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Quality assurance in NATO education and training: towards strengthening joint capabilities

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Abstract. The article explores the integrative role of education and training in NATO's initiatives on achieving interoperability. The research niche is NATO's quality assurance procedures in education and training as a mechanism for enhancing interoperability and strengthening defense capabilities. The study aims to assess the current implementation of NATO quality standards in Education and Training Facilities (ETFs) and justify the expediency of the accreditation procedures. The hypothesis is that existing quality assurance practices contribute to both the integration of various ETFs affiliated with NATO into a cohesive education area and the enhancement of the Alliance's capabilities. The methodology combines a review of relevant scientific literature and NATO regulations with descriptive statistical analysis of data from the NATO Quality Assurance Hub and the Education and Training Opportunities Catalogue. Dialectical, formal-logical, and systemic-structural methods are applied to interpret the findings. The results indicate that NATO Education and Training Facilities and Centres of Excellence are at the forefront of implementing NATO quality standards. These institutions, designed to address the Alliance's training needs, serve as core drivers of its strategic educational objectives. Rather than enforcing curricular uniformity, NATO's quality assurance procedures enhance institutional management while upholding academic autonomy. Due to this, military education providers may also seek accreditations aligned with other international or national quality standards. The study concludes that NATO's quality assurance procedures foster a unified training environment and complement other frameworks on interoperability. These efforts contribute

to strengthening the Alliance's joint capabilities by promoting the integration of partner countries into NATO's security community.

Keywords: quality assurance, NATO, education and training, international standards, joint capabilities

Introduction

In the up-to-date changing geopolitical environment, NATO is focused on strengthening strategic interaction, interoperability, and the effectiveness of its Education and Training Facilities (ETFs). Accreditation procedures designed to formalize standards and ensure the quality of personnel training within the Alliance are at the core of this process.

The implementation of the objectives highlighted in the Lisbon Summit Declaration of 2010, aimed at the further strengthening existing partnership and developing new ones with countries and organizations that are interested in, as well as the reform of NATO's command structures to enhance effective governance and capability building, required a new approach to the Alliance's training infrastructure (NATO, 2010). Two years later, at the Chicago Summit, the Connected Forces Initiative was adopted, identified education and training as a key tool for joining the Alliance's forces (NATO, 2012). As part of ongoing efforts to implement this initiative, a more professional and systematic approach was introduced to ensure interoperability within NATO's diverse educational environment, through the establishment of the NATO Education and Training Quality Assurance Program. This program, based on European higher education standards, has been carefully adapted to meet the specific needs of the Alliance. In 2015, as the part of development of NATO's institutional capabilities for ensuring the quality of education and training, the Bi-SC Education and Individual Training Directive 075-007 (NATO, 2015) was developed, establishing the requirements for ETFs, including the NATO Quality Management System Standards and NATO Quality Standards. The Quality Assurance provides numerous benefits to both learners and ETFs, including improved training effectiveness, increased confidence and motivation, enhanced operational performance, continuous improvement process, enhanced visibility and prestige, financial support (Introduction to Quality Assurance, 2023).

Nearly a decade has passed since the implementation of NATO's current institutional accreditation procedures. Have these procedures lived up to the expectations placed upon them? Do they contribute to fostering interoperability among training personnel from different countries? Do they enhance cooperation among NATO member states, partners, and other stakeholders, ensuring high effectiveness in personnel training within the evolving security environment, thereby strengthening the collective capabilities of NATO's Joint Forces? Does NATO employ additional mechanisms at the education and training level to achieve interoperability? This study seeks addressing these questions.

Building on previous research that has highlighted the integrative role of education and training within NATO's operations—such as the Defence Education Enhancement Program (DEEP) and NATO Centres of Excellence —this article focuses specifically on NATO's quality assurance procedures as a mechanism for enhancing interoperability and strengthening defense capabilities. The purpose of this study is to assess the current implementation of NATO quality standards in Education and Training Facilities (ETFs) and justify the expediency of the quality assurance procedures.

The central hypothesis is that existing quality assurance practices contribute not only to the integration of various NATO-affiliated ETFs into a cohesive educational area, but also to the enhancement of the Alliance's overall capabilities. To test this hypothesis, the study employs a combination of research methods, including: a comprehensive review and synthesis of academic literature and NATO regulatory documents related to education and training; descriptive statistical analysis of empirical data reflecting the current implementation of NATO quality standards.

To collect empirical data, three main sources have been used. They are the Education and Training Opportunities Catalogue (ETOC, 2024), the NATO Quality Assurance Hub (2024), and the official websites of institutions involved in NATO's Education, Training, Exercises, and Evaluation (ETEE) activities.

The ETOC presents information by Course Code, Course Title, NATO Course Certification, and Training Institution. For this research, only courses marked as "NATO approved" in the NATO Course Certification field were selected. The types of the corresponding training institutions—NATO Education and Training Facilities (NETFs), Centres of Excellence (COEs), Partnership Training and Education Centres (PTECs), and NATO Multinational/National Training Institutions (NTIs)—were determined through an in-depth review of institutional websites. This categorization was cross-validated also using the institutional classifications provided by the NATO Quality Assurance Hub (2024), the NATO Accredited Centres of Excellence Catalogue (2024), and the Partnership Training and Education Centres (2024).

Data from the NATO Quality Assurance Hub (2024) are structured by types of ETFs. Each facility listing includes details about its accreditation status (e.g., "Unconditional accreditation" or "Awaiting re-accreditation"), as well as other certifications such as ISO 9001:2015 or U.S. Army TRADOC. These data were systematically analyzed to determine the number of NATO-approved courses, the number and types of NATO-accredited ETFs, and the presence of additional accreditations to support the objectives of the study.

Additionally, dialectical, formal-logical, and systemic-structural methods are applied to analyze the literature and formulate conclusions.

Literature review

According to Grala & Jałowiec (2024) for years, the most important value of any organisation invariably remains the people who make it up. Their competence, knowledge and skills directly determine the outcome of the processes implemented and the level of results achieved.

Therefore, at certain point in its evolution, NATO had faced with the task of implementing such accreditation procedures in education and training that would achieve a delicate balance. On the one hand, these procedures must ensure the accumulation and dissemination of the best teaching and learning practices. On the other hand, they had to preserve the uniqueness and complexity of the Alliance's multidimensional educational environment. In 2017, Porkolab (2017), outlining the future of the updated approach to quality assurance, stated: "The concept of NATO Quality Assurance is based on the NATO Education, Training, Exercises, and Evaluation Policy and is designed to ensure the highest possible quality for all learners, while providing autonomy and flexibility to the Education and Training Facilities". Such a mechanism for ensuring the quality of education and training in NATO has become the Institutional Accreditation procedure, which is managed, monitored, and executed by the NATO Allied Command Transformation (ACT).

Gramis & Vaksevanidis (2016) pointed out that institutional accreditation of NATO-affiliated educational institutions was introduced to support the Alliance's strategic concept, enhancing interoperability and compatibility across a variety of institutions, which differ in terms of their subordination (NATO command structures, multinational, national), their type of interaction with NATO (member countries, partner countries, non-NATO countries), and forms and levels of training (formal education, professional military education). In 2012, Quality Assurance Team of Experts (Quality Assurance ToE) was established to develop doctrines, standards, and criteria to ensure that educational institutions and their courses meet common requirements through course certification and institutional accreditation.

The methodology for NATO's quality assurance was largely shaped by the Standards and Guidelines for Quality Assurance in the European Higher Education Area of 2015 (ESG-2015). However, the ESG were developed for civilian higher education institutions providing formal education – education recognized by the national education systems. At the same time, NATO educational institutions and structures deliver professional training, education for civilian employees (either external or internal), and professional military education. Following a comparison of NATO's education and training quality standards with the ESG and the international standard ISO 29990:2010, designed for non-formal education, Gramis & Vaksevanidis concluded that NATO's approach to quality assurance is compatible with the provisions of both the ESG-2015 and the ISO 29990:2010 standards. However, the

ESG places greater emphasis on leadership responsibility and the development of quality culture, while the ISO standards form the basis for comparing educational institutions and other educational services' providers. Both ESG-2015 and ISO 29990:2010 emphasize student-centered learning and teaching, which contrasts with the traditional NATO/military approach to instructor-led training (Gramis & Vaksevanidis, 2016).

Pînzariu et al. underscore the pivotal role of NATO's comprehensive framework for joint training and education in enhancing interoperability and operational effectiveness across the Alliance. Firstly, their article outlines the multifaceted nature of joint training and education within NATO, emphasizing its role as a linchpin in honing the coordination, communication, and decision-making skills essential for conducting joint military operations. Secondly, they highlight the importance of fostering a common understanding of joint doctrine, command structures, and operational procedures across allied armed forces. Joint education and training are defined as a key for enabling NATO to enhance the qualifications, cohesion, and operational readiness of member states, thereby fortifying the alliance's operational readiness, interoperability, and collective defense posture (Pînzariu et al., 2024).

Ignjatijevic (2019), Kuci (2020), Iskandarov & Gawliczek (2021) examine the role of NATO's educational programs for partner countries, such as the Defense Education Enhancement Program (DEEP), which provides non-member states with opportunities to exchange ideas and experiences in areas of common interest, gain access to NATO expertise and support, and participate in various NATO events. This facilitates deeper cooperation and operational interoperability between the Alliance and its partners. DEEP is discussed as one of the key tools for easing these countries' integration into NATO structures. These publications illustrate how NATO-based education and training serve as an integrating factor for defense structures at the regional level, particularly in the Baltic States, the Western Balkans, and the South Caucasus.

Another integrating mechanism for the Alliance's capabilities is presented by Eduard & Ki (2016) - through collaborative work on specific disciplines of interest to the development of NATO's forces and capabilities within the network of Centers of Excellence (COEs). The paper investigates recent developments within the NATO COEs network, where acquiring the Quality Assurance seal and accreditation, or even achieving the Department Head status for the disciplines they cover, serves as a true mark of excellence and an indicator of efficiency.

Savero, Swastanto, & Timur (2024) observe that Ukraine's partnership with NATO in the form of long-term military training and education has played a crucial role in enhancing Ukraine's defense capabilities and enabling it to withstand its confrontation with Russia, one of the most powerful countries in the world.

According to Young (2022) the efficacy of the model employed by NATO for designing and evaluating its training programs depends on the quality of the outcomes it produces. Nonetheless, initiatives aimed at advancing cybersecurity training are frequently characterized by insufficient resource allocation or expedited implementation, compromising their overall effectiveness. Furthermore, the prevailing evaluation methodologies lack the rigor necessary to reliably validate the quality of the training outputs. Young advocates for a more systematic and strategic approach to planning, not only to ensure the development of robust cybersecurity training frameworks for the Alliance but also to guarantee alignment with organizational goals and the fulfillment of strategic objectives.

The article by Drot (2022), which examines four typical military training centers (Finnish FINCENT, Bosnian PSOTC, Hungarian PSTC, and Bangladesh BIPSOT), their national training solutions, organization, and history of establishment, was used to gain deeper understanding features of military training units. In addition, choosing research methods, our study relies on methodological tools of legal research in the field of security and defense (Huz et al., 2024).

State of Knowledge

Existing research highlights the critical role of education and training in NATO's strategic development and interoperability. Scholars emphasize that personnel — their skills, competencies, and knowledge— are central to achieving NATO's objectives. NATO's current quality assurance system, grounded in institutional accreditation procedures, aims to strike a balance between standardization and flexibility, promoting best practices without undermining institutional autonomy.

The literature indicates that NATO's approach to quality assurance is based on both the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG 2015) and international ISO standards for educational organizations. However, unlike ESG 2015, which emphasizes student-centered methodologies, NATO's standards are primarily oriented toward instructor-led training and mission-specific outcomes.

Key instruments identified in the literature for enhancing interoperability and defense integration include the Defence Education Enhancement Programme (DEEP) and NATO Centres of Excellence (COEs). These initiatives are particularly significant for partner countries in regions such as the Western Balkans, the South Caucasus, and the Baltic States. They serve as critical tools for NATO's partnership-building and capacity-development efforts, enabling non-member states to align with NATO's educational standards and operational practices.

Furthermore, the literature underscores that joint education and training are crucial for cultivating a shared operational culture, doctrine and communication

framework within NATO forces. These elements are directly linked to enhancing the Alliance's collective readiness and cohesion. Nonetheless, some limitations in NATO's current evaluation mechanisms have been identified—particularly in emerging and fast-evolving domains such as cybersecurity, where educational programs may not fully keep pace with operational demands.

Results and Discussion

The main directive documents that serve as the foundation for the formulation of other regulatory acts within NATO's education and training system are as follows: 1) MC 0458/4 NATO Education, Training, Exercises, and Evaluation Policy (MC 0458/4 Policy). This policy provides Allies and subordinate command with the direction and guidance necessary to execute NATO ETEE while providing Partners and Non-NATO Entities with the information necessary for cooperation with NATO in ETEE activities. It reflects and is aligned to the NATO's Military Strategy and its supporting strategic capstone concepts (NATO, 2023); 2) NATO Bilateral Strategic Command (Bi-SC) Education and Individual Training Directive 075-007 (Bi-SC E&ITD 075-007). The directive is jointly issued by NATO's two main commands: Allied Command Operations (ACO) and Allied Command Transformation (ACT). Among other items it outlines the requirements for both external and internal quality assurance in NATO education and training (NATO, 2015).

It should be stated that, according to these guiding documents, NATO's ETEE activities must include the integration of partners as well as organizations outside NATO to enhance their interoperability and compatibility. The scope of the MC 0458/4 Policy and the Bi-SC E&ITD 075-007 applies to NETFs, NATO accredited COEs, NATO recognized PTECs, and may also extend to NTIs of NATO member states, as well as other educational and training institutions in partner countries and Non-NATO Entities that comply with NATO procedures and standards, or serve as additional assets providing direct support to NATO by offering NATO recognized solutions in the field of education and training.

The analysis of the Bi-SC E&ITD 075-007 shows that NATO's military training system encompasses both collective and individual training. The objective of quality assurance within NATO's education and training framework is to ensure that stakeholders have confidence that the activities in the field of education and training will meet the required standards and ensure an acceptable level of quality. Quality assurance in NATO educational institutions involves the application of a comprehensive set of principles, standards, and criteria to design, implement, maintain,

and manage all activities directly related to providing the necessary education and creating conditions for individual learning, in accordance with the MC 0458/4 Policy.

According to Bi-SC E&ITD 075-007 (NATO, 2015, pp. 17-19) the NATO Quality Management System carries out its functions through four main domains: 1) inspection (primarily conducted to identify and correct errors before they can cause issues); 2) quality control (a systematic approach to identifying and addressing problems at each stage of the process); 3) quality assurance (aimed at preventing errors and defects by organizing core and auxiliary processes according to established requirements); and 4) quality management (a way of thinking and working aimed at: meeting customers' needs, including all structural elements of the organization, engaging all personnel, examining all aspects of quality, developing results whose quality would not be questioned from the outset, and creating systems and approaches that both maintain quality and continuously improve processes). The third and fourth domains are proactive and future-oriented, while the first and second ones are reactive, focusing on the present and past. Similar to the European quality assurance principles in higher education, the continuous improvement process involves two interconnected cycles: an internal cycle, carried out by the educational institution (self-assessment, procedures implementation, procedures review, annual quality report), and an external cycle, overseen by Headquarters Supreme Allied Commander Transformation (HQ SACT) through the ToE for quality assurance (institutional accreditation, evaluation report with recommendations).

Internal and external quality assurance are implemented in accordance with the standards of the Quality Management System and NATO's quality standards, as shown in Table 1.

Table 1. NATO Standards for Education and Training Quality Assurance

Internal Quality Assurance	External Quality Assurance
Quality Management System Standards	NATO Quality Standards
Policy and Procedures Staff/Instructor development Information systems and knowledge management Public information Definition and delivery of instruction Student assessment Learning resources and student support	1. Leadership and management 1.1. General management 1.2. Personnel management 1.3. Resources management 2. Education and training 2.1. Define and deliver Instruction 2.2. Student assessment 2.3. Support for training and learning 3. Contribution to NATO 3.1. Support to NATO requirements 3.2. Support to discipline management. 3.3. Contributions to other NATO associated activities.

Source: NATO, 2015, Annexes D, E

The Quality Management System Standards in NATO facilities, such as the ISO 9001 standard, are based on the Total Quality Management (TQM) methodology (NATO, 2015, Annex D). These standards are intended to assist educational institutions in establishing and improving continually internal processes and procedures to ensure: availability of quality assurance policies and procedures, staff and instructor development, utilization of information systems and knowledge management, public information about educational activities, proper organizational structure and methodological provision for the educational process, responsible student assessment, learning resources and student support.

The NATO Quality Standards (NATO, 2015, Annex E) establish criteria for the external evaluation of educational institutions and are used for conducting institutional accreditation. This accreditation is carried out by a ToE, whose composition is approved, and activities are overseen by the SACT through the Joint Force Trainer (JFT), who is responsible for planning and implementing NATO's educational programs and training courses, involving the national capabilities of NATO member countries. At the institutional accreditation process, ETF must demonstrate the existence of an effective quality management system based on the seven standards of quality management, and prove its contribution to NATO. The external evaluation criteria address three broad areas of ETEE activities: 1) leadership and management; 2) education and training; 3) contribution to NATO. Such contribution includes compliance with NATO requirements, development of NATO courses and their corresponding support environments, and participation in other NATO-related activities. This includes offering NATO-certified courses, involvement in the development of doctrines, scientific research, and planning NATO operations, among other aspects. Based on the results of the institutional accreditation, the educational institution may receive one of the following evaluations: "Meets the Standard" (unconditional accreditation granted for a term of 6 years), "Partially Meets the Standard" (conditional accreditation granted for one year, during which the institution must implement recommendations and address identified deficiencies), "Does not Meet the Standard" (the institution cannot be accredited, and the expert group will assist the institution in making necessary changes and improving its educational activities).

The process of institutional accreditation is directly linked to NATO course certification. An educational institution wishing to offer its course to NATO member countries must upload the course information to the Education and Training Opportunities Catalogue (ETOC, 2024). Once uploaded, the course automatically receives the status of "Listed". It can be viewed and ordered. However, this status does not guarantee that the course complies with NATO standards. To demonstrate adherence to these standards, the course must be supplemented with a set of control documents detailing the training requirements, course objectives, learning goals,

and teaching methodology. These documents must be approved by the Department Head or the Subject Matter Expert responsible for the discipline under which the course was developed. After this approval, a request for NATO course certification can be made by ETF. Courses may receive the following statuses: “NATO Approved” – indicating compliance with NATO’s education and training requirements, with the institution offering the course being accredited; or “NATO Selected” – meaning the course meets NATO’s education and training standards, but the institution offering the course is not accredited. Every quarter, ToE experts review the list of courses to verify that their content and control documents align with NATO’s needs and requirements (NATO, 2023, p. 9). Courses with “NATO Approved” status may become mandatory for personnel assigned to specific positions within NATO.

In March 2024, the ETOC included 475 courses with the status of “NATO Listed”, 51 courses with the status of “NATO Selected” and 360 courses with the status of “NATO Approved” (ETOC, 2024). The duration of professional military education courses offered within NATO programs can vary significantly, lasting from several weeks to several months, depending on the specific program, its objectives, and its focus. “NATO Approved” courses were delivered by 40 educational and training institutions across 21 countries. The largest number of NATO accredited educational and training institutions were located in Germany (8), followed by three each in Romania, Turkey, and Italy. The highest number of NATO-approved courses are offered by NATO School Oberammergau (95), NATO Special Operations University (31), NATO Communication and Information Academy (23), and NATO Maritime Interdiction Operations Training Centre (15). These institutions are categorized as NETFs and meet the criteria for NATO institutional accreditation. Collectively, these four NETFs offer 158 courses, which is one-third more than those offered by COEs, as shown in Table 2.

Table 2. The number of “NATO Approved” courses by types of institutions

Type of Institution	Number of “NATO Approved” Courses	Number of institutions offering “NATO Approved” courses	Total Number of Institutions
NETs	158	4	8
COEs	101	16	28
PTECs	61	11	34
NTIs	40	9	-

Source: ETOC, 2024 and NATO, 2023, Annex C

Among the 28 NATO accredited COEs 16 of them offered 101 courses to ETOC with the “NATO Approved” status. COEs generally specialize in a specific functional area and serve as experts in their domain. They distribute their in-depth knowledge through four pillars:

- education, training, exercise and evaluation,
- analysis and lessons learned,
- doctrine development and standardization, and
- concept development and experimentation.

COEs operate directly in the interests of the Alliance, although they are not financed by NATO and are not the part of its organizational structure. These centers are funded at the national or multinational level and form a part of the auxiliary network, fostering both internal and external information exchange for the Alliance’s benefit. In this way, they consolidate recognized experience and knowledge that are valuable to NATO, support the Alliance’s transformation, and contribute to operational interoperability, avoiding assets duplication, resources, and capabilities that have already been presented in NATO’s command structure. The overall responsibility for coordinating and utilizing COEs within NATO lies on the SACT, in coordination with the Supreme Allied Commander Europe (NATO accredited Centers of Excellence Catalogue, 2024).

For instance, the quality management policy at the NATO Military Police Centre of Excellence stipulates adherence to the following standards (NATO MP COE, 2016): the quality assurance policy (policy statement, mission and vision, quality strategy, quality management responsibilities, monitoring, measurement, and *assessment*, NATO MP COE role as *Department Head – aim*, responsibilities, and execution, collective training and exercises, personal data protection); products and services (contribution to NATO, educational products and services, contributions of other areas of activity in education and training); students assessment (student self-evaluation, evaluation of the single student performance by training staff, formative assessment, summative assessment, course certification); quality assurance of faculty and staff (course instructors’ and support staff training and assessment, event/course support personnel training and assessment); learning resources and students support (material resources management, event admission and course set allocation); communication and information strategy (information management, public affairs strategy and communication plan, information systems); public information (information for students).

Partnership Training and Education Centers are national or multinational educational institutions funded by NATO, unified under a single concept approved by the North Atlantic Council and recognized by NATO. PTECs offer educational programs across various levels of academic education, professional military education, as well as individual courses, training sessions, and seminars for military and civilian

personnel. These initiatives aim to provide education, training, and instruction in diverse fields in alignment with NATO's partnership policy objectives and priorities.

PTECs also provide platforms for operational training, offering both classroom facilities and field training areas. These training activities are available to both NATO member states and partners. PTECs contribute to enhancing military and intellectual interoperability, particularly through the implementation of quality assurance procedures. They also play a significant role in fostering education and training in areas such as lessons learned, language training, crisis management, international humanitarian law, democratic control of armed forces, defense reform, peacekeeping operations, and gender perspectives. Furthermore, PTECs serve as catalysts for international cooperation between NATO and other international organizations, including the United Nations and the African Union.

In March 2024, the network of PTECs consisted of 34 centers located across 27 NATO and partner countries: 19 centers are in 14 NATO member states, and 15 are in 13 partner countries. Only one-third of these PTECs hold NATO accreditation. Until recently, three NATO accredited PTECs were situated in partner countries: the Swedish Armed Forces International Centre, the Peacekeeping Operations Training Centre in Bosnia and Herzegovina, and the International Centre for Defence Forces in Finland (Partnership Training and Education..., 2024). Today, both Finland and Sweden have joined the Alliance. The presence of NATO accredited training centers serves as a prerequisite for the swift integration of the national armed forces of these countries into the North Atlantic coalition.

Among the NATO accredited PTECs, there is only one higher military educational institution - the Armed Forces Academy of General Milan Rastislav Stefanik in Slovakia and four departments from higher military educational institutions: the Faculty of Foreign Languages at the Vasil Levski National Military University in Bulgaria, the International Centre for Defence Forces within the National Defence University of Finland, the Regional Department of Defence Resource Management Research, and the Department of Crisis Management and Multinational Operations of the "Carol I" National Defence University in Romania.

The quality assurance policy of the Vasil Levski National Military University in Bulgaria offers an educational program for cadets and includes English language training in compliance with NATO STANAG 6001 standards, ensures that its Quality Management System meets the international ISO 9001:2015 standard and NATO requirements (Vasil Levski NMU, 2019). The university also provides institutional accreditation, programs accreditation, and accreditation for doctoral programs in accordance with national regulations.

The NATO accredited Armed Forces Academy of General Milan Rastislav Stefanik has two internal quality assurance systems: 1) internal quality assurance of academic education, implemented in accordance with national higher education legislation, which in Slovakia since 2018 has been formulated and based on the

ESG (AFA, 2022); 2) internal quality assurance of professional military education, based on the AFA internal quality assurance system and NATO quality standards (AFA, 2023).

NATO National or Multinational Training Institutions, established by individual NATO member states or collaboratively by multiple member states, provide education and training to military and civilian personnel (NATO QA HUB, 2024). National Training Institutions are operated by a single NATO member country, focusing on preparing personnel for national and NATO missions. Multinational Training Institutions jointly operated by multiple member states to foster international cooperation and training. They can have specialized courses for specific military branches (e.g., land, air, sea, and cyber operations like Italian Joint Air Operations School or Swiss Armed Forces College), leadership and staff officer development programs (like Joint Logistic Support Group Coordination and Training Centre) or can combine education military capabilities at regional level (like Baltic Defence College).

NTIs support NATO's goals for collective defense, crisis management, and cooperative security, ensure that NATO forces respond effectively to global challenges. In the field of quality assurance, the vast majority of national training institutions primarily adhere to national legislative standards. However, those that are focused on the training and professional development of military personnel in a multinational environment are NATO accredited. Among them are, in particular, the Inter-European Air Forces Academy (Germany), the Defence Institution Building School (Georgia), and the International Special Training Centre (Germany).

In December 2024, according to NATO QA HUB (2024) data, 4 NETFs, 14 COEs, 11 PTECs, and 12 NTIs hold NATO unconditional accreditation, Table 3. Additionally, six institutions possess other accreditations: ISO 9001:2015 (Air Operations Centre of Excellence, Military Medicine Centre of Excellence, Italian Joint Air Operations School), US Army TRADOC (NATO Special Operations University, Combined Arms Training Center), and national standards based on ESG (Armed Forces Academy of General Milan Rastislav Stefanik).

Table 3. Number of NATO accredited institutions

Type of ETFs	Unconditional accreditation	Other accreditations			Awaiting accreditation/reaccreditation
		ISO 9001:2015	US Army TRADOC	EHEA (ESG)	
NETF	4		1		
COE	14	2			2
PTEC	11			1	1
NTI	12	1	1		

Source: NATO QA HUB (2024)

As stated in the introductory course on NATO quality: “This elite group of roughly 20% of all ETFs deliver 90% of all those courses covering an actual NATO training need” (Introduction to Quality Assurance, 2023). As we can see the core of the Alliance’s educational and training network is formed by NETFs and COEs, which serve as the conductors for NATO’s educational standards.

So, the current implementation of NATO quality standards in educational institutions shows that the institution accreditation facilitates the process of integrating partners into the NATO security community and led various educational infrastructure towards achieving the NATO’s strategic objectives. Therefore, the standards meet the mission assigned when quality assurance procedures were designed. They not only foster to bring together the security and defence capabilities of member-states but also engage the capabilities of partners to deliver on the Alliance’s objectives. In this context, the results of the study confirm the hypothesis that existing quality assurance practices contribute to both the integration of various NATO-affiliated ETFs into a unified education area and the strengthening the Alliance’s capabilities. Thus, this research provides additional support for the thesis regarding the integrative role of education and training within NATO’s broader efforts to achieve interoperability.

The quality assurance standards (international or national, universal or corporate) applied by NATO training institutions are similar by their nature. They are designed to support the continuous improvement of organizational management systems and to meet stakeholders’ needs. Despite this shared foundation, these standards contribute to achieving different overarching objectives. Specifically, the implementation of NATO quality standards aligns with the interests of the Alliance and facilitates the realization of its strategic goals. In contrast, U.S. Army TRADOC accreditation reflects the alignment with U.S. Army and serves US national interests.

Certification under the international ISO 9001:2015 standard signifies compliance with globally recognized quality management principles based on a process-oriented approach and effective organizational governance. Although this type of certification is not specific to the security or defense sector, it indicates a high level of organization maturity that means a key prerequisite for participation in multinational initiatives, including those led by NATO in the field of education and training programs.

Adopting NATO quality assurance standards is particularly beneficial for military educational institutions in countries seeking NATO membership. To further enhance the Alliance’s capabilities through the quality assurance in education and training it

is recommended to: facilitate structured knowledge-sharing platforms, such as the Quality Assurance Hub, conferences, workshops, and publications that disseminate best practices in this field; and develop a monitoring system to evaluate the impact of accreditation on operational outcomes, ensuring that educational quality directly supports NATO's strategic and mission-specific objectives.

The purpose of this study was to assess the current implementation of NATO quality standards in ETFs. However, it does not evaluate the effectiveness of the quality assurance system itself. This research does not address questions whether the quality of professional military education is improving in NATO-accredited institutions, or whether it is higher compared to non-accredited institutions — issues that may become a subject for future investigation.

Conclusions

The NATO's educational infrastructure is a diverse range of facilities, categorized by their subordination (NATO-managed, multinational, national), the nature of their interaction with NATO (member countries, partner countries, non-affiliated countries), and the forms and levels of training (formal education, professional military education). The main categories of Education and Training Facilitates within the NATO system are NETF, COE, PTEC and NTI. NETFs and COEs are at the forefront of implementing NATO quality standards. These institutions, designed to address the Alliance's training needs, serve as core drivers of its strategic educational objectives.

NATO's quality assurance standards in education and training are aimed at enhancing the management systems of educational institutions rather than standardizing the content of educational programs. These standards do not restrict education institutions in defining their strategic development goals or quality assurance methods. Therefore, in addition to NATO accreditation, military education institutions may also be accredited under other standards, such as the international ISO 9001:2015 or the national US Army TRADOC standards. Education and training at the national military units of in NATO member states can also occur within the framework of formal education, where quality management is based on the requirements of national legislation.

In addition to the instructor-led training typical for military education, a key distinguishing feature of NATO's quality standards in compare with other international or national quality standards is the requirement to contribute to NATO. This specific criterion ensures the fulfillment of the integrative function and promotes the achieving interoperability. The existing NATO quality assurance procedures serve for shaping the unified training landscape, much like the ESG have for the European higher education area. Alongside other Alliance's conceptual education

frameworks, such as the Defence Education Enhancement Program and NATO Centers of Excellence, the quality standards foster enhanced interaction and interoperability among various Education and Training Facilities. This, in turn, encourages the further integration of partner countries into the community of like-minded nations that support NATO's principles and values in addressing global security challenges, thereby strengthening the capabilities of the Coalition's Joint Forces.

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