The Focus and Content Innovation Essentials of Curriculum Construction in Military Academies of China

Wang Huimin*a,*, Jia Yizhuob, Ji Bingc

Forces Weapons and Control Department, Army Academy of Armored, Beijing, China
a h_m_wang@126.com, b 1185815853@qq.com, c 15510103809@126.com
*Corresponding author

Abstract: Curriculum is the core element of talent training, and the quality of curriculum directly determines the quality of talent training. In order to further improve the quality of course teaching and the level of education in colleges and universities, this paper analyses the main concerns of course construction in detail by combining the current situation of course construction in military colleges and universities with the teaching evaluation index system and standards of military colleges and universities. In particular, it puts forward the overall requirements for course content, highlights the cultivation of thinking ability, practical ability and innovation ability, carries out the reform and innovation of course content in a planned and organized way, realizes the systematic construction of course content system and standard, and finally fully implements it to the end of teaching, which lays a solid foundation for the realization of "trinity" military talents.

Keywords: military academies; curriculum construction; curriculum content; content innovation; education level

1. Introduction

The word "curriculum" was first seen in the ancient Tang Dynasty of China, when litterateur Kong Yingda annotated the sentence of "Very grand is the ancestral temple; A true sovereign made it" in the Book of Poetry (Disorder and Slander, Minor Odes of the Kingdom) with "Only maintaining the curriculum by a true sovereign adheres to the principles of legal governance." Later, philosopher Zhu Xi of the Song Dynasty frequently referred to "curriculum" in his book Complete Works of Zhu Xi, e.g., "Flexible on deadlines, but strict on curriculum", and "Simplify the curriculum and put great efforts on it." These texts have clearly pointed out that curriculum construction and development demand systematic regulation, gradual accumulation and content innovation. Guided by modern education thoughts, curriculum construction is centered on the progressive, tailored and adaptive development of the content system, with standardized teaching documents and excellent supporting materials and resources as the foundation. Considering improving the abilities and quality of the teaching team as a starting point, it aims at building an integrated system that combines teaching concepts, teaching documents, teaching content, teaching team, technical methods and means, teaching resources, examination and evaluation and other aspects[1], through modern information technology platforms and guaranteed scientific and effective operation and management mechanisms. Curriculum construction is a process of converging the interactions and influences of teaching for quality improvement by optimizing and developing various elements of curriculum teaching activities. The core is to systematically summarize and sort out the professional knowledge in a certain field or aspect, then impart it to students in a systematically way, to build the knowledge (capability) system of students in a certain domain.

Military academies shoulder the important mission of offering talent backing for national defense and military modernization. Strengthening curriculum construction research and improving the construction quality and teaching level serve as the fundamental guarantee for cultivating high-quality personnel, and also determine the teaching quality and high-level construction of military academies, especially the curriculum content playing the role of backbone and doer [2].

Besides, in the Teaching Evaluation Index System and Standard of Military Academies, curriculum content is taken as the main focus of the first-level indexes of teaching construction and reform and
innovation, making it clear that the examination scope covers objectives, ideas, tasks, measures, projects, examination, acceptance, ideology, level, symbolic achievements and other contents.

Amid the profound changes in the global, national and military conditions and the more fierce battle for the strategic initiative in military competition in the new era, there is an urgent demand for new-type military talents and new and higher requirements in military higher education. The accelerated development of science and technology requires students to master the latest knowledge and strong learning ability. The disciplines are highly differentiated and primarily evolve in a highly mixed manner, necessitating the holistic advancement of curriculum and emphasis on basic teaching. The students must possess potent practical innovation and operational command capabilities to cope with the rapid conversion of military technologies to combat effectiveness. Obviously, the curriculum system and content formed several years ago can hardly meet the needs of new-type military personnel training. In a new period when the military personnel training system is undergoing revolutionary changes and overall reshaping, it is imperative to promote the transformation and innovation of the curriculum systems and contents.

2. Focuses of Curriculum Construction

2.1. Scientifically Setting Curriculum Content

The setting of the curriculum content should be based on the foundation, ability and quality requirements of the teaching objects and fit for the talent training program and matching posts, achieving the goal of solidifying the foundation, expanding abilities and improving quality.

2.1.1. Complying with Objective Laws

First of all, the setting of curriculum content should conform to the objective laws, including those relevant to knowledge and skill mastering, talent growth and formation of combat power.

(1) According with the law of skill mastering. Skills development goes through cognition, imitation, practice, familiarization, promotion and potentially additional stages. According to different understanding, imitation and comprehension abilities of the teaching objects, appropriate teaching schedules and strategies should be adopted to ensure the final effect. For example, soldiers from the grass-roots troops have strong practical abilities, while the young students have advantages in calculation, reasoning and logical thinking. Therefore, the curriculum designs should ensure a rational distribution of time between theoretical and practical components based on the proportions of certain categories of trainees.

(2) According with the law of talent growth. Academic instruction is a process of establishing a strong base. The students' steady accumulation of different professional knowledge is conducive to their future career development and in line with the law of talent growth.

(3) According with the law of formation of combat power. The academic teaching should aim at cultivating talents with competent operational capabilities, ensuring that the curriculum contents are set around combat capability strengthening, and follow the law of the formation of combat power[3].

2.1.2. Matching Post Requirements

A post is a battle position. Every training object corresponds to a post in the grass-roots unit, with different skill requirements for officials and soldiers. The curriculum contents should take into account the students' capability to match the posts, raise their awareness of exploration and innovation and enhance their courage to challenge themselves in a forward-looking way.

(1) Closely connecting with the first posts. Academic teaching is a fundamental process to reinforce the professional foundation gradually. This is especially crucial in promoting pre-commissioned officers, college students and excellent soldiers, and concerns the graduates' qualification for the first posts.

(2) Expanding and reserving future post capacities. While solidifying the foundation, academic teaching should give consideration to students' future development possibilities, empowering them with good thinking habits, analogic ability and self-criticism and self-innovation capacities through systemic basic learning.

(3) Consistently cultivating awareness of exploration and innovation. Development relies on exploration, and no progress can be made without innovation. The academic curriculum teaching
should grant students sufficient autonomy to demonstrate their capabilities, stimulate their awareness of exploration and innovation, and create more possibilities while consolidating the professional foundation, so that all students have the belief that they can attain or comprehend something valuable through their exertions or hard work[4].

2.1.3. Aligning with Actual Combat Requirements

Nothing can be accomplished without norms or standards, especially in personnel training. The curriculum contents should be based on academic teaching syllabuses and follow the military training outlines closely. The academic teaching syllabuses form the basis for academic instruction, which should be scientifically and systematically designed for different objects and followed in teaching, to effectively establish a robust educational groundwork for the target audiences. The military training outlines explain the necessary training subjects for different troop missions, which are prerequisites for acquiring the necessary skills to perform duties and an essential assurance for graduates to start their careers successfully. Therefore, it is necessary to comprehensively integrate the academic teaching syllabus and military training outline in the curriculum content setting for a solid foundation and refined skills. The development of pre-commissioned officers should be regarded as a long-term systematic project to prevent the condition that unsteady foundations lead to the shaking of the core while a lack of skills relegates everything to the sidelines[5].

2.2. Efficiently Constructing the Teaching Team

Teaching team construction demands a rational multilayer talent structure, a scientific talent training plan and a strict incentive and punishing mechanism, in a bid to build a more efficient and high-quality team. Targeting the main contradictions and problems, a well-structured, strong and promising teaching team that meets the special requirements of military education should be established based on standards of adeptness in fighting and teaching, through approaches combining the larger context with the finer details. With the support of disciplines and the division of basic units of specificity (curriculum), it is necessary to build a teaching team led by responsible professors, with diverse teaching expertise and theoretical knowledge and practical experience[6].

2.2.1. Rational Capability Structure

An excellent and professional disciplinary team should gather masters in all aspects, including experts in theoretical innovation and practical teaching, as well as fault-finding critics.

(1) Leading the way through theoretical innovation. Theories guide the practices and also the direction. "Why should change the curriculum that has already been built?", "Where is the construction direction?", "What is the purpose?" and "How can we build?", all these problems should be clearly figured out in the curriculum construction process, which requires talents with profound theoretical knowledge.

(2) Testing theoretical assumptions through practical teaching. Curriculum construction and innovation is a long-term process that requires repeated practice and verification to discover deficiencies and then revise and optimize based on feedback. Only in this way can a scientific and rational curriculum system be finally formed.

(3) Motivating continuous progress through critical questioning. A vibrant curriculum system should be updated dynamically to adapt to the battlefields and future conditions. To review the requirements on teaching objects from the standards of winning battles, one should possess the courage and tolerance to embrace criticism and questioning for consistently updating and optimizing existing curriculum systems[7].

Words like “is”, “or”, “then”, etc. should not be capitalized unless they are the first word of the title.

2.2.2. Long-term Training Plan

Training plans and models should vary depending on the objects, their professional basis, and ability levels.

(1) Consolidating basic knowledge through pair teaching. Reinforcement of the fundamental skills is the prioritized task for junior instructors. By implementing a mentorship program, young teachers can be selected and nurtured to take on the role of curriculum development leaders to drive routine instruction, reforms and research, while experienced teachers with profound academic achievements, excellent management capability and strong responsibility are chosen to guide the direction, progress
and quality of curriculum development.

(2) Stretching the abilities through exercises. For intermediate teachers with a certain level of professional knowledge and teaching skills, various tasks are necessary to enhance their practical abilities. It is compulsory for instructors to lead one task or take charge of one research activity to be fully grown.

(3) Broadening the horizon through exchanges and mutual learning. Venturing outward and enticing others to come in is very vital. Progresses can only be made by opening to the outside while not deviating from the masses and acting mindlessly. Senior teachers are encouraged to go to the grass-roots level and academic frontier to collect diverse opinions and trending information. Experts and talents from all aspects may also be actively invited to the lectures and discussions to spark inspiration and gather feedback for curriculum construction [8].

2.2.3. Perfect Incentive Mechanism

A team needs constant motivation to keep vitality. It is necessary to strengthen the capabilities through task-based training, identify role models with a long-term plan, and integrate authority and responsibility to enhance ownership, so as to create a good researching and learning atmosphere.

(1) Stimulating strong power through post-specific training. One should plan for and fulfill responsibilities in its role. Combining practicing in the basic positions and phased tasks is conducive to honing one's skills, motivating other team members, testing the effect of mentored learning, and enhancing the cohesive force.

(2) Utilizing the guiding power of role models in directing the pursuit of goals. A clear goal will define the moving direction, and tangible, exemplary individuals will ignite our determination. Every team member should find inner motivation by determining examples and goals based on their conditions and professional planning.

(3) Integrating power and responsibility to instill a sense of conscientiousness. Responsibility entails embracing one's obligations. In the process of talent training, while shouldering the burdens of tasks, learners should also be empowered with certain independent decision-making authority to help unleash subjective initiative [9].

2.3. Careful Teaching Support Planning

"Before the troops move, provisions should be secured." Excellent curriculum cannot be separated from comprehensive and meticulous teaching support. Efficient support mechanisms, professional field conditions and competent support teams are crucial to curriculum construction.

2.3.1. Ensuring Efficient Mechanism Operation

Efficient support is about one person or aspect, a mechanism, and team collaboration.

(1) Supporting various tasks through multiple ways. The support methods are different for different tasks. Generally, scheduled support and contingency support could be used based on tasks to guarantee the efficient delivery of all types of tasks dynamically.

(2) Responding to problems and requirements through multiple means. To implement teaching support thoroughly and precisely, academies should give detailed attention to the opinions of both instructors and students, gain knowledge of every link and their live conditions and ensure seamless feedback loops for quick collection of comments and further optimization.

(3) Ensuring quality through multiple networks. Diversified support requires mixed information assurance measures. The use of varied military and civilian support networks can ensure quality and timely delivery of supplies as per requirements [10].

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2.3.2. Meeting Field Condition Requirements

“One cannot make bricks without straw”. Teaching and training activities cannot be carried out if not provided with suitable field conditions. Common field teaching facilities include laboratories (professional classrooms), training sites, equipment and information resources. The curriculum construction team should sort out and propose the required facilities according to the teaching requirements, and then relevant support functions should be allocated to coordinate the construction
work. In general, dedicated professional sites, integrated multipurpose sites and basic platform sites need to be separately constructed to ensure high-quality teaching and training.

1. Dedicated professional sites. Specialized teaching requires dedicated sites that cover primary, advanced and extreme activities, providing potent hardware support for professional personnel training. For example, for armored forces-oriented shooting skill assessment courses, it is imperative to set up different types of professional training sites that align with the grading requirements, as well as various classrooms that match different equipment models for targeted teaching.

2. Integrated multipurpose sites. As an essential element of talent training, the integrated sites are mainly designed to test the integrative skill application ability of the teaching objects. The venues should provide a comprehensive and professional range of functionalities. For example, to evaluate the learners' driving, shooting and traversing skills, a comprehensive training ground that enables multiple angles and conditions of training should be established nearby.

3. Basic platform sites. The basic sites should be built to enable converting to various specialized equipment platforms, so as to meet the desired setup requirements at any time[1]. For example, an intelligent training system may be formed to achieve integrated time-space command, which should ensure the coordination and consistency of various specialized equipment and rapid adaption to the actual operational environment and requirements.

2.3.3. Building Professional and Highly Capable Support Workforce

The professional and capable support workforce is the key to fulfill various support tasks. A good professional attitude, rich support experience and sophisticated training approaches are essential to ensure the team is professional, efficient and lean.

1. Good professional attitude. Different professional attitudes entail different working standards. A good professional attitude can turn "I need to do" into "I will do", thus making complicated work simpler and more productive.

2. Rich support experience. Experience matters a lot in the support work and is very helpful for coordination processes, including material allocation, inventory management and storage and maintenance.

3. Sophisticated training approaches. The seemingly simple support work necessitates dedication to achieve excellence. The team needs to establish an apprenticeship-style talent nurturing system to transmit valuable experiences through one-on-one mentoring[12].

2.4. Flexible Curriculum Design

Curriculum design should focus on the goals of talent training and emphasize the core requirements. Flexible curriculum design is useful in improving the teaching quality.

2.4.1. Developing Teaching Strategies from a Learning Perspective

Teaching strategies have direct and positive impacts on teaching results. Targeted teaching, overall planning and provocative guidance yield evident results in enhancing the teaching quality.

1. Targeted teaching. For a class of students with uneven ability levels, it is necessary to carry out targeted teaching to make the excellent even better and strengthen the foundation for those with weaker fundamentals. In the teaching process, the teachers should establish individual training records and regularly analyze the results, in order to grasp the progress of every student and adjust teaching strategies in time.

2. Overall planning. Goals should be set to ensure every class member improves their studies and meets the teaching requirements. In the teaching process, it is necessary to understand the learning status to avoid the phenomenon where students with strong foundations feel unchallenged while those with weaker foundations struggle to comprehend. Every class teaching and training should balance the accessibility and expandability of knowledge to suit the needs of students at different levels.

3. Provocative guidance. Academic education should emphasize the systematic and inspiring nature of knowledge. It is necessary to incorporate the strengths of all schools, absorb the nation and military strengthening experience in the world, and contemplate the future of the nation and wise strategies for safeguarding the country. By knowing oneself and the opponent, one can devise effective battle strategies[13].
2.4.2. Creating a Good Learning Atmosphere According to Teaching Purpose

The purpose of teaching is to learn. A good learning atmosphere is of vital importance in the teaching process. Creating an environment that prioritizes learning, fosters mutual support and encourages exploration and innovation is conducive to improving the learning motivation and teaching quality.

(1) Prioritizing learning. A learning-centered approach is encouraged in the teaching. Whether for learners old or young or those of high or low ranks, skill mastery and knowledge comprehension follow a quick or slow process. Every student’s thirst for knowledge should be encouraged to grow gradually through hardheaded and modest learning.

(2) Fostering mutual support. Regardless of the class, there are differences in the skill levels and the timing of knowledge comprehension for students. The students with weak foundations will get more help through paired learning groups, while the smarter ones can also enhance the organization and instruction abilities, thus achieving doubling benefits.

(3) Encouraging exploration and innovation. Learning is to accept passively and to excavate the deep logic. Courageous, skeptical, explorative and innovative spirits are also needed to develop excellent skills that accommodate future battlefields [14].

2.4.3. Reviewing the Teaching Effect from Appraisal Perspective

Practice is the sole criterion for testing truth. The teaching effect should be comprehensively evaluated from the students’ performances, post-matching, practical use and other aspects.

(1) From the perspective of performances, to see whether the students have mastered real skills. "Have they improved their theoretic knowledge after a course?", and "Have their skills been improved?" The students know best about these questions. Benchmarking them by the growth of students will directly facilitate the improvement and innovation of teaching.

(2) From the perspective of posts, to see whether the knowledge and skills are really useful. “Genuine gold is tested through practice.” What each student has learned must be examined in their respective post to understand their learning levels and teaching results. Is there a seamless connection between the learning and demands? These tests will provide the answers.

(3) From the perspective of practical use, to see whether the training will help win battles. All education and teaching are for the purpose of warfare. Winning is the fundamental and baseline requirement. The teaching should gaze upon the future actual combats. The soldiers should be placed in the actual combats and training for frontline tests, evaluation and feedback, thus furnishing grounds for improvement [15].

3. Significance of Curriculum Content Innovation

With the deeper implementation of military education policies in the new era, the military academies' educational reform has developed rapidly and achieved remarkable results. The educational reform must be firmly anchored on three fundamental elements: first-class military personnel, first-class military theories and first-class military technologies, highlighting the role of military academies as the main base and channel of talent nurturing. These schools should aim to produce a wealth of outstanding contemporary, pioneering, and distinctive military theoretical works, develop many strategic, forward-looking and disruptive cutting-edge military technologies, and cultivate an abundance of excellent talents with strong strategic, collaborative, command and technical qualities. To this end, the curriculum construction should be tackled as one basic and core part. The perspectiveness and applicability of curriculum contents, acting as the backbone and doer in the process, reflect the characteristics of curriculum construction and ensure the improvement of knowledge, ability and quality of the teaching objects, thus driving goal attainment.

3.1. Ensuring Advanced Nature of Curriculum Content

The military academies’ educational reform is in full swing and has earned tangible results. However, there are also prominent problems, including outdated and imperfect basic knowledge and laggard and non-standard teaching materials and handouts, thus failing to keep pace with the development of new theories, technologies, equipment and combat methods. Hence, it needs to realign timely with emerging realities, matching the curriculum contents with military information construction,
post-training and talent nurturing goals, with a view to forming a relatively stable content system that stays abreast of progress.

(1) Efforts should be put into strengthening the systematic integration with teaching media to provide complementary teaching tools and constantly infuse fresh blood into the curriculum content.

(2) Content designed for intelligent talent cultivation should be incorporated to adapt to the intelligent military construction in the new era, and to be competent for the joint operations command under intelligent conditions, thus gaining the offensive and defensive initiative in intelligent operations necessary for winning future battles.

(3) Accelerating the updating cycle of teaching materials and handouts to ensure the visibility, accessibility and easy integration of theoretical and practical knowledge, avoiding mismatches between teaching materials and actual equipment [16].

3.2. Improving Pertinence of Curriculum Content

Regarding the pertinence, curriculum content should focus on combat training and post requirements and develop towards innovation at a great pace.

3.2.1. Structuring Curriculum Content to Highlight Missions

Curriculum content is the core element of academic talent cultivation. To reconstruct the combat-oriented curriculum content system, it is necessary to comprehensively examine the content with combat effectiveness standards for flexible adaption to changing mission requirements, updating those not in line with the requirements of training objectives in a timely manner, iteratively upgrading the shared ones between military and civilian sectors and ramping up efforts in scientific research on the curriculum with gaps left to fill.

3.2.2. Enriching Teaching Content to Highlight Elements of Victory

Oriented at specialized missions and the future elements of victory, the curriculum content should be optimized to highlight the operational command teaching priorities. The knowledge and culture learning process should be closely linked with tactic, mental, and conduct training, and the doctrines and outlines of troops should be integrated with the teaching and development programs of academies to dock classrooms with troops and examination sites with battlefields.

The curriculum content should also be expanded by targeting strong opponents. In the face of reality and potential threats, it is difficult to seize the changes of the opponents and win future battles without in-depth information about them. Academies must be aware of the risks, challenges, and actual differences, apply modern information technologies on all fronts, and incorporate discoveries, including future combat theories, weapon and equipment technologies, and combat and training methods into the teaching materials and classrooms, in order to maintain the freshness of curriculum contents.

3.3. Intensifying Political Relevance of Curriculum Content

Practical and rigorous content is the soul of strengthening and improving curriculum’s ideological and political characteristics. In view of this, it is necessary to grasp the new changes in students' thoughts brought about by the exchanges, integration, and collision of social ideological trends and actively adapt to the new requirements of military theory innovation put forward by the Communist Party of China (CPC). The new political education missions bestowed by military development should also be closely investigated to construct the ideological and political curriculum content system in a scientific way, thus enhancing their inner ideological and theoretical nature.

1) Constantly innovating teaching content. Consisting of rich and progressive content, the ideological and political curriculum should pay attention to collective learning and discussion of new ideas, theories, and knowledge. Teachers can acquire teaching inspiration and broaden the horizon of knowledge through exchanges and collisions of thoughts and ideas. Aligning with the demands of the Times, military development missions, and the ideological reality of students, academies should step up their efforts in curriculum content innovation, combining the processes of infusing political theories and shaping students' humanistic spirit [17].

2) Delving into the curriculum content. It is necessary to implement thematic combined teaching scientifically, rationally divide modules as per the curriculum objectives, and set up appropriate
curriculum implementation topics. The explorations should be oriented at constructing ideological and political theory teaching models with a clear direction, prominent focus, and fit for the students' needs, emphasizing in-depth teaching by leveraging teachers’ pedagogical expertise to the fullest.

3) Thoroughly summarizing the curriculum content. Ideological and political teaching will only touch the hearts of students when the key points are effectively conveyed. It is crucial to regularly analyze and learn the dynamic thoughts of students and solve their confusion, trying to help them truly grasp and make use of the learning contents through resonant languages and meticulous interpretations.

3.4. Promoting Reform and Innovation in Teaching Methods

The continuous reform and innovation of the curriculum content drive the transformation of corresponding teaching methods. The existing varied teaching methods still fail to satisfy all the needs of curriculum teaching. Therefore, these methods should be customized based on the differences in curriculum and objects, and a database that maps their relationships accurately should be established to provide references for the teaching implementation [18].

From another point of view, for objects of different levels, educational concepts and teaching methods are also different. For example, graduate education focuses more on innovative learning, while undergraduate education emphasizes basic learning [19, 20]. In the practical application, teachers should always prioritize the learning part, strengthening teacher-student and peer-to-peer interactions, as well as actual combat examples and case studies. Instructors should advocate discussions and research in learning and cultivate students’ ability to find, analyse, and solve problems. The teaching and training activities inside and outside classes should be scientifically arranged. The after-class curriculum mainly focuses on confirmatory teaching designed to enrich the perceptual knowledge difficult to carry out in the first classes, involving professional capability training and other educational training plans or practical activities. To effectively determine the resource conditions, the curriculum construction team should clarify and consider the teaching objectives, required abilities in learners, training methods, and necessary support, and then keep selecting or building resource conditions that are conducive to mastering the curriculum contents, enhancing the teaching results and improving the teaching quality. Rational excavation or adoption of technological means should also be taken into account, focusing on the deep fusion of modern information technologies and in-depth education and teaching. Through the proper use of multimedia courseware, Rain Class, MOOC, Micro-Lecture, internet information resources, and other modern educational technologies, it is also helpful to solve the teaching and learning model innovation as well as quality and efficiency improvement problems.

4. Conclusions

Based on the Teaching Evaluation Index System and Standard of Military Academies in China, this paper explores the main focuses of curriculum construction and the essentials of curriculum contents. It aims to provide insights on continuously improving the quality of curriculum construction through emphasizing rational curriculum content setting, high-quality teaching team construction, careful teaching support planning, and flexible design of teaching plans. Besides, by combining the problems and deficiencies in the current military academies’ curriculum, it also points out the progressive and tailored characteristics of curriculum contents, in a bid to promote the coordinated development of all disciplines.

Although detailed measures for improving curriculum teaching quality have been put forward, this paper has not given specific quantification indicators related to this field. Our future research will focus on the approaches to establish the quality quantification standard of curriculum construction.

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