Developing Teaching Competency in National Defense and Security for Pre-service Teachers: A Global Review and Framework Proposal

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Abstract: This review addresses the critical need for a competency framework for pre-service teachers in National Defense and Security Education (NDSE) amidst an evolving global security landscape. Traditional state-centric defense has given way to a paradigm of societal resilience against hybrid threats, demanding a more complex role for educators. This paper reviews international literature on teacher competency, pedagogical approaches, and national NDSE systems to deconstruct teaching competency into four core domains: Content and Curriculum, Pedagogy and Andragogy, Technological Integration, and Affective-Civic Development. Through a comparative analysis of specialist (U.S. JROTC), societal resilience (Finland), and Vietnamese models, this article identifies key challenges and best practices. It culminates in a proposed comprehensive competency framework to guide curriculum development and teacher training, aiming to equip future educators with the integrated capabilities needed to foster critical thinking, ethical responsibility, and active citizenship, thereby contributing to national resilience.

Key Words: National Defense and Security Education (NDSE), Teacher Competency Framework, Teacher Education, Societal Resilience, Pedagogy

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1. INTRODUCTION

The discipline of National Defense and Security Education (NDSE) is at a critical juncture, challenged by 21st-century security threats that have expanded beyond traditional battlefields to cyberspace, information, and public health. This shift necessitates a parallel evolution in how NDSE educators are trained.

The dominant 20th-century security paradigm was state-centric, focusing on military defense against external aggression. However, the contemporary landscape is defined by hybrid threats that blur the line between war and peace, including cyberattacks, disinformation campaigns, and economic coercion (Hertie School, 2024). In response, the concept of "comprehensive societal security," notably practiced in Finland, has emerged, redefining security as a "whole-of-society" responsibility (Larsson & Rhinard, 2020). This model aims to safeguard society's vital functions through the collaboration of government, business, NGOs, and citizens, making education a critical pillar of the national security architecture (Hertie School, 2024).

Within this new paradigm, NDSE becomes a primary instrument for cultivating national resilience. Its purpose extends beyond instilling patriotism to equipping students with the critical thinking and digital literacy needed to counter information warfare and contribute to crisis management (Chen, 2024). In Vietnam, NDSE is a legally

mandated component of the education system, evolving from a traditional military focus to encompass broader security concerns (Cao & Tran, 2024b). However, effective implementation hinges on teacher quality.

The NDSE teacher's role is uniquely demanding, requiring them to navigate complex, sensitive, and rapidly evolving subject matter. Research in the Vietnamese context identifies an urgent need to improve teacher preparation and support systems, as a shortage of specialized educators remains a significant impediment (Cao & Tran, 2024b). A "paradigm lag" exists where curricula often remain anchored in traditional military instruction (e.g., marksmanship, tactical drills), creating a "relevance gap" for students facing modern hybrid threats (Cao & Tran, 2024b). Therefore, developing a comprehensive competency framework for NDSE teachers is a practical necessity to guide training reform and ensure NDSE can fulfill its vital role. This article aims to propose such a framework by synthesizing global best practices and theoretical models.

2. DECONSTRUCTING TEACHER COMPETENCY FOR NDSE

Defining "competence" in education has evolved from a narrow focus on discrete skills to a holistic understanding of professional practice. Early models were reductionist, whereas contemporary thinking, influenced by Donald Schön's "reflective practitioner," emphasizes the ability to adapt knowledge to novel and ambiguous situations (Koehler & Mishra, 2009). Modern frameworks define competence as an integrated bundle of knowledge, skills, and attributes, linking individual professional development to national human capital and security interests (Culkin, 2019).

Numerous national and international bodies have developed teacher competency frameworks. UNESCO's ICT and AI frameworks, for example, provide global references with structured, progressive levels of mastery (Miao & Cukurova, 2024). A review of national frameworks reveals a consensus on core domains like professional knowledge, pedagogical practice, and continuous learning (Villar-Onrubia, Morini, Marín, & Nascimbeni, 2022). Vietnam's Circular 20/2018/TT-BGDĐT establishes general professional standards for teachers, providing a foundation upon which a specialized NDSE framework can be built (Bộ GD&ĐT, 2018).

Synthesizing these concepts, NDSE teaching competency is the demonstrable and integrated ability to mobilize and apply a complex repertoire of specialized content knowledge, student-centered pedagogical skills, modern technological fluencies, and profound civic-ethical dispositions to effectively design and facilitate learning experiences that equip students for the security challenges of the 21st century**.** This definition implies that competency must be demonstrable, integrated, student-centered, and forward-looking. The challenge is to design a framework that provides clear, assessable standards while embedding the principles of reflective practice and critical pedagogy, valuing the teacher's capacity to facilitate inquiry as much as their ability to deliver content (Chen, 2024).

3. CORE DOMAINS OF THE NDSE TEACHING COMPETENCY FRAMEWORK

A comprehensive framework for pre-service NDSE teachers should be structured around four foundational pillars: content and curriculum, pedagogy and andragogy, technological integration, and affective-civic development.

3.1. Content and Curriculum Competency

This domain requires deep and current subject matter knowledge. It includes mastery of traditional security topics such as military history, strategic doctrine, and the legal framework for national security (Cao & Tran, 2024a). Equally critical is proficiency in non-traditional and emerging security threats, including cybersecurity, information warfare, economic coercion, and ecological security (Chen, 2024). This knowledge must be paired with the skill of curriculum design and adaptation, enabling the teacher to construct coherent syllabi and adapt official curricula to connect with contemporary events, making the subject matter relevant to students' lives (Culkin, 2019).

3.2. Pedagogical and Andragogical Competency

This domain focuses on the "how" of teaching, moving from teacher-centered lectures to student-centered approaches. Central to this is the **application of active learning strategies** such as problem-based learning,

project-based learning, simulations, and serious games, which develop critical thinking and practical problem-solving skills (Arabo & Serpell, 2019). This must be complemented by **assessment for learning**, using a variety of formative assessments not just for grading but to diagnose student understanding and continuously improve instruction (Floyd, 2025).

3.3 Technological Integration Competency (The TPACK Framework)

The Technological Pedagogical Content Knowledge (TPACK) framework provides a model for this competency, positing that effective teaching with technology arises from the interplay of three knowledge domains: Content (CK), Pedagogy (PK), and Technology (TK) (Koehler & Mishra, 2009). True expertise lies at their intersection. A competent NDSE teacher uses technology not just as a tool but to deepen content understanding. For example, they might use a virtual lab (TK) to run a simulation of a cyberattack on critical infrastructure (CK), structuring it as a collaborative, problem-based learning challenge (PK). This integrated approach demonstrates a far higher level of competency than a simple lecture.

3.4. Affective and Civic Competency

This domain addresses the values and dispositions NDSE seeks to cultivate. It includes fostering an informed and reflective patriotism and national identity (Cao & Tran, 2024b). Crucially, this must be balanced with cultivating ethical responsibility and critical thinking. The educator must create a classroom where students can grapple with complex ethical dilemmas, such as the tension between state security and civil liberties (Chen, 2024). Ultimately, these competencies converge on the goal of developing democratic dispositions, including respectful debate, evidence-based reasoning, and active civic engagement (Culkin, 2019). The true measure of a competent NDSE teacher is their ability to integrate all four domains into their practice.

4. A COMPARATIVE ANALYSIS OF INTERNATIONAL APPROACHES

Different national models for preparing NDSE teachers offer valuable lessons. This analysis examines three archetypes and the Vietnamese context.

4.1. The Specialist Model: U.S. JROTC

The U.S. Junior Reserve Officer Training Corps (JROTC) program relies on retired military personnel as instructors, leveraging their extensive real-world experience. Certification is managed by the military services, not traditional teacher licensing bodies. The model's strength is the instructors' deep experiential knowledge. Its primary weakness is a potential deficit in pedagogical competency, as distinguished military service does not automatically translate into effective teaching without substantial pedagogical training (Zamiri & Esmaeili, 2024).

4.2. The Societal Resilience Model: Finland

Finland's approach is an emergent property of its "comprehensive security" philosophy, which treats security as a "whole-of-society" responsibility (Valtonen & Branders, 2020). Education is a fundamental pillar of national resilience, aiming to cultivate a prepared citizenry, not just recruit for the military (Hertie School, 2024). The ideal teacher in this context is a skilled educator who can integrate security concepts across the curriculum and facilitate civic preparedness, valuing pedagogical skill over a military background.

4.3. The Civic Education Model: International Programs

International programs like Civitas offer a robust model for developing the "Affective-Civic" competency domain (Center for Civic Education, 2025). They focus on intensive professional development, introducing educators to interactive, student-centered methodologies to teach about governance, rights, and responsibilities. This approach provides a crucial counterbalance to traditional, authoritarian pedagogical styles, ensuring NDSE strengthens democratic resilience and critical thinking.

4.4. The Vietnamese Context

Vietnam's approach is a hybrid model with a well-established legal and curricular framework (Bộ GD&ĐT, 2020). University-level teacher training programs aim to blend pedagogical capacity with a "military style". However, the system faces persistent challenges, including a shortage of highly qualified teachers, curriculum content that is not always aligned with contemporary threats, and uneven implementation of national directives (Cao & Tran, 2024b). The optimal path forward is a competency framework that integrates the strengths of all models,

training NDSE teachers as professional educators who specialize in security, not as military personnel assigned to a classroom.

5. A Proposed Competency Framework for Pre-Service NDSE Teachers

Synthesizing the preceding analysis, this section presents a comprehensive, developmental, and integrative competency framework. It is structured around the four core domains, with each domain containing **Professional Standards** and measurable **Performance Indicators** to translate abstract principles into concrete, assessable capabilities.

Table 1. A Proposed Competency Framework for NDSE Pre-Service Teachers

Competency Domain	Professional Standard	Performance Indicators (The pre-service teacher can...)
1. Content & Curriculum	1.1 Demonstrates mastery of foundational and contemporary security concepts.	- Articulate national defense policy, strategy, and legal frameworks. - Explain the mechanisms and impact of non-traditional threats (e.g., cyber, economic, information warfare). - Analyze current geopolitical events using security studies theories.
	1.2 Designs coherent, relevant, and rigorous NDSE learning sequences.	- Develop unit plans aligned with national standards that integrate real-world case studies. - Critically evaluate and synthesize a wide range of source materials. - Design a balanced assessment strategy measuring knowledge and critical thinking.
2. Pedagogy & Andragogy	2.1 Utilizes a range of student-centered instructional strategies to promote active learning and critical inquiry.	- Plan and facilitate structured debates on complex security-ethics issues. - Design and implement problem-based learning (PBL) scenarios. - Effectively manage and assess collaborative group projects.
	2.2 Creates an inclusive, respectful, and intellectually challenging learning environment.	- Foster a classroom climate where diverse and controversial viewpoints can be examined respectfully. - Adapt instruction to meet the needs of diverse learners. - Employ advanced questioning techniques to promote deep critical inquiry.
3. Technological Integration (TPACK)	3.1 Effectively leverages technology to deepen content understanding and enhance pedagogical practice.	- Integrate digital tools (e.g., GIS mapping, data visualization) to analyze security trends. - Utilize online simulations or "serious games" for experiential learning in crisis management. - Curate and manage a digital learning environment with high-quality resources.
	3.2 Models and explicitly teaches digital citizenship and critical media literacy.	- Design and deliver lessons on identifying disinformation, misinformation, and propaganda. - Guide students in the ethical and secure use of online information. - Foster critical evaluation of online sources for bias and credibility.
4. Affective-	4.1 Fosters an informed,	- Design activities connecting NDSE content to the rights and

| Civic Development | reflective, and responsible sense of patriotism and civic duty. | responsibilities of citizenship. - Facilitate structured reflection on the citizen's role in national security and societal resilience. - Present national history and identity in a manner that is both inspiring and critically reflective. |
| | 4.2 Cultivates ethical reasoning and a steadfast commitment to democratic principles and the rule of law. | - Lead nuanced discussions on the ethical dilemmas of security policy (e.g., security vs. liberty). - Consistently model fairness, justice, and respect for the rule of law. - Create opportunities for students to engage in democratic processes within the classroom. |

Assessment of a pre-service teacher's competence should be holistic, focusing on their ability to integrate standards across all four domains in authentic teaching practice.

6. Recommendations for Policy and Practice in Teacher Education

Translating this framework into action requires a concerted effort from teacher education institutions and national policymakers.

6.1. Curriculum Redesign for Teacher Education Institutions
Universities should systematically review and redesign their curricula to align with the framework. Key actions include:

- Create specialized pedagogy courses focused on the unique demands of security studies, including hands-on training in simulations, case studies, and debate moderation (Arabo & Serpell, 2019).
- Develop a dedicated course on Technology in NDSE to build genuine TPACK, providing proficiency in tools like GIS, data visualization, and simulation platforms (Koehler & Mishra, 2009).
- Establish a dynamic course on Contemporary Security Issues that is updated annually to address emerging non-traditional threats and close the "relevance gap" (Chen, 2024).
- Reimagine the Practicum Experience to provide targeted feedback on the framework's specific competencies.

6.2. Policy Recommendations for National Standards and Certification
The framework should be institutionalized at the national policy level.
- Develop a formal "Professional Standard for Teachers of NDSE", adapting this framework to complement existing general teacher standards (e.g., Circular 20/2018/TT-BGDĐT) (Bộ GD&ĐT, 2018).
- Transition to Competency-Based Certification, requiring candidates to demonstrate competence through a multi-faceted assessment system that includes a portfolio and a performance-based evaluation.

6.3 Strategies for Continuous Professional Development
Competency must be nurtured throughout a teacher's career.
- Establish a National NDSE Professional Development Program offering regular workshops and seminars focused on the framework's domains (Zamiri & Esmaeili, 2024).
- Promote International Exchange and Collaboration to prevent pedagogical insularity, sponsoring participation in international conferences and partnerships with organizations like Civitas and learning from models like Finland's (Valtonen & Branders, 2020).

7. CONCLUSION AND FUTURE RESEARCH DIRECTIONS

The complex 21st-century security landscape demands a transformation in NDSE, moving from a content-transmission model to an integrated, competency-based model of professional practice. This paper has argued for this shift by establishing the new security paradigm, deconstructing teacher competency, and proposing a comprehensive four-domain framework: Content and Curriculum, Pedagogy and Andragogy, Technological Integration, and Affective-Civic Development.
The implementation of this framework promises a more engaging and relevant education for students, elevates the professional status of teachers, and provides a clear guide for reform for teacher education institutions and

policymakers. Ultimately, a teaching force trained under this model is a strategic asset, capable of cultivating the human capital—critical thinking, ethical responsibility, and civic engagement—that forms the foundation of national resilience.

Future empirical research is needed to validate the framework through the development of assessment tools, conduct longitudinal studies on its impact on student outcomes, and explore its cross-cultural adaptation in a wider range of national contexts. Investing in the professional competence of NDSE teachers is fundamental to preparing resilient, responsible, and engaged citizens for the challenges of an uncertain world.

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