

Research on the current situation of national defense education and the construction of education system in art colleges of colleges and universities

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Abstract. National defense education is a crucial aspect of fulfilling the fundamental task of fostering students' moral character and talents in universities. Currently, national defense education in universities faces issues such as low student participation and weak educational effectiveness, which are partly due to the difficulty of educational forms in adapting to the professional characteristics of art students, who are active in thinking and value practical experience. This study takes the School of Art of a certain university as an example. Based on a review of relevant domestic and international literature, and through stratified random sampling surveys, it analyzes the current practical dilemmas and group differences in national defense education from four dimensions: participation, satisfaction, implementation effectiveness, and educational forms. The study finds that innovative activities integrating art and national defense education can significantly enhance students' participation enthusiasm and satisfaction, but there are significant gender and grade differences. Therefore, a "curriculum-practice-culture" trinity educational system should be constructed, and support should be strengthened from four aspects: teachers, policies, bases, and evaluation, in order to effectively enhance the effectiveness of education.

Keywords: art college, national defense education, system construction, empirical research

1. Introduction

National defense education in universities constitutes an important component of talent cultivation. In recent years, increasing attention has been paid to national defense education by scholars both domestically and internationally; however, research specifically focusing on national defense education in university art colleges remains relatively insufficient. Based on the cognitive characteristics and practical needs of art students, this study conducts an empirical investigation to identify the core challenges existing in current educational practices and, accordingly, constructs an educational system aimed at providing references for enhancing the effectiveness of national defense education.

2. Theoretical foundations and research status

2.1. Insights from international research on national defense education

National defense education in foreign countries has achieved relatively mature development in terms of legal safeguards and implementation models. In 1958, the United States enacted the *National Defense Education Act*, elevating national defense education to the level of national strategy [1]. At the implementation level, countries such as the United States, Japan, and Switzerland emphasize integrating national defense education into their national education systems, highlighting practicality and experiential learning while focusing on cultivating leadership skills, teamwork abilities, and international perspectives [2]. At the level of art institutions, international practices mainly demonstrate two major trends. First, they enhance the international compatibility of national defense education standards through international educational cooperation [3]. Second, they promote interdisciplinary integrated teaching by encouraging students to express their understanding of national defense-related issues through artistic forms such as painting and sculpture, thereby internalizing national defense awareness through professional artistic creation [4]. These experiences provide valuable references for the distinctive development of national defense education in art colleges.

2.2. Progress of domestic research and the entry point of this study

Domestic scholars have explored the connotations, challenges, and development pathways of national defense education in universities. With regard to art students, existing studies have identified issues such as insufficient participation and inadequate awareness [5], while emphasizing that national defense education should strengthen top-level design and curriculum development [6]. Recent research has further highlighted the necessity of integrating aesthetic education with national defense education and has proposed diversified approaches, including the construction of integrated curricula and the development of distinctive campus cultures [7].

In summary, existing domestic and international studies provide theoretical support for this research. However, most previous studies remain focused on normative discussions of strategies and approaches, while empirical research based on the characteristics of art student groups and in-depth analyses of differences in educational implementation remains relatively limited. Addressing this research gap, the present study selects the School of Art of a university as the research sample and employs rigorous questionnaire surveys and statistical analyses to identify key variables influencing educational effectiveness, thereby providing data-based support for the construction of a targeted and effective national defense education system.

3. Investigation of the current status of national defense education in university art colleges

This study selected students from the School of Art of a university as the research subjects and employed a stratified random sampling method to conduct a questionnaire survey. The survey consisted of two parts: (1) General Information Questionnaire: covering basic demographic information, including students' gender, academic year, political affiliation, and major category; and (2) Questionnaire on the Current Status of National Defense Education in Universities: evaluating the implementation of national defense education in universities from four dimensions, including students' level of participation, students' satisfaction with national defense education, the effectiveness of national defense education, and forms of national defense education. A total of 1,000 questionnaires were distributed, all of which were returned. Among them, 960 were valid questionnaires, resulting in a valid response rate of 96.0%.

3.1. Reliability analysis

This study adopted a 7-point Likert scale for measurement (1 = strongly disagree, 7 = strongly agree). Before the formal survey, a pilot study was conducted using convenience sampling with 40 students. The overall Cronbach's alpha coefficient of the scale was 0.950. The Cronbach's α coefficients for the dimensions of students' participation in university national defense education, students' satisfaction with university national defense education, and the implementation effectiveness of university national defense education were 0.820, 0.929, and 0.864, respectively. These results indicate that the questionnaire demonstrated acceptable internal consistency.

3.2. Exploratory factor analysis and validity analysis

3.2.1. KMO and Bartlett's test of sphericity

This study examined three indicators: communalities, the KMO value, and Bartlett's test of sphericity. The results showed that the communalities of all items were greater than 0.5. The p-value of Bartlett's test of sphericity was 0.000, which was below the significance level of 0.05, indicating a significant difference between the correlation coefficient matrix and the identity matrix ($p < 0.05$). The KMO value was 0.940, demonstrating that the data were suitable for factor analysis.

3.2.2. Results of exploratory factor analysis

Exploratory factor analysis was conducted on the scale, and three common factors were extracted, with a cumulative variance contribution rate of 69.47%. Based on previous literature, these factors were categorized as follows: students' participation in national defense education, students' satisfaction with national defense education, and the implementation effectiveness of national defense education. The results of the exploratory factor analysis were consistent with the questionnaire design, indicating good construct validity.

3.3. Overall status of national defense education in universities

3.3.1. The general demographic characteristics of the survey participants

As shown in Table 1, female students accounted for a relatively large proportion of the participants, representing 65.00% of the sample. First-year students constituted the largest proportion, accounting for 42.10%. Regarding major distribution, students majoring in fine arts represented the highest proportion (40.10%), followed by students in design-related majors (27.60%).

Table 1. Demographic characteristics of survey participants demographic characteristics of survey participants

Variable	Category	Number	Percentage (%)
Gender	Female	624	65.00
	Male	336	35.00
Academic year	First year	404	42.10
	Second year	217	22.60
	Third year	185	19.30
	Fourth year	154	16.00
Political affiliation	Member of the Communist Party of China	66	6.87
	Communist Youth League member	340	35.42
	General public	554	57.71

Table 1. Continued

Major field	Music and dance	124	12.92
	Fine arts (including calligraphy)	385	40.10
	Design	265	27.60
	Fashion design	186	19.38
	Total	960	100

3.3.2. Survey on students' participation in university national defense education

Table 2–4 all adopt a 7-point scoring system, with scores ranging from 1 to 7. Higher scores indicate a higher level of agreement.

Table 2. Survey on students' participation in university national defense education

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
1. I actively participate in innovative activities integrating national defense education with artistic practice.	19.88%	25.16%	36.71%	12.61%	5.64%	6.27
2. I have a strong interest in military affairs and national defense knowledge.	17.65%	29.76%	41.23%	7.45%	3.91%	3.01
3. I actively participate in national defense education activities organized by student associations.	15.76%	23.18%	36.10%	12.70%	4.87%	3.76
4. I actively participate in national defense education activities beyond military theory courses (such as art performances and dance creation).	34.54%	21.63%	30.90%	10.30%	2.95%	5.58
5. I actively participate in military theory courses and never miss classes.	24.72%	37.09%	18.87%	13.89%	5.43%	3.13
6. I actively participate in military training and never miss training sessions.	27.15%	25.78%	29.30%	10.90%	6.87%	3.17

The dimension of students' participation in university national defense education consisted of six items, and the mean scores of all items exceeded 3 (see Table 2). Among them, students demonstrated the highest level of enthusiasm for participating in innovative activities integrating national defense education with artistic practice (mean = 6.27), followed by participation in national defense education activities beyond military theory courses, such as art performances and dance creation (mean = 5.58). This indicates that innovative forms of education featuring the characteristics of art colleges can effectively stimulate students' enthusiasm for participation. The overall mean score of the student participation scale was 3.68 (converted according to a five-point scale), indicating a moderately high level of participation.

3.3.3. Survey on students' satisfaction with national defense education

As shown in Table 3, the mean scores for students' satisfaction with national defense education were all above 3.5. Among the various items, students reported the highest satisfaction with innovative activities integrating national defense education and artistic practice (mean = 4.98). This demonstrates that the distinctive educational approaches of art colleges not only enhance students' willingness to participate but also significantly improve their satisfaction. Furthermore, 63.97% of students expressed satisfaction with national defense education-themed activities (such as art exhibitions and dance creation), 59.67% were satisfied with national defense education activities delivered through student associations and online courses, and 69.92%

were satisfied with innovative activities integrating national defense education and artistic practice. Overall, students showed a relatively high level of satisfaction with national defense education and expressed recognition of and support for universities' emphasis on national defense education.

Table 3. Survey on students' satisfaction with university national defense education

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
1. I am satisfied with the teaching of military theory courses.	18.44%	29.64%	35.26%	9.87%	6.79%	3.19
2. I am satisfied with the content of military skills training courses.	26.87%	29.76%	23.94%	9.65%	9.78%	3.78
3. I am satisfied with national defense education-themed activities organized by the university (such as art exhibitions and dance creation).	29.23%	34.74%	26.10%	5.39%	4.54%	4.73
4. I am satisfied with national defense education activities conducted through student associations, online courses, and other approaches.	30.01%	29.66%	25.96%	9.92%	4.45%	3.69
5. I am satisfied with innovative activities integrating national defense education and artistic practice.	32.91%	37.01%	21.20%	5.76%	3.12%	4.98
6. I believe that the university attaches great importance to national defense education for college students.	28.89%	32.14%	28.96%	6.78%	3.23%	3.56

3.3.4. Survey on the implementation effectiveness of national defense education

As shown in Table 4, the mean scores for the implementation effectiveness of national defense education were all above 3. Students generally believed that innovative activities integrating national defense education and artistic practice significantly improved their educational experience (mean = 4.23). These activities not only strengthened students' awareness of national defense but also made national defense education more vivid and engaging.

A total of 59.99% of students believed that national defense-themed education activities (including art exhibitions, design projects, and dance creation) positively influenced the enhancement of national defense awareness (mean = 3.93). More than half of the students indicated that military theory courses deepened their understanding of military knowledge and strengthened their patriotism and collectivist values. After receiving national defense education, students became more willing to actively learn about and pay attention to international affairs and national development, demonstrating overall recognition of the effectiveness of national defense education.

Table 4. Implementation effectiveness of university national defense education

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
1. Military training has significantly improved my awareness of national defense.	27.88%	31.34%	19.32%	12.12%	9.34%	3.06
2. Military theory courses have deepened my understanding of military knowledge and strengthened my patriotism and collectivist values.	29.31%	26.25%	20.19%	10.32%	13.93%	3.78

Table 4. Continued

3. National defense-themed education activities (such as art exhibitions, design projects, and dance creation) have positively influenced the enhancement of national defense awareness.	29.32%	30.67%	26.10%	9.94%	3.97%	3.93
4. Innovative activities integrating national defense education and artistic practice have significantly improved my experience of national defense education.	39.12%	30.23%	19.34%	7.65%	3.66%	4.23
5. Through national defense education, I have become more proactive in learning about and following military affairs and national development.	27.43%	26.54%	30.90%	7.43%	6.41%	3.19
6. The overall effectiveness of national defense education is satisfactory.	23.28%	39.43%	20.43%	9.65%	7.21%	3.98

3.3.5. Survey on forms of national defense education in universities

National defense education is generally implemented through three major forms: military theory courses, military skills training, and various national defense education activities. Regarding military theory courses, the investigation focused mainly on teaching content, instructional methods, assessment approaches, and class-hour arrangements. Current course content covers a wide range of topics, and students generally demonstrate strong interest in areas such as the international strategic environment, information warfare, military thought, and military high technology. Military skills training mainly includes formation training, tactical movements, and practical extension activities, which are largely consistent with current teaching guidelines and have also attracted considerable student attention.

During interviews with teachers and students from the School of Art, participants were asked whether distinctive forms of national defense education tailored to art colleges were more attractive and how such approaches might develop in the future. Most teachers and students believed that practical activities incorporating artistic characteristics—such as art exhibitions, theatrical creation, and dance performances—could present national defense education themes in more vivid and emotionally engaging ways. Compared with traditional approaches primarily centered on military skills training and theoretical instruction, these artistic approaches demonstrated stronger appeal and generated higher student participation. Traditional national defense education tends to emphasize standardized training and knowledge transmission, whereas art colleges integrate national defense education into artistic creation through aesthetic education practices. This approach not only enhances students' aesthetic appreciation and creative abilities but also strengthens their awareness of national defense in a subtle manner, demonstrating considerable forward-looking potential. However, achieving deeper integration between artistic forms and national defense education content still requires further optimization.

The interview findings highlight the positive effects of utilizing professional characteristics in art colleges to conduct national defense education. They also provide valuable references for enriching educational forms and enhancing the effectiveness of talent cultivation.

3.4. Analysis of differences in national defense education

3.4.1. Analysis of differences in students' participation in university national defense education

The results of the independent samples *t*-test (Table 5) indicate that the participation scores of male students (3.78 ± 0.79) were significantly higher than those of female students (3.63 ± 0.61), and the difference was

statistically significant ($t = 2.849$, $p = 0.003$). Levene's test for equality of variances showed that the assumption of homogeneity of variance was satisfied ($F = 1.234$, $p = 0.267$). The results of one-way Analysis of Variance (ANOVA) showed that students with different academic years, major categories, and political affiliations did not demonstrate significant differences in their levels of participation ($p > 0.05$).

Table 5. Independent samples t-test of the effect of gender on participation in national defense education

Dimension	Male Students		Female Students		<i>t</i> Value	<i>p</i> Value
	Mean	SD	Mean	SD		
Participation level	3.78	0.79	3.63	0.61	2.849	0.003**

Note: ** indicates a statistically significant difference, $p < 0.01$.

3.4.2. Analysis of differences in students' satisfaction with national defense education

The analysis of students' satisfaction with national defense education (Table 6) indicates that students generally showed a favorable level of satisfaction with current university national defense education. Independent samples *t*-tests and correlation analyses revealed that students of different genders and major categories did not show significant differences in their satisfaction with national defense education. However, the correlation analysis between academic year and satisfaction with national defense education showed a significant negative correlation between the two variables ($p < 0.01$). As academic year increased, students' satisfaction with national defense education gradually declined. This phenomenon may be attributed to the increasing pressures related to employment, postgraduate entrance examinations, and future career planning among senior students. These pressures may reduce their recognition of the positive role of national defense education in personal development and career choices, thereby decreasing their willingness to participate and their overall evaluation of national defense education.

Table 6. Correlation analysis between academic year and satisfaction with national defense education

		Academic year	Satisfaction
Academic year	Pearson correlation	1	-0.235**
	Significance (two-tailed)		0.000
	<i>N</i>	960	960
Satisfaction	Pearson correlation	-0.235**	1
	Significance (two-tailed)	0.000	
	<i>N</i>	960	960

Note: ** indicates a statistically significant difference, $p < 0.01$.

3.4.3. Differences in the implementation effectiveness of national defense education

The analysis of the implementation effectiveness of national defense education shows that students' gender and major category had no significant influence on educational effectiveness. However, academic year demonstrated a significant negative correlation with implementation effectiveness ($p = 0.010$) (Table 7), indicating that the perceived effectiveness of national defense education decreased as students progressed to higher academic years. This phenomenon may be explained by several factors. First, senior students face increasing pressures related to further education and employment, resulting in reduced time and energy available for participating in national defense education activities. Second, the practical content of national defense education may not sufficiently correspond with the developmental needs and concerns of students at

different stages. Consequently, senior students may demonstrate weaker identification with and acceptance of national defense education.

Table 7. Correlation analysis between academic year and implementation effectiveness of national defense education

		Academic year	Satisfaction
Academic year	Pearson correlation	1	-0.095*
	Significance (two-tailed)		0.010
	<i>N</i>	960	960
Satisfaction	Pearson correlation	-0.095*	1
	Significance (two-tailed)	0.010	
	<i>N</i>	960	960

Note: * indicates a statistically significant difference, $p < 0.05$.

4. Conclusions and recommendations

4.1. Students' participation in national defense education demonstrates gender differences

The data indicate that, overall, male students show significantly higher levels of enthusiasm and participation than female students. This phenomenon may be attributed to the fact that male students generally possess stronger interests in military-related fields and richer relevant knowledge backgrounds, which contribute to greater initiative and engagement during the learning process. To enhance the overall effectiveness and equity of national defense education, universities should fully consider the cognitive characteristics and participation needs of students of different genders and incorporate gender perspectives into curriculum and activity design. Particular attention should be paid to stimulating female students' interest in national defense education through innovative teaching approaches, diversified practical activities, and the integration of multiple themes, thereby specifically enhancing their willingness to participate. On this basis, a more inclusive and differentiated implementation system for national defense education should be established to comprehensively improve educational effectiveness.

4.2. Students demonstrate generally high satisfaction with current national defense education, but differences exist among academic years

The findings show that students' satisfaction with national defense education decreases as academic year increases, with senior students, particularly graduating students, giving relatively lower evaluations. This reflects that existing educational content and approaches lack sustained attractiveness and may not sufficiently meet the stage-specific needs of senior students, such as academic pressure and career planning. To enhance the depth of coverage and effectiveness of national defense education, universities should pay greater attention to the actual circumstances and developmental needs of graduating students and strengthen the relevance and practical connection of educational content. For example, national defense education can be organically integrated with military recruitment promotion and career development guidance. While strengthening students' national defense awareness, such integration can provide clearer support for academic and career planning, thereby increasing senior students' willingness to participate and sense of identification. This

approach can promote the goal of whole-process education and differentiated optimization of national defense education.

4.3. The integration of art practice and national defense education has achieved positive outcomes, but its effects differ among students of different academic years

The integration of artistic practice with national defense education has achieved positive educational outcomes; however, differences exist in its influence across academic years. As students advance to higher academic years, the effectiveness of national defense education gradually declines. This may be attributed to the increasing pressures related to employment and further education among senior students, as well as their fewer opportunities to participate in national defense education compared with junior students. Consequently, the impact and effectiveness of national defense education among senior students become less significant. These findings indicate that the implementation approaches of national defense education need to be further aligned with the characteristics and developmental needs of students at different academic stages.

4.4. National defense education has achieved positive overall outcomes, but a systematic educational practice framework needs to be established

The national defense education system in art colleges consists of three major components: curriculum, practice, and campus culture. The curriculum system serves as the foundation by helping students acquire national defense knowledge through systematic instruction. The practice system relies on military training and social practice activities to strengthen students' practical abilities and collaborative spirit. The campus culture system continuously creates an educational atmosphere through lectures, exhibitions, artistic activities, and other daily practices, subtly enhancing students' national defense awareness and patriotic sentiments. These three components complement and integrate with one another, forming a comprehensive and coordinated educational framework.

The construction of the national defense education curriculum system in art colleges should emphasize deep integration between professional disciplines and national defense education. Curriculum content should be closely connected with students' professional backgrounds to enhance learning resonance and emotional identification [8], thereby establishing a national defense education system characterized by professional relevance and educational effectiveness.

Through the construction of the practice system, students' understanding and identification with national defense culture can be strengthened. Given the creative characteristics of art students, universities can organize activities such as graduation exhibitions themed around "strengthening the military," national defense-themed animation design competitions, and military-themed flash performances. These activities can guide students to interpret the spirit of national defense through various artistic forms, including sculpture, animation, and dance.

The construction of the campus culture system can further enhance students' national defense awareness and patriotic sentiments. Universities may establish a branded "National Defense Art Season" to effectively integrate internal and external resources and create systematic and influential national defense cultural activities. Meanwhile, the establishment of national defense-related student organizations such as "Camouflage Youth" clubs can facilitate a cultural education cycle of "creation–communication–feedback" [9], thereby comprehensively improving students' overall qualities and innovative capabilities.

4.5. Effective integration of art and national defense education requires a systematic support framework

Faculty development serves as a key foundation for the advancement of national defense education. Efforts should be made to enhance teachers' interdisciplinary competencies and teaching abilities. Universities may regularly organize professional training programs and academic lectures, support teachers in pursuing further study at military institutions or research organizations, optimize professional development pathways, and establish platforms for resource sharing. Policy and institutional support provide the foundation for the effective implementation of national defense education. Universities should improve relevant policy frameworks and establish multidimensional evaluation systems covering cognition, emotion, and behavior. Such systems can provide evidence-based support for policy adjustment and instructional improvement. Resource support is an important measure for strengthening the construction of national defense education bases and deepening military–civilian integration. Art colleges can cooperate with military universities and military training bases to jointly establish practical platforms for art-based national defense education, providing students with realistic and experiential learning resources.

5. Future prospects for the national defense education system in university art colleges

Through a review of domestic and international research and an empirical investigation, this study examines the theoretical foundation and core framework of national defense education from the perspective of the needs of art students. Future research should further strengthen the exploration, summary, and dissemination of exemplary experiences in national defense education development, thereby promoting the comprehensive and in-depth advancement of national defense education within the field of art.

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