, Simons Michele.(2016) Towards an epistemically neutral curriculum model for vocational education: from competencies to threshold concepts and practices. *International Journal of Training Research*, 14(3):230-243. DOI: 10.1080/14480220.2016.1256895
- [11] Zhengdong Zhu, Xiaoyu Zhang, Jingxuan Tian et al.(2017) MOOC Blended Teaching Mode and Its Main Problems and Countermeasures in Implementation. *Computer Education*, 9: 94-97. DOI: 10.16512/j.cnki.jsjy.2017.09.022