

# Research on the Integration of National Defense Education and Ideological and Political Education in Colleges and Universities Empowered by Digital Technology

Yi Zhao\*

Jinling Institute of Technology, Nanjing 211169, Jiangsu, China

\*Author to whom correspondence should be addressed.

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**Abstract:** With the continuous development of digital technology, its wide application in the field of higher education has created new opportunities and approaches for the integration of national defense education and ideological and political education in colleges and universities. From the perspective of digital technology empowerment, this paper analyzes the significance of this technology for the integration of the two, objectively examines the difficulties faced in their integration, and focuses on practical measures such as optimizing the online curriculum system, innovating online teaching methods, building online education platforms, and strengthening the teaching staff. The aim is to promote the integration of national defense education and ideological and political education in colleges and universities, cultivate new-era young talents who can shoulder the responsibility of national rejuvenation, and provide a reference for the subsequent integration of college education.

**Keywords:** Digital technology; Colleges and universities; National defense education; Ideological and political education

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## 1. Introduction

National defense education and ideological and political courses in colleges and universities are important carriers for implementing the fundamental task of fostering virtue through education, and play an irreplaceable role in cultivating college students' family and country feelings, sense of responsibility, and comprehensive quality. However, the traditional educational model has drawbacks such as a single content, rigid form, and poor interactivity, making it difficult to adapt to the cognitive characteristics and learning needs of college students in the new era. The emergence of digital technologies such as big data, artificial intelligence, and virtual

reality has provided technical support to address this dilemma, transforming the educational scenario from “offline one-way indoctrination” to “online-offline integrated interaction” and enabling the in-depth integration and development of the two. Based on this, exploring the path of integrating national defense education and ideological and political education in colleges and universities empowered by digital technology has important theoretical and practical significance.

## **2. Significance of applying digital technology to the integration of national defense education and ideological and political education in colleges and universities**

### **2.1. Expand the temporal and spatial boundaries of education, and enhance educational coverage and flexibility**

Digital technology breaks through the temporal and spatial constraints of traditional education, making national defense education resources no longer limited to classrooms and campuses. Through carriers such as online course platforms, Massive Open Online Courses (MOOCs), and short videos, students can learn military theory, national security knowledge, and red culture anytime and anywhere, achieving “learning anytime, anywhere.” For example, VR technology is used to simulate battlefield environments or historical battle scenes, allowing students to understand the significance of national defense strategies through immersive experiences <sup>[1]</sup>. Or live broadcasts are connected with border guards or veterans to instantly convey vivid elements from frontline stories, making the entire teaching process more authentic and touching. This flexibility not only expands the scope of education but also meets the personalized learning needs of students with different professional backgrounds and grade levels <sup>[2]</sup>.

### **2.2. Enrich educational content and forms, and improve attractiveness and appeal**

Digital technology can transform abstract national defense theories and ideological and political elements into visualized and visual educational resources. For example, using animations to present military technology principles can make obscure professional knowledge easy to understand <sup>[3]</sup>. Designing interactive tasks such as “national defense knowledge challenges” and “red script killings” through gamified learning platforms can stimulate students’ enthusiasm for active participation <sup>[4]</sup>. Moreover, big data analysis can accurately identify students’ interests and cognitive difficulties, providing educators with a basis for personalized push, avoiding the “one-size-fits-all” teaching method, and achieving “precision drip irrigation.”

### **2.3. Strengthen the function of value guidance and deepen the cultivation of family and country feelings**

The core purpose of both national defense education and ideological and political education is to cultivate college students with correct worldviews, outlooks on life, and values, and to foster patriotic feelings <sup>[5]</sup>. Digital technology creates an “online + offline” collaborative education scenario, which can further enhance the effectiveness of value guidance. For example, using blockchain technology to establish students’ national defense education growth files, recording data such as students’ participation in military training, volunteer services, and national defense knowledge learning, and forming traceable and tamper-proof “red footprints” to encourage students to integrate their personal ideals into the overall pattern of national development. Launching topic discussions on “My Story with National Defense” through social media, guiding students to take the initiative to tell their own stories, deepening their understanding that “a country cannot stand without defense,

and people cannot live in peace without soldiers” through communication and interaction, and consciously fulfilling the youth oath of “Please rest assured, the Party, we will strengthen the country”<sup>[6]</sup>.

### **3. Practical strategies for the integration of national defense education and ideological and political education in colleges and universities empowered by digital technology**

#### **3.1. Optimize the online curriculum system and build a “dual integration and mutual promotion” teaching content system**

Firstly, restructure curriculum content modules oriented by core competencies. Centering on the four core competencies of “family and country feelings, military literacy, legal awareness, and innovative ability”, organically integrate national defense education content and ideological and political elements into the curriculum system. Add a special topic on “national defense construction and national rejuvenation” to the course “Compendium of Modern Chinese History”, clarifying the relationship between national defense strength and national destiny by combining historical events such as the Sino-Japanese War of 1894–1895 and the War to Resist U.S. Aggression and Aid Korea<sup>[7]</sup>. Interpret the National Defense Law and Military Service Law in the course “Ideological and Moral Cultivation and Legal Basis” to enhance students’ legal concepts and awareness of national defense obligations. Develop interdisciplinary integrated courses such as “cyberspace security and ideological struggle” to guide students to grasp the new connotation of national defense security in the new era from technological, political, cultural, and other aspects<sup>[8]</sup>. Secondly, develop hierarchical and classified teaching resources to meet differentiated needs. According to the cognitive characteristics of students in different grades and majors, design a three-level curriculum system of “basic — advanced — practical”: freshmen focus on popularizing military theory and ideological and political common sense, offering compulsory courses such as “Military Theory” and optional courses such as “Introduction to Red Classics.” Senior students focus on cultivating the awareness of combining professional capabilities with national defense practice, offering courses such as “Frontiers of National Defense Science and Technology.” For students with the intention of joining the army, set up “pre-recruitment classes” to offer physical training, tactical basics, policy interpretation, and other content. Develop lightweight resources such as micro-courses, short videos, and H5 interactive courseware to adapt to mobile learning scenarios and improve resource utilization. Thirdly, establish a dynamic update mechanism to ensure the timeliness and authority of content. Rely on digital technology to build a dynamic monitoring and update platform for curriculum content, continuously adding the latest materials such as changes in the international situation, national defense technological breakthroughs, and revisions to policies and regulations. Invite experts from military academies, frontline officers and soldiers, and ideological and political teachers to form a research and development team, conduct regular collective lesson preparation and content review, prevent outdated knowledge or incorrect expressions, and achieve both “connecting with the upper-level policies” and “being grounded”<sup>[9]</sup>.

#### **3.2. Innovate online teaching methods and create an “immersive interaction” teaching model**

Firstly, promote the application of immersive technology and enhance the learning experience. Use VR/AR technology to create virtual simulation training environments. For the VR experience project “Retracing the Long March”, students wear head-mounted displays to experience the harsh conditions of the Red Army

climbing snow-capped mountains and crossing grasslands in the past, and understand the revolutionary martyrs' spirit of sacrifice through personal interaction. The AR application "Simulated UN Peacekeeping Exercise" allows students to play different roles to learn international law and international conflict resolution mechanisms <sup>[10]</sup>. Develop a "metaverse national defense education base" where students can create virtual identities to participate in online activities such as online military competitions, visits to red memorial halls, and national defense-themed debates, breaking physical space limitations and realizing "present" learning. Secondly, use gamification and socialization to stimulate students' initiative in learning. Develop national defense education-themed mobile games or mini-programs imitating online game design ideas, with "military rank promotion", "task unlocking", and "teamwork", turning knowledge points into challenge content such as "identifying camouflaged targets" and "decrypting intelligence", allowing students to "learn through playing and comprehend through learning." Build learning communities through social media, such as creating WeChat official accounts "National Defense and Ideological and Political Micro-Classrooms" and Douyin "Military Science Popularization Challenges", encouraging students to participate in bullet screen comments, topic creation, live broadcasts, and other activities, and creating a good atmosphere from teacher guidance to student autonomy to full participation in co-creation <sup>[11]</sup>. Thirdly, carry out data-driven precision teaching and improve the pertinence of education. Use educational big data platforms to collect students' learning behavior data, such as video viewing duration, answer accuracy rate, and interaction frequency, emotional attitude data (comment keyword and emoji analysis), and ability development data, such as decision-making performance in virtual drills, to form learner portraits. Teachers identify students' weak points through data analysis, such as unclear understanding of "non-traditional security threats", and push personalized learning resources such as relevant case libraries and expert micro-courses. At the same time, use intelligent early warning systems to identify students in difficulty and provide one-on-one guidance or group mutual assistance programs in a timely manner, achieving "teaching students in accordance with their aptitude."

### **3.3. Build online education platforms and construct a "one-stop" collaborative education carrier**

Firstly, create an integrated digital platform to integrate various educational resources. The goal is to "serve students' growth, assist teachers' teaching, and support management decision-making", forming a national defense education and ideological and political integration platform covering "teaching, learning, practicing, testing, evaluating, and managing." This platform should have four main parts: a course center, an interactive community, and a data center. For example, the "National Defense Education Zone" jointly developed by Tsinghua University's "Rain Classroom" and the Military Teaching and Research Section has integrated functions such as live courses, homework assignments, and simulation tests, and has provided services for more than 100,000 students <sup>[12]</sup>. Secondly, promote inter-school and school-enterprise co-construction to expand the platform's radiation. Encourage colleges and universities to build co-constructed and shared platform resources with military academies, military-industrial enterprises, and red education bases. For example, jointly build a "cloud exhibition hall" with the Military Museum of the Chinese People's Revolution to display 3D models of cultural relics and explanatory videos. Or cooperate with China Aerospace Science and Technology Corporation to launch a series of courses on "Aerospace Spirit", inviting engineers to tell stories behind rocket launches in live broadcasts. Moreover, introduce a market-oriented operation mechanism to ensure the sustainable operation of the platform through government procurement of services or corporate sponsorship <sup>[13]</sup>. Thirdly, strengthen

platform security guarantees and build a solid ideological defense line. Strictly implement the national cybersecurity level protection system, and use technical means such as data encryption, access control, and content review to prevent malicious attacks on the platform or infiltration of bad information. Establish a “human + AI” dual review mechanism to conduct real-time detection of uploaded course resources and user comments, and promptly remove wrong remarks such as historical nihilism and extreme nationalism. Improve teachers’ and students’ digital literacy, and enhance their awareness of information identification and security protection through special lectures and emergency drills, jointly safeguarding this clear online education environment.

### **3.4. Strengthen the construction of the teaching staff and cultivate a compound team with “digital literacy + professional competence”**

Firstly, improve the teacher training system and enhance the ability to apply digital technology. Incorporate digital literacy into teacher assessment and professional title evaluation indicators, and regularly carry out special training such as “VR teaching practice”, “use of big data analysis tools”, and “online course design.” The Ministry of Education’s “National Teacher Training Program” can set up a special project on “digital teaching for the integration of national defense education and ideological and political education”, inviting enterprise technical personnel and university experts to teach together. Establish an “Digital Teaching Innovation Center” in the university to provide one-on-one technical assistance to teachers and reduce the threshold for technology application <sup>[14]</sup>. Secondly, form interdisciplinary teaching teams to complement advantages and break down barriers. Establish interdisciplinary learning teams composed of ideological and political teachers, military theory teachers, information technology teachers, and psychology teachers. Taking the development of the course “Cyberspace Ideological Security” as an example, in the development process of this course, ideological and political teachers are responsible for providing a theoretical framework design, military teachers for case support, information technology teachers for platform development and data visualization, and psychology teachers for the design of learning effect evaluation and intervention programs. Through team cooperation, the educational effect of  $1+1>2$  is achieved. Thirdly, improve the incentive mechanism and stimulate teachers’ innovative vitality. Establish a “special fund for digital teaching of the integration of national defense education and ideological and political education” to support teachers in conducting research, resource development, and teaching reform. Hold “Digital Teaching Innovation Competitions” to select excellent cases and promote their application <sup>[15]</sup>. Incorporate teachers’ teaching achievements on the platform into the performance appraisal scope, and give preferential treatment to outstanding performers in evaluations, commendations, and promotions, forming a good atmosphere of “daring to innovate, being willing to innovate, and being good at innovating” in the university.

## **4. Conclusion**

In summary, digital technology has opened up a new track for the integration of national defense education and ideological and political education in colleges and universities, but its essence is “technology empowerment” rather than “technology replacement.” In the practice process, people must always adhere to the fundamental task of fostering virtue through education, guard against falling into the quagmire of “technologism”, and pay attention to the unity of the political nature, ideological nature, and scientific nature of educational content. With the mature application of technologies such as AIGC and brain-computer interfaces, educational scenarios

will become more intelligent and personalized. However, the core of education lies in students. Colleges and universities should continuously explore new paths for the in-depth integration of digital technology and education and teaching, and build a national defense education and ideological and political integration system with Chinese characteristics through upholding the essence and innovating, contributing wisdom and strength to cultivating and bringing up all-round developed builders and successors of socialism.

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## Disclosure statement

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